

# Psychological Safety Culture Survey

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*This technical paper gives details of the psychometric properties of the scales and items used in the Psychological Safety Culture Survey*

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## **Overview:**

Safety Culture has been assessed using a number of instruments of varying psychometric soundness and operational relevance. Here we present the evidence for 4 essential components of a safety culture assessment used by the Psychological Safety Culture Survey: Teamwork Climate, Safety Climate, Quality Improvement Readiness, and Local Leadership. When used together, Teamwork Climate and Safety Climate items provide a good metric of Psychological Safety. Safety Culture is well represented by these items and domains that have withstood the test of time, operational relevance, actionability and responsiveness to interventions. Users of the Psychological Safety Culture Survey can utilize freely available benchmarking and descriptive data for the items related to Teamwork Climate, Safety Climate, Quality Improvement Readiness, and Local Leadership, all of which is reproduced in this document with references to the peer reviewed medical journals in which they are published. Anyone who wishes to explore the items or scales in the Psychological Safety Culture Survey, can do so using the information in this technical report.

## **Psychological Safety**

The psychological safety scale has been published<sup>1</sup> as a psychometrically valid metric, responsive to interventions, and shows significant variation by role, shift, shift length, and years in specialty. The 6 scaled items include 3 from the widely used teamwork climate<sup>2</sup> domain:

- Disagreements in this work setting are appropriately resolved (i.e., not who is right but what is best for the patient).
- In this work setting, it is difficult to speak up if I perceive a problem with patient care.
- It is easy for personnel here to ask questions when there is something that they do not understand.

and 3 from the widely used safety climate<sup>2</sup> domain:

- My suggestions about quality would be acted upon if I expressed them to management.
- The culture in this work setting makes it easy to learn from the errors of others.
- In this work setting, it is difficult to discuss errors.

These items were used in a Confirmatory Factor Analysis in which the fit to the model was good<sup>1</sup>: root mean square error approximation = 0.08; Confirmatory Fit Index = 0.97; Tucker-Lewis Fit Index = 0.95. The internal reliability of the psychological safety scale was also good (Cronbach  $\alpha$  = .80).<sup>1</sup>

Psychological Safety was associated moderately to highly with Quality Improvement Readiness, Work-life Climate, Teamwork Climate, Safety Climate, Burnout Climate, Emotional Exhaustion and Local Leadership (Table 1)<sup>1</sup>.

**TABLE 1.** Spearman Correlation Matrix for Psychological Safety and Additional Healthcare Climate Surveys All Aggregated at the Work Setting Level

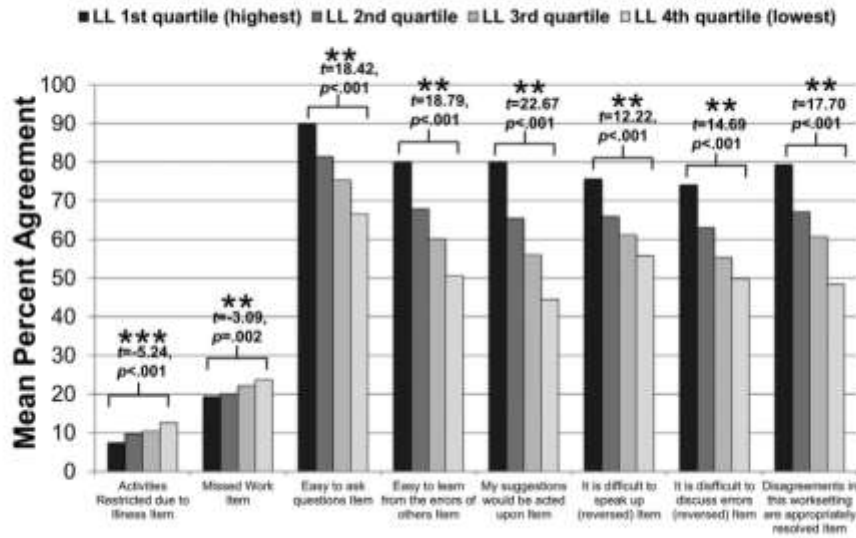
Variable	1	2	3	4	5	6	7	8
1. Psychological Safety	<b>(0.80)</b>							
2. Improvement Readiness	0.751*	<b>(0.93)</b>						
3. Work-Life Climate	0.400*	0.405*	<b>(0.83)</b>					
4. Teamwork Climate	0.788*	0.661*	0.367*	<b>(0.76)</b>				
5. Safety Climate	0.866*	0.756*	0.424*	0.733*	<b>(0.87)</b>			
6. Burnout Climate	-0.680*	-0.642*	-0.527*	-0.661*	-0.695*	<b>(0.90)</b>		
7. Emotional Exhaustion	-0.664*	-0.690*	-0.545*	-0.636*	-0.656*	0.813*	<b>(0.92)</b>	
8. Local Leadership	0.662*	0.727*	0.367*	0.607*	0.706*	-0.527*	-0.567*	<b>(0.94)</b>

N = 396 work settings. Cronbach  $\alpha$  for each domain are included in bold in the diagonal. All scores were aggregated at the work setting level. The 6-item PS scale shares 3 items with the Teamwork Climate scale and 3 items with the Safety Climate scale.

\* $P < 0.01$  level (2-tailed).

In fact, psychological safety serves as a useful and diagnostic shorthand for many aspects of safety culture, making it an ideal candidate for debriefings when time is limited. Variation in Local Leadership is captured well by psychological safety scale items (Figure 2).<sup>3,4</sup>

## Illness, Missing Work, and Psychological Safety Items by LL Climate Quartile



**Figure 2:** This graph shows reports of good local leadership climate across 818 work settings.

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PS is a scale that provides one number to approximate local safety culture norms of teamwork, safety and leadership. The psychological safety scale indicates the norms of trust and the ability to speak up.

### Single Item Assessments for Leadership and Quality Improvement Readiness

There are two items that draw a good deal of attention during debriefings, and based on their functionality and diagnosticity, they are included as single item assessments of their larger constructs.

Local Leadership Item:

- In this work setting, local management... (or —In this work setting, local physician leaders...for physicians) regularly makes time to provide positive feedback to me about how I am doing.

This item is correlated with the local leadership scale score at  $r=.922$ , indicating excellent representation of the full scale score (see Table 2).<sup>3</sup> This single item can be used as a proxy for the full local leadership scale, and given the actionability of this item, it serves as a guide to improvement (i.e., leaders that regularly provide positive feedback to staff are already doing a number of other meaningful and productive behaviors).

Table 2. Spearman Correlation Matrix for the Local Leadership (LL) Domain and LL Items (Intraclass Correlations on the Diagonal)

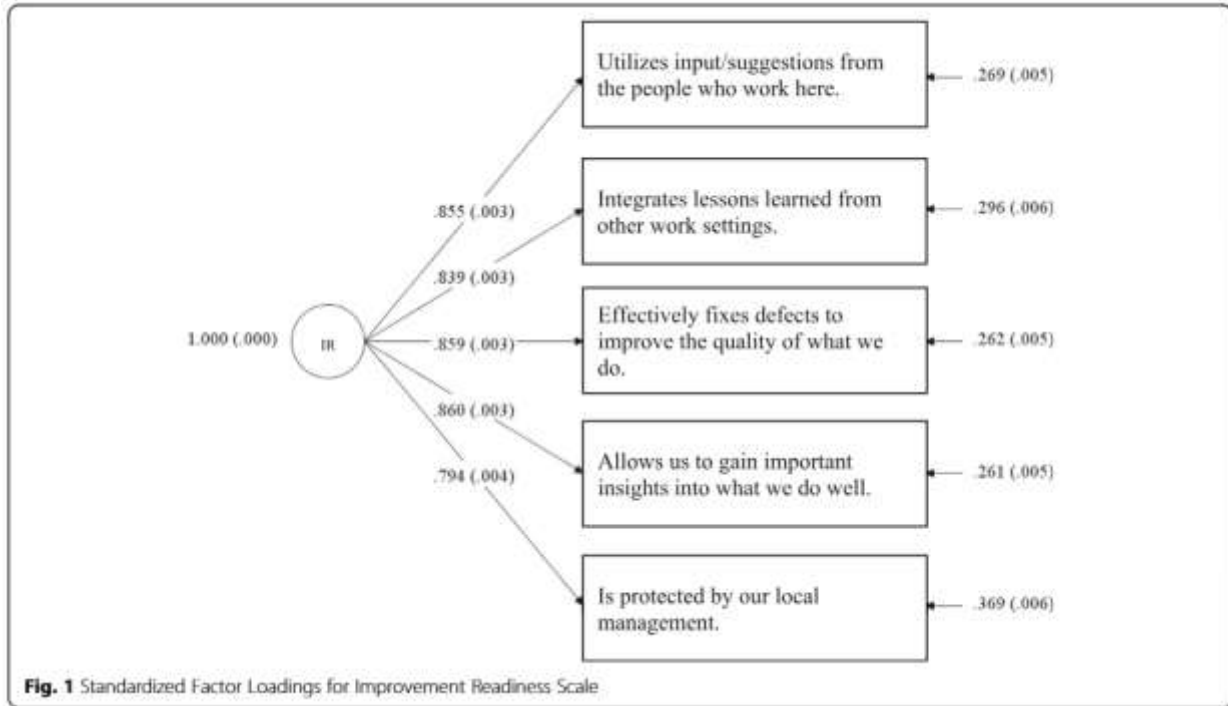
Variable	1	2	3	4	5	
1. Local Leadership Domain	(.17)					
2. Predictable Availability item	.765*	(.15)				
3. Positive Feedback item	.922*	.664*	(.14)			
4. Frequent Feedback item	.935*	.614*	.863*	(.14)		
5. Useful Feedback item	.933*	.623*	.852*	.897*	(.14)	
6. Communicates Expectations item	.876*	.609*	.774*	.803*	.830*	(.13)

\*  
 $p < 0.01$  level (2-tailed).

Improvement Readiness Item:

- The learning environment in this work setting allows us to gain important insights into what we do well.

This item has the highest factor loading of the improvement readiness scale (.860), indicating excellent representation of the full scale score (see Figure).<sup>5</sup> This single item can be used as a proxy for the full improvement readiness scale.



The new concept of Positive Rounding has also highlighted the utility of both single item assessments. The leader practice of highlighting what staff are doing well,<sup>3,4</sup> and the quality improvement practice of gaining insights into what they do well,<sup>5</sup> are highly congruous with Positive Rounding.<sup>6</sup>

The psychological safety domain benchmarking and descriptives are available online through BMJ Quality and Safety.<sup>7</sup>

### Psychological Safety Benchmarking

The psychological safety scale and item descriptives and benchmarking results are included at the facility (eTable 2a), and work setting (eTable 2b) level. The psychological safety scale has a good Cronbach alpha of  $\alpha = .80$ .<sup>7</sup>

	Mean	SD	Min	Max	1st	10th	25th	50th	75th	90th	99th
% reporting good Psychological Safety	48.6	12.2	10.0	94.1	15.6	34.4	40.7	48.9	55.7	62.2	85.2
It is easy for people in this work setting to ask questions when there is something that they do not understand (% agreement)	76.7	8.6	42.9	100	55.7	65.0	71.6	77.6	82.2	86.8	96.7
Disagreements in this work setting are appropriately resolved (% agreement)	63.8	10.5	25.0	93.4	34.0	50.4	56.6	64.1	70.4	75.8	91.3
In this work setting, it is difficult to speak up if I perceive a problem (% disagreement)	61.6	9.6	27.0	94.1	37.1	49.8	55.6	62.0	67.7	72.8	87.4

My suggestions about quality would be acted upon if I expressed them to management (% agreement)	62.8	11.3	20.0	100	31.4	49.1	55.3	63.2	68.7	76.0	94.8
The culture in this work setting makes it easy to learn from the errors of others (% agreement)	66.1	10.5	20.0	100	36.0	53.7	59.2	66.7	72.2	78.5	92.5
In this work setting, it is difficult to discuss errors (% disagreement)	58.4	10.9	7.7	92.9	31.5	44.2	51.4	59.5	65.5	71.1	83.3

eTable 2a. Psychological Safety scale and item descriptives at the facility level.

	Mean	SD	Min	Max	1st	10th	25th	50th	75th	90th	99th
% reporting good Psychological Safety	51.3	22.0	0.0	100	0.0	22.2	35.9	50.0	66.7	80.0	100
It is easy for people in this work setting to ask questions when there is something that they do not understand (% agreement)	79.0	16.0	0.0	100	33.3	57.1	70.0	80.9	90.0	100.0	100
Disagreements in this work setting are appropriately resolved (% agreement)	66.9	20.2	0.0	100	16.7	40.0	53.8	66.7	81.0	93.8	100
In this work setting, it is difficult to speak up if I perceive a problem (% disagreement)	61.8	20.2	0.0	100	11.1	34.8	50.0	62.5	76.5	85.7	100
My suggestions about quality would be acted upon if I expressed them to management (% agreement)	64.5	20.5	0.0	100	14.3	37.5	50.0	66.0	80.0	90.0	100
The culture in this work setting makes it easy to learn from the errors of others (% agreement)	68.2	18.8	0.0	100	20.0	42.9	57.1	69.6	81.8	91.3	100
In this work setting, it is difficult to discuss errors (% disagreement)	61.9	18.9	0.0	100	16.7	37.5	50.0	62.5	75.0	85.7	100

eTable 2b. Psychological Safety scale and item descriptives at the work setting level.

### **Leapfrog Criteria for validity Psychological Safety Culture Survey**

#### **1. Scale reliability.**

*Psychological Safety* Cronbach's Alpha ( $\alpha=.80$ )<sup>5</sup>

#### **2. Confirmatory factor analysis**

- *Psychological Safety* CFA fit was good<sup>5</sup>: root mean square error approximation = 0.08; Confirmatory Fit Index = 0.97; Tucker-Lewis Fit Index = 0.95

## Executive Summary

Through 3 decades of safety culture research, operational execution, and refinement, we have isolated psychometrically valid, operationally relevant, diagnostic, and actionable components for assessing and improving safety culture. The Psychological Safety Culture Survey incorporates norms of teamwork (3 items), patient safety behaviors (3 items), leadership behaviors (1 item) and quality improvement readiness behaviors (1 item) into a single instrument. The benchmarking data for all of the items and for the Psychological Safety scale have been published for use by researchers and quality improvement practitioners, as open source and available to anyone through BMJ Quality and Safety.<sup>7</sup>

## Refereed Journals:

1. Adair KC, Heath A, Frye MA, Frankel A, Proulx J, Rehder KJ, Eckert E, Penny C, Belz F, Sexton JB. The Psychological Safety Scale of the Safety, Communication, Operational, Reliability, and Engagement (SCORE) Survey: A Brief, Diagnostic, and Actionable Metric for the Ability to Speak Up in Healthcare Settings. *J Patient Safety* 2022 Sep 1;18(6):513-520. doi: 10:1097/PTS.0000000000001048. PMID: 35985041
2. Sexton JB, Adair KC, Frankel A, Christensen T, Leonard M, Watson S, & Bogan B. (2018). Providing feedback following leadership walkrounds is associated with better patient safety culture, higher employee engagement, and lower burnout. *BMJ Quality and Safety*, 27, 261-270. PMID: 28993441
3. Adair KC, Tawfik D, Levoy E, Palassof S, Profit J, Frankel A, Leonard M, Proulx J, Sexton JB. (2023) Assessing leadership behavior in healthcare: Introducing the Local Leadership scale of the SCORE Survey. *Jt Comm J Qual Patient Saf.* 2023 Mar; 49(3):166-173. Doi:10.1016/j.jcjq.2022.12.007. Epub 2022 Dec 23. PMID: 36717344
4. Tawfik DS, Adair KC, Palassof S, Sexton JB, Levoy E, Frankel A, Leonard M, Proulx J, Profit J. (2023) Leadership Behavior Associations with Domains of Safety Culture, Engagement, and Health Care Worker Well-Being. *Jt Comm J Qual Patient Saf.* 2023 Mar;49(3):156-165. doi:10.1016/j.jcjq.2022.12.006. Epub 2022 Dec 23. PMID: 36658090
5. Adair KC, Quow KL, Frankel A, Mosca PJ, Profit J, Hadley A, Leonard M, & Sexton JB (2018). The Improvement Readiness scale of the SCORE Survey: A metric to assess capacity for quality improvement. *BMC Health Services Research*, 18 (1), doi:10.1186/s12913-018-3743-0. PMID: 30558593
6. Sexton JB, Adair KC, Profit J, Bae JB, Rehder K, Gosselin T, Milne J, Leonard M, Frankel A. Safety culture and workforce well-being associations with Positive Leadership WalkRounds. *The Joint Commission Journal for Quality and Patient Safety.* 2021 Jul;47(7):403-411. <http://doi.org/10.1016/j.jcjq.2021.04.001> Epub 2021 Apr 22. PMID: 34024756

7. Sexton B, Profit J. Workforce well-being is workforce readiness: it is time to advance from describing the problem to solving it. *BMJ Quality & Safety* 2025;34:425-428.  
 Supplemental material:  
<https://qualitysafety.bmj.com/content/qhc/34/7/425/DC1/embed/inline-supplementary-material-1.pdf>

## Appendix A

# Psychological Safety Culture Survey

Please answer the following items with respect to your specific unit or clinical area. Choose your responses using the scale below:

A	B	C	D	E	X
Disagree Strongly	Disagree Slightly	Neutral	Agree Slightly	Agree Strongly	Not Applicable

### Psychological Safety Scale Items:

- Disagreements in this work setting are appropriately resolved (i.e., not who is right but what is best for the patient).
- In this work setting, it is difficult to speak up if I perceive a problem with patient care.
- It is easy for personnel here to ask questions when there is something that they do not understand.
- My suggestions about quality would be acted upon if I expressed them to management.
- The culture in this work setting makes it easy to learn from the errors of others.
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### Local Leadership Item:

- In this work setting, local management... (or —In this work setting, local physician leaders...for physicians) regularly makes time to provide positive feedback to me about how I am doing.

### Improvement Readiness Item:

- The learning environment in this work setting allows us to gain important insights into what we do well.