



# **WELL-BEING**

index

**Research  
Document**



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## Introduction

The Medical Student Well-Being Index (MSWBI), Resident Well-Being Index (RSWBI), Physician Well-Being Index-Expanded (ePWBI), and general Well-Being Index (WBI) are available for research use after appropriate permissions have been obtained.

Distress is pervasive among health care workers, has serious personal and professional consequences, and often goes unidentified and untreated as physicians are reluctant to seek help on their own initiative. Previous instruments to screen for distress are long, cumbersome to analyze, and typically measure only one domain of distress. The Physician Well-Being Index- Expanded, Resident Well-Being Index, Medical Student Well-Being Index and the general WBI are brief self-assessment tools designed to identify the subset of health care workers in severe distress and most likely in need of an individualized intervention. The ePWBI/RWBI/MSWBI/WBI are validated screening tools that evaluate distress across a variety of dimensions including fatigue, depression, burnout, anxiety/stress, and mental/physical quality of life in medical professionals. The indexes were developed through a rigorous process with multi-step validation including separate studies of physicians, residents and medical students and have been completed by >35,000 individuals. Evidence indicates that the index is useful not only for identifying healthcare workers in distress, but also for identifying those whose degree of distress places them at risk for adverse consequences (e.g. medical error, turnover, and/or suicidal ideation).

The original 7-item Physician Well-Being Index (PWBI) was expanded to 9 items to better identify not only those with distress but also those who have high well-being and are thriving. The expanded Physician Well-Being (ePWBI) includes questions about satisfaction with work-life integration and meaning in work. Evidence suggests that work-life integration and meaning in work may mitigate the relationship between job-related stress and psychological distress. The ePWBI was validated in a sample of 6,880 physicians. The ePWBI is able to stratify the risk of distress and better identify those with a high quality of life. For physicians, the ePWBI score correlates with career satisfaction, meaning in work, high and low quality of life, fatigue, the likelihood of reporting a recent major medical error, recent suicidal ideation, and intent to reduce work hours or leave the current medical practice.

The general Well-Being (WBI) is intended for other US workers, screens for multiple dimensions of distress including fatigue, depression, burnout, anxiety/stress, and mental/physical quality of life, and includes questions about satisfaction with work-life integration and meaning in work. The eWBI was validated in a sample of 5,392 US workers across all occupations. The eWBI is able to stratify the risk of distress and better identify those with a high quality of life. For general US workers, the eWBI score correlates with meaning in work, high and low quality of life, fatigue, burnout, and recent suicidal ideation.

For residents/fellows, the RWBI score correlates with quality of life, fatigue, recent suicidal ideation, burnout, the likelihood of reporting a recent major medical error, recent suicidal ideation, and meaning in work.

For medical students, the MSWBI score correlates with quality of life, fatigue, recent suicidal ideation, burnout, the likelihood of seriously considering dropping out of medical school, and recent suicidal ideation.

The sensitivity, specificity, positive predictive value and negative predictive value of the MSWBI, RWBI, PWBI, ePWBI, WBI and eWBI for these outcomes have been published. Use of an electronic version of the Physician Well-Being Index has been shown to improve self-calibration and promote behavioral change to improve personal well-being.



# Medical Student Well-Being Index

## Scale

During the past month...

1. have you felt burned out from medical school? Y/N
2. have you worried that medical school is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while stopped in traffic or driving? \* Y/N
5. have you felt that all things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

\*Item 4 can also be replaced with “have you fallen asleep while sitting inactive in a public place.” This item may be more suitable if a sizeable fraction of those who will be completing the instrument relies on public transportation/do not drive. The instrument has been validated with each of these items which have been found to be interchangeable.



## Scoring

All questions are answered using a simple yes/no format. For standard scoring, the range is 0 to 7. One point is assigned for each “yes” answer with summary scores on the 7-item index ranging from 0 (lowest risk) to 7 (highest risk). In the case of suicidal ideation, the weighted scoring system achieves a modest gain in sensitivity (increased from 72.2% to 79.9%), without affecting specificity. The suicide risk-weighted score is based on only four of the seven questions which have been found to have the strongest relationship to suicidal ideation. For weighted scoring, item #3 and #6 are 5 points each, item #5 and #7 are 1.5 points each, and the rest of the items are set to 0 points. The weighted scoring has a range of 0 to 13.

**Table 1. Scoring of MSWBI**

Item	Points assigned
Have you felt burned out from your work?	1
Have you worried that your work is hardening you emotionally?	1
Have you often been bothered by feeling down, depressed, or hopeless?	1
Have you fallen asleep while stopped in traffic or driving? (or have you fallen asleep while sitting inactive in a public place)	1
Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1



# Interpretation of Results

## Norms

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. MSWBI Scores in National Sample of US Medical Students**

	Medical Students N = 3281
Median Score	3.00
Mean Score (SD)	
Overall, Mean (SD)	2.76 (1.9)
Men, Mean (SD)	2.42 (1.92)
Women, Mean (SD)	3.00 (1.84)
Percent with 'at-risk score' <sup>1</sup>	
Overall	35.51%
Men	29.75%
Women	39.32%

<sup>1</sup> Defined as a score  $\geq 4$  for medical students.



## Predictive Validity

In a national sample of >2,000 US medical students, those with a Well-Being Index score  $\geq 4$  were at greater risk for a number of adverse outcomes, including:

- 2 fold higher risk of suicidal ideation
- 2 fold higher risk of poor mental quality of life
- 3 fold higher risk of burnout
- 2 fold higher risk of severe fatigue
- 2 fold higher risk of seriously considering dropping out of medical school

**Table 4. National sample of >2,000 medical students**

Outcome Variable	OR (95% CI)	LR (95% CI)
Suicidal ideation	5.327 ( 4.081, 6.953)	1.73 (1.6, 1.87)
Poor mental quality of life	7.565 ( 6.414, 8.923)	2.13 (1.99, 2.29)
Burnout	7.313 ( 6.371, 8.393)	2.8 (2.53, 3.12)
High Fatigue	3.016 ( 2.660, 3.420)	1.75 (1.6, 1.93)
Seriously considering dropping out of medical school	5.157 ( 2.719, 9.781)	1.86 (1.49, 2.18)

## Area Under the Curve

Area Under the Curve for Efficacy of the Medical Student Well-Being Index for Identifying High Overall Quality of Life (QOL), Low Overall QOL, Fatigue, Burnout, and Recent Suicidal Ideation.

	Area Under Curve
Medical Student Sample	
Low QOL	0.833
Serious Thoughts of Dropping out	0.791
Recent Suicidal Ideation	0.762

**Data from medical students at seven schools, 2007.**



## Relevant Publications

Dyrbye, LN, Schwartz, A, Downing SM, Szydlo DW, Sloan J, Shanafelt TD (2011). "Efficacy of a brief screening tool to identify medical students in distress." *Acad Med* 86: 907-914.

Dyrbye, LN, Szydlo DW, Downing SM, Sloan J, Shanafelt TD. (2010). "Development and preliminary psychometric properties of a well-being Index for medical students." *BMC Med Educ* 10(8)



# Resident and Fellow Well-Being Index

## Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while stopped in traffic or driving? \* Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

\*Item 4 can also be replaced with “have you fallen asleep while sitting inactive in a public place.” This item may be more suitable if a sizeable fraction of those who will be completing the instrument relies on public transportation/do not drive. The instrument has been validated with each of these items which have been found to be interchangeable.



## Scoring

All questions are answered using a simple yes/no format. For standard scoring, the range is 0 to 7. One point is assigned for each “yes” answer with summary scores on the 7-item index ranging from 0 (lowest risk) to 7 (highest risk). In the case of suicidal ideation, the weighted scoring system achieves a modest gain in sensitivity (increased from 72.2% to 79.9%), without affecting specificity. The suicide risk-weighted score is based on only four of the seven questions which have been found to have the strongest relationship to suicidal ideation. For weighted scoring item, #3 and #6 are 5 points each, item #5 and #7 are 1.5 points each, and the rest of the items are set to 0 points. The weighted scoring has a range of 0 to 13.

**Table 1. Scoring of the RWBI**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while stopped in traffic or driving? (or have you fallen asleep while sitting inactive in a public place)	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1



# Interpretation of Results

## Norms

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. RWBI Scores in National Sample of US Residents & Fellows**

	Resident & Fellow N = 8237
Median Score	2.0
Mean Score (SD)	
Overall, Mean (SD)	2.53 (1.99)
Men, Mean (SD)	2.25 (2.00)
Women, Mean (SD)	2.82 (1.94)
Percent with 'at-risk score' <sup>1</sup>	
Overall	19.40%
Men	16.33%
Women	22.50%

<sup>1</sup> Defined as a score  $\geq 5$  for residents/fellows.



## Predictive Validity

In a national sample of >1,700 residents/fellows, those with a Well-Being Index score  $\geq 5$  were at greater risk for a number of adverse outcomes, including:

- 2 fold higher risk of reporting a recent medical error
- 2 fold higher risk of suicidal ideation
- 3 fold higher risk of poor mental quality of life
- 4 fold higher risk of burnout
- 2 fold higher risk of severe fatigue

**Table 4. National sample of >1700 residents/fellows**

Outcome Variable	RWBI score >5 (row percent)	OR (95% CI)	LR (95% CI)
Recent medical error	166 (61.7%)	3.094 (2.362, 4.052)	1.8 (1.51, 2.13)
Suicidal ideation	101 (75.9%)	5.771 ( 3.825, 8.706)	2.15 (1.79, 2.52)
Poor mental quality of life	365 (75.9%)	10.277 ( 8.017, 13.175)	3.24 (2.77, 3.78)
Burnout	548 (54.9%)	7.379 ( 5.740, 9.486)	3.88 (3.04, 5.01)
High Fatigue	334 (61.7%)	4.266 ( 3.433, 5.301)	2.25 (1.91, 2.65)

## Relevant Publication

Dyrbye, LN, Satele, D, Sloan, J, Shanafelt, TD (2014). "Ability of the Physician Well-Being Index to identify residents in distress." J Grad Med Educ 6(1): 78-84.



# Physician Well-Being Index- Expanded

## Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while sitting inactive in a public place? Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

Please rate how much you agree with the following statements

8. The work I do is meaningful to me
  - i) 7 point Likert scale; anchor “very strongly disagree” at the 1 end of the scale and “very strongly agree” at the 7 end of the scale
9. My work schedule leaves me enough time for my personal/family life
  - i) strongly agree; agree; neutral; disagree; strongly disagree



## Scoring

Original items (1-7) are answered using a simple yes/no format. One point is assigned for each “yes”

**Table 1. Scoring of ePWBI**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while sitting inactive in a public place?	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1
8. The work I do is meaningful to me	
a low level of meaning in work (response option of a 1 or 2)	+1
a neutral level of meaning in work (response option of 3 to 5 on the 7-point Likert scale)	0
A high level of meaning in work (response option of a 6 or 7 on the 7-point Likert scale)	-1
9. My work schedule leaves me enough time for my personal/family life	
lower satisfaction with work-life integration (e.g. disagree; strongly disagree)	+1
Neutral	0
Higher satisfaction with work-life integration (agree, strongly agree)	-1

The total score for the eWBI ranges from -2 (lowest risk) to 9 (highest risk).



## Interpretation of Results

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. ePWBI Scores in a National Sample of US Physician**

	ePWBI N=12089
Median Score	2.0
Mean Score (SD)	
Overall	1.85 (2.74)
Men	1.61 (2.79)
Women	2.14 (2.63)
Percent with 'at-risk score' <sup>1</sup>	
Overall	40.58%
Men	37.13%
Women	44.80%

<sup>1</sup> Defined as a score  $\geq 3$  for physicians using the ePWBI



**Table 5. ePWBI Score by Specialty**

	ePWBI N=13679 Mean (SD) score
Anesthesiology	2.09 (2.92)
Dermatology	1.01 (2.65)
Emergency medicine	1.94 (2.65)
Family medicine	2.01 (2.65)
Internal medicine or related specialty	1.78 (2.74)
Radiology	2.82 (2.75)
Neurology	2.31 (2.76)
Obstetrics and Gynecology	1.79 (2.72)
Ophthalmology	1.12 (2.51)
Pathology	1.62 (2.82)
Pediatrics or related specialty	1.54 (2.54)
Physical medicine and rehabilitation	1.49 (2.58)
Preventive Medicine, Occupational Medicine, or Environmental Medicine	0.92 (2.65)
Psychiatry	1.77 (2.80)
Radiation Oncology	2.13 (2.74)
Surgical specialty	1.93 (2.85)
Other	1.67 (2.73)



## Predictive Validity

In a sample of US physicians (n=6,880), those with an ePWBI score  $\geq 3$  were at greater risk for a number of adverse outcomes, including:

- 2 fold higher risk of reporting a recent medical error
- 5 fold higher risk of burnout
- 4 fold higher risk of severe fatigue
- 2 fold higher risk of suicidal ideation
- 3 fold higher risk of poor overall quality of life

**Table 6. National sample of US Physicians**

Outcome Variable	OR (95% CI)	LR (95% CI)
Recent medical error	3.50 ( 2.96, 4.15)	1.84 (1.68, 2.01)
Suicidal ideation	6.32 ( 4.98, 8.03)	2.15 (1.97, 2.33)
Poor quality of life	10.61 ( 9.23, 12.20)	2.98 (2.77, 3.2)
Burnout	12.30 ( 10.90, 13.88)	4.43 (4, 4.9)
Depression	18.34 ( 16.16, 20.81)	5.11 (4.64, 5.64)
High Fatigue	5.16 ( 4.61, 5.77)	3.61 (3.14, 4.17)

## Area Under the Curve

Area Under the Curve for Expanded 9-item Physician Well-Being Index (ePWBI) for Identifying High Overall Quality of Life (QOL), Low Overall QOL, Fatigue, Burnout, and Recent Suicidal Ideation.

**Table 7.**

	Area Under Curve
Physician Sample	
High QOL	0.8009
Low QOL	0.8376
High Fatigue	0.7406
Burnout	0.8509



## Relevant Publication

Dyrbye, LN, Satele, D, Sloan J, Shanafelt, TD (2013). "Utility of a brief screening tool to identify physicians in distress." J Gen Intern Med 28(3): 421-427.

Shanafelt, TD, Kaups, KA, Nelson, H, Satele, D, Sloan J, Oreskovich, MR, Dyrbye, LN (2013). "An interactive individualized intervention to promote behavioral change to increase personal well-being in US surgeons." Ann Surg 00(1-7).



# General Well-Being Index for US Workers

## Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while sitting inactive in a public place? Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

Please rate how much you agree with the following statements

8. The work I do is meaningful to me
  - i) 7 point Likert scale; anchor “very strongly disagree” at the 1 end of the scale and “very strongly agree” at the 7 end of the scale
9. My work schedule leaves me enough time for my personal/family life
  - i) strongly agree; agree; neutral; disagree; strongly disagree



## Scoring

Original items (1-7) are answered using a simple yes/no format. One point is assigned for each “yes”.

**Table 1. eWBI Scoring**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while sitting inactive in a public place?	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1
8. The work I do is meaningful to me	
a low level of meaning in work (response option of a 1 or 2)	+ 1
a neutral level of meaning in work (response option of 3 to 5 on the 7-point Likert scale)	0
A high level of meaning in work (response option of a 6 or 7 on the 7-point Likert scale)	-1
9. My work schedule leaves me enough time for my personal/family life	
lower satisfaction with work-life integration (e.g. disagree; strongly disagree)	+1
Neutral	0
Higher satisfaction with work-life integration (agree, strongly agree)	-1

The total score for the eWBI ranges from -2 (lowest risk) to 9 (highest risk).



## Interpretation of Results

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. eWBI Scores in a National Sample of US Workers**

	eWBI N = 7279
Median Score	0.00
Mean Score (SD)	
Overall	0.95 (2.53)
Men	0.97 (2.65)
Women	0.93 (2.49)
Percent with 'at-risk score' <sup>1</sup>	
Overall	37.53%
Men	36.45%
Women	37.66%

<sup>1</sup> Defined as a score  $\geq 2$  for US Workers using the eWBI



## Predictive Validity

An eWell-Being Index score  $\geq 2$  (higher score = greater risk). In a sample of employed US adults (n=5,392), those with a Well-Being Index score  $\geq 2$  were at greater risk for a number of adverse outcomes, including:

- 2.9 fold higher risk of burnout
- 1.8 fold higher risk of severe fatigue
- 2.1 fold higher risk of suicidal ideation
- 2.3 fold higher risk of poor overall quality of life

**Table. 4**

Outcome Variable	LR (95% CI)
Suicidal ideation	2.13 (1.91, 2.35)
Poor quality of life	2.3 (2.12, 2.49)
Burnout	2.92 (2.69, 3.18)
High Fatigue	1.81 (1.65, 1.98)
High QOL	0.39 (0.35, 0.44)

## Area Under the Curve

Area Under the Curve for Efficacy of the 7-item Well-Being Index (WBI) for Identifying High Overall Quality of Life (QOL), Low Overall QOL, Fatigue, Burnout, and Recent Suicidal Ideation.

**Table 7.**

	Area Under Curve
Population Sample	
High QOL	0.7050
Low QOL	0.7411
High Fatigue	0.6499
Burnout	0.8034

## Relevant Publication

Dyrbye LN, Satele D, Shanafelt TD (2016). "Ability of a 9-item Well-Being Index to Identify Distress and Stratify Quality of Life in US Workers." J Occup Environ Med 58(8):810-7



# Nurse Well-Being Index

## Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while sitting inactive in a public place? Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

Please rate how much you agree with the following statements

8. The work I do is meaningful to me
  - i) 7 point Likert scale; anchor “very strongly disagree” at the 1 end of the scale and “very strongly agree” at the 7 end of the scale
9. My work schedule leaves me enough time for my personal/family life
  - i) strongly agree; agree; neutral; disagree; strongly disagree



## Scoring

Original items (1-7) are answered using a simple yes/no format. One point is assigned for each “yes”

**Table 1. Nurse WBI Scoring**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while sitting inactive in a public place?	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1
8. The work I do is meaningful to me	
a low level of meaning in work (response option of a 1 or 2)	+1
a neutral level of meaning in work (response option of 3 to 5 on the 7-point Likert scale)	0
A high level of meaning in work (response option of a 6 or 7 on the 7-point Likert scale)	-1
9. My work schedule leaves me enough time for my personal/family life	
lower satisfaction with work-life integration (e.g. disagree; strongly disagree)	+1
Neutral	0
Higher satisfaction with work-life integration (agree, strongly agree)	-1

The total score for the Nurse WBI ranges from -2 (lowest risk) to 9 (highest risk).



## Interpretation of Results

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. Nurse WBI Scores in a National Sample of US Nurses**

	WBI N = 3802
Median Score	1.0
Mean Score (SD)	
Overall	1.52 (2.64)
Men	2.08 (2.88)
Women	1.48 (2.62)
Percent with 'at-risk score' <sup>1</sup>	
Overall	47.47%
Men	54.75%
Women	46.89%

<sup>1</sup> Defined as a score  $\geq 2$  for US nurses using the Nurse WBI



## Predictive Validity

An eWell-Being Index score  $\geq 2$  (higher score = greater risk). In a sample of US nurses, those with a Well-Being Index score  $\geq 2$  were at greater risk for a number of adverse outcomes, including:

- 4 fold higher risk of burnout
- 2 fold higher risk of severe fatigue
- 2 fold higher risk of poor overall quality of life
- 2 fold higher risk of recent patient care error
- 2 fold higher risk of moderate or greater intent to leave their current position for reasons other than retirement in the next 24 months

**Table. 4**

Outcome Variable	LR (95% CI)
Burnout	4.43 (95% CI 3.25, 6.07)
High Fatigue	2.34 (95% CI 1.76, 3.09)
Low QOL	2.38 (95% CI 1.79, 3.09)
Below average job performance	2.18 (95% CI 1.59, 3)
Patient care error	2.02 (95% CI 1.17, 2.84)
Intent to leave	2.43 (95% CI 1.73, 3.44)



## Area Under the Curve

Area Under the Curve for Efficacy of the 9-item Well-Being Index for Identifying High Overall Quality of Life (QOL), Low Overall QOL, Fatigue, Burnout, Recent Suicidal Ideation, Recent medical error, Moderate or Higher Intent to Leave, Above Average Absenteeism, and Low Job Performance.

**Table 7.**

	Area Under Curve
Population Sample	
High QOL	0.771
Low QOL	0.808
High Fatigue	0.742
Burnout	0.879
Suicidal Ideation	0.822
Medical error	0.730
Intent to leave	0.684
Above average absenteeism	0.529
Low Job Performance	0.692

## Relevant Publication

Dyrbye LN1, Johnson PO, Johnson LM, Satele DV, Shanafelt TD. Efficacy of the Well-Being Index to Identify Distress and Well-Being in U.S. Nurses. *Nurs Res.* 2018 Nov/Dec;67(6):447-455. doi: 10.1097/NNR.0000000000000313.



# Advanced Practice Providers

## Well-Being Index

### Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while sitting inactive in a public place? Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

Please rate how much you agree with the following statements

8. The work I do is meaningful to me
  - i) 7 point Likert scale; anchor “very strongly disagree” at the 1 end of the scale and “very strongly agree” at the 7 end of the scale
9. My work schedule leaves me enough time for my personal/family life
  - i) strongly agree; agree; neutral; disagree; strongly disagree



## Scoring

Original items (1-7) are answered using a simple yes/no format. One point is assigned for each “yes”

**Table 1. WBI Scoring**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while sitting inactive in a public place?	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1
8. The work I do is meaningful to me	
a low level of meaning in work (response option of a 1 or 2)	+1
a neutral level of meaning in work (response option of 3 to 5 on the 7-point Likert scale)	0
A high level of meaning in work (response option of a 6 or 7 on the 7-point Likert scale)	-1
9. My work schedule leaves me enough time for my personal/family life	
lower satisfaction with work-life integration (e.g. disagree; strongly disagree)	+1
Neutral	0
Higher satisfaction with work-life integration (agree, strongly agree)	-1

The total score for the WBI ranges from -2 (lowest risk) to 9 (highest risk).



## Interpretation of Results

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. WBI Scores in a National Sample of US Nurse Practitioners and Physician Assistants**

	WBI N = 2339
Median Score	2.0
Mean Score (SD)	
Overall	1.85 (2.65)
Men	1.94 (2.88)
Women	1.82 (2.60)
Percent with 'at-risk score' <sup>1</sup>	
Overall	29.45%
Men	32.54%
Women	28.80%

<sup>1</sup> Defined as a score  $\geq 4$  for US advanced practice providers using the WBI



## Predictive Validity

An eWell-Being Index score  $\geq 4$  (higher score = greater risk). In a sample of US advanced practice providers, those with a Well-Being Index score  $\geq 4$  were at greater risk for a number of adverse outcomes, including:

- 9 fold higher risk of burnout
- 3 fold higher risk of severe fatigue
- 4 fold higher risk of poor overall quality of life
- 1.7 fold higher risk of recent patient care error
- 3 fold higher risk of moderate or greater intent to leave their current position for reasons other than retirement in the next 24 months

**Table. 4**

Dependent	LR (95% CI)
Burned out	9.28 (5.97, 14.79)
High Fatigue	3.44 (2.48, 4.75)
Low QOL	4.16 (3.04, 5.62)
High Absenteeism	1.06 (0.7, 1.57)
Recent Medical Error	1.69 (0.92, 2.84)
Below avg job performance	2.9 (2.06, 4.11)
Moderate+ intent to leave*	3.12 (2.19, 4.44)

\*analysis conducted excluded those with intent to retire



## Area Under the Curve

Area Under the Curve for Efficacy of the 9-item Well-Being Index for Identifying High Overall Quality of Life (QOL), Low Overall QOL, Fatigue, Burnout, Recent Suicidal Ideation, Recent medical error, Moderate or Higher Intent to Leave, Above Average Absenteeism, and Low Job Performance.

**Table 7.**

	Area Under Curve
Population Sample	
Low QOL	0.801
High Fatigue	0.723
Burnout	0.846
Suicidal Ideation	0.840
Medical error	0.654
Intent to leave	0.682
High QOL	0.773

## Relevant Publication

Dyrbye, Liselotte N., MD, MHPE; Johnson, Pamela O., MS, RN, NEA-BC; Johnson, LeAnn M., MS, RN, NEA-BC; Halasy, Michael P., PA-C, MS; Gossard, Andrea A., APRN, CNP; Satele, Daniel, BA; Shanafelt, Tait, MD. Efficacy of the Well-Being Index to identify distress and stratify well-being in Nurse Practitioners and Physician Assistants. *Journal of the American Association of Nurse Practitioners*: February 27, 2019 - Volume Online Now - Issue - p doi: 10.1097/JXX.0000000000000179



# Pharmacist

## Well-Being Index

### Scale

During the past month...

1. have you felt burned out from your work? Y/N
2. have you worried that your work is hardening you emotionally? Y/N
3. have you often been bothered by feeling down, depressed, or hopeless? Y/N
4. have you fallen asleep while sitting inactive in a public place? Y/N
5. have you felt that all the things you had to do were piling up so high that you could not overcome them? Y/N
6. have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)? Y/N
7. has your physical health interfered with your ability to do your daily work at home and/or away from home? Y/N

Please rate how much you agree with the following statements

8. The work I do is meaningful to me
  - i) 7 point Likert scale; anchor “very strongly disagree” at the 1 end of the scale and “very strongly agree” at the 7 end of the scale
9. My work schedule leaves me enough time for my personal/family life
  - i) strongly agree; agree; neutral; disagree; strongly disagree



## Scoring

Original items (1-7) are answered using a simple yes/no format. One point is assigned for each “yes”

**Table 1. WBI Scoring**

	Points assigned
1. Have you felt burned out from your work?	1
2. Have you worried that your work is hardening you emotionally?	1
3. Have you often been bothered by feeling down, depressed, or hopeless?	1
4. Have you fallen asleep while sitting inactive in a public place?	1
5. Have you felt that all the things you had to do were piling up so high that you could not overcome them?	1
6. Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	1
7. Has your physical health interfered with your ability to do your daily work at home and/or away from home?	1
8. The work I do is meaningful to me	
a low level of meaning in work (response option of a 1 or 2)	+ 1
a neutral level of meaning in work (response option of 3 to 5 on the 7-point Likert scale)	0
A high level of meaning in work (response option of a 6 or 7 on the 7-point Likert scale)	-1
9. My work schedule leaves me enough time for my personal/family life	
lower satisfaction with work-life integration (e.g. disagree; strongly disagree)	+1
Neutral	0
Higher satisfaction with work-life integration (agree, strongly agree)	-1

The total score for the WBI ranges from -2 (lowest risk) to 9 (highest risk).



## Interpretation of Results

Mean and standard deviation can be computed for the sample and compared to normative data in the below tables. The threshold score provides a way to estimate the risk of distress in a group of individuals scoring at or above a given level and is most useful for setting a cutoff score to identify a subset of individuals for further evaluation or who may be at greater risk for their distress contributing to a personal or professional consequence.

**Table 2. WBI Scores in a National Sample of US Pharmacists**

	WBI N = 5135
Mean Score (SD)	
Overall	3.25 (2.68)
Men	2.91 (2.90)
Women	3.39 (2.56)
Percent with 'at-risk score' <sup>1</sup>	
Overall	36.12%
Men	33.28%
Women	37.10%

<sup>1</sup> Defined as a score  $\geq 5$  for US Pharmacists using the WBI



## Predictive Validity

An eWell-Being Index score  $\geq 5$  (higher score = greater risk). In a sample of US Pharmacists, those with a Well-Being Index score  $\geq 5$  were at greater risk for a number of adverse outcomes, including:

- 3 fold higher risk of low quality of life
- 8 fold higher risk of burnout
- 2.5 fold higher risk of high fatigue
- 2.5 fold higher risk of intent to leave their current job
- 2 fold higher risk of medication error

**Table. 4**

Dependent	LR (95% CI)
Poor overall quality of life	3.32 (2.9, 3.78)
Burnout	8.19 (6.19, 11.01)
High Fatigue	2.59 (2.23, 3.01)
Intent to leave	2.54 (2.15, 3)
Risk of medication error	2.24 (1.94, 2.57)



## Relevant Publication

Lee P. Skrupky, PharmD, BCPS; Colin P. West, MD, PhD; Tait Shanafelt, MD; Daniel V. Satele, BS; Liselotte N. Dyrbye, MD, MHPE. Ability of the Well-Being Index to identify pharmacists in distress. Journal of the American Pharmacists Association: Published: June 26, 2020 - DOI: <https://doi.org/10.1016/j.japh.2020.06.015>



## Administration of Indexes

The scales take less than three minutes to fill out. It is self-administered. Ideally, respondents should be given privacy to complete the index. Due to the confidential nature of well-being, respondents may wish to complete the index anonymously. If this is not possible, efforts should be made to protect confidentiality such as through a code number. The scale should be presented as a self-assessment tool to help individuals gain insight into their level of distress across a variety of dimensions.

No specific qualifications are needed of the individual who administers the scale. It is ideal, however, for the administrator to not be a supervisor or someone who has an authority of the individuals completing the scale.



# Online Well-Being Index

## Medical Student, Resident, Physician, and Other US Worker

The Online Well-Being Index is a web-based self-assessment tool based on the well-validated instruments that allow individuals to anonymously assess their level of well-being and receive both immediate feedback on how it compares to peers (medical students, residents, physicians, and other US worker) nationally, as well as resources (locally tailored and national) to help promote wellness. The tool has been used by more than 25,000 physicians/residents/medical students and takes less than one minute to use. Use of an electronic version of the PWBI has been shown to improve self-calibration and promote behavioral change to improve personal well-being.

After answering the index questions, individuals receive instantaneous information on

1. their current level of well-being,
2. how their level of well-being compares to their relevant peer group,
3. whether their level of well-being puts them at higher risk for potentially serious personal and professional repercussions,
4. and resources to promote their well-being.

The tool also allows the individual to track their well-being over time.

De-identified, aggregate data at the level of undergraduate medical education, graduate medical education, and institution/organization is used to generate customized reports with comparative normative data.

Additional information can be found at <https://www.mededwebs.com/well-being-index>

Versions are being created specifically for nurses, nurse practitioners, and physician assistants.



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