

Tool to screen workplace mental health and factors influencing it

1 Supplementary materials:

2 Supplementary tables

3 **Supplementary Table 1. Response pattern for the “Emotional Exhaustion” component of the Burnout screening tool: Pilot**  
 4 **phase (n=58)**

Burnout screening tool: Emotional Exhaustion	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Are you demotivated to attend work	28 (48.3)	21 (36.2)	9 (15.5)
Does the thought of going to work put you down	37 (63.8)	16 (27.6)	5 (8.6)
Does this work disinterest me	42 (72.4)	12 (20.7)	4 (6.9)
Do you work here solely for money and the job doesn’t motivate / encourage you	16 (27.6)	34 (58.6)	8 (13.8)
Are you worried about attending work	32 (55.2)	20 (34.5)	6 (10.3)
Do you continue to think about work related issues even during non-working hours	27 (46.6)	10 (17.2)	21 (36.2)
Do you feel sleepless, loss of appetite due to continuous thoughts about work	49 (84.5)	4 (6.9)	5 (8.6)
Do you feel lively while being at work*	7 (12.1)	4 (6.9)	47 (81)
Do you feel frustrated by your work	44 (75.9)	10 (17.2)	4 (6.9)
Are you satisfied with your work*	3 (5.2)	5 (8.6)	50 (86.2)
Does the thought of work prevent you from enjoying happiness with family & friends	43 (74.1)	9 (15.5)	6 (10.3)

5 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
 6 opposite direction.

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1 **Supplementary Table 2. Response pattern for the “Depersonalization” component of the Burnout screening tool: Pilot phase**  
 2 **(n=58)**

Burnout screening tool: Depersonalization	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you express anger at workplace due to work related stress / excess of work	40 (69)	11 (19)	7 (12.1)
Does this job make you less caring / indifferent to your fellow colleagues / clients	52 (89.7)	2 (3.4)	4 (6.9)
Have you become insensitive to people around you, since you’ve been working here	53 (91.4)	1 (1.7)	4 (6.9)
Do you almost lose patience by the end of the workday	46 (79.3)	5 (8.6)	7 (12.1)
Have you been responsible / felt guilty for your colleague’s / client’s problem(s)	46 (79.3)	7 (12.1)	5 (8.6)

3 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always”.

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1 **Supplementary Table 3. Response pattern for the “Personal Accomplishment” component of the Burnout screening tool: Pilot**  
2 **phase (n=58)**

Burnout screening tool: Personal accomplishment	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you feel you’ve accomplished many worthwhile things in this job	4 (6.9)	9 (15.5)	45 (77.6)
Do you satisfactorily complete your work for the day	3 (5.2)	0 (0)	55 (94.8)
Are you satisfied with your efforts in keeping the work atmosphere calm and relaxed	0 (0)	1 (1.7)	57 (98.3)

3 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never”.

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1 **Supplementary Table 4. Response pattern for the “Workload” component of workplace screening tool: Pilot phase (n=57<sup>^</sup>)**

Workplace screening tool: Work load	Never <i>n</i> (%)	Sometimes <i>n</i> (%)	Always <i>n</i> (%)
Do you have to do a lot of work in this job	44 (77.2)	11 (19.3)	2 (3.5)
Are you able to develop sufficient time for your domestic and personal work, considering the quantum of official work*	10 (17.5)	29 (50.9)	18 (31.6)
Do you have to work, that requires more than one person to do	20 (35.1)	28 (49.1)	9 (15.8)
Do you feel completing your assignments personally unsatisfied on account of excessive work and lack of time	15 (26.3)	32 (56.1)	10 (17.5)
Do you have to work under tense circumstances (due to excessive work)	28 (49.1)	21 (36.8)	8 (14)

2 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
3 opposite direction.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary Table 5. Response pattern for “Control” component of workplace screening tool: Pilot phase (n=57<sup>^</sup>)**

Workplace screening tool: Work load	Never <i>n</i> (%)	Sometimes <i>n</i> (%)	Always <i>n</i> (%)
Do you feel your officials often interfere with your working methods	30 (52.6)	15 (26.3)	12 (21.1)
Do you feel the instructions provided by your multiple officers are contradictory, vague, insufficient or confusing	18 (31.6)	32 (56.1)	7 (12.3)
Does you feel like working with unwillingness owing to certain group / political pressure	23 (40.4)	30 (52.6)	4 (7)
Are you forced to violate the formal administrative procedures and policies owing to group/political pressures	18 (31.6)	36 (63.2)	3 (5.3)
Does your work role frequently change	26 (46.4)	19 (33.9)	11 (19.6)
Are your suggestions noticed and implemented at your office*	4 (7.1)	10 (17.9)	42 (75)

2 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
3 opposite direction.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary Table 6. Response pattern for “Reward” component of the workplace screening tool: Pilot phase (n=57<sup>^</sup>)**

Workplace screening tool: Reward	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you get less salary in comparison to the quantum of your labor/work	12 (21.1)	24 (42.1)	21 (36.8)
Are you appropriately rewarded for your hard work/labor and efficient performance*	39 (68.)	17 (29.8)	1 (1.8)
Do you feel the working conditions are satisfactory from the point of view of our welfare and convenience*	51 (89.5)	5 (8.8)	1 (1.85)

2 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
 3 opposite direction.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary Table 7. Response pattern for the “Community cooperation” component of the workplace screening tool: Pilot**  
 2 **phase (n=5<sup>^</sup>7)**

Workplace screening tool: Community	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do your colleagues at workplace voluntarily cooperate with you	0 (0)	5 (8.8)	52 (91.2)
Do you feel sufficient mutual co-operation and team spirit exists among the employees of the organization/department	1 (1.7)	1 (1.7)	55 (96.5)
Does the workplace permit you to communicate with your colleagues	1 (1.7)	1 (1.7)	55 (96.5)

3 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never”.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary Table 8. Response pattern for the “Fairness” component of the workplace screening tool: Pilot phase (n=57<sup>^</sup>)**

Workplace screening tool: Community	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Are you being treated equally (/the same way) as other colleagues at workplace*	2 (3.5)	1 (1.8)	54 (94.7)
Do you feel your higher authorities do not give due significance to your post and work	23 (45.6)	26 (44.8)	8 (14)
Do your work conditions permit you to express your concerns*	2 (3.5)	1 (1.8)	54 (94.7)
Are your opinions usually condemned despite other colleagues appreciating it	16 (28.6)	31 (55.4)	9 (16.1)

2 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never” while \*questions are scored in  
 3 opposite direction.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary table 9. Response pattern for the “Values” component of the workplace screening tool: Pilot phase (n=57<sup>^</sup>)**

Workplace screening tool: Community	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Does your higher authority care for your self-respect	0 (0)	2 (3.5)	55 (96.5)
Do you feel your job enhances your social status	0 (0)	8 (14)	49 (86)
Do you get sufficient opportunity to improve your proficiency and attitude	0 (0)	8 (14)	49 (86)
Do you often feel your Job as boring*	42 (73.7)	9 (15.5)	6 (10.5)

2 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never” while \*questions are scored in  
 3 opposite direction.

4 <sup>^</sup> One of the participant did not consent to respond to the workplace screening tool, hence the final number of participant were 57.

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1 **Supplementary Table 10. Response pattern for the GHQ – 5 for the validation phase (n=153)**

General Health Questionnaire (GHQ) - 5	Yes	No
	<i>n</i> (%)	<i>n</i> (%)
Have you recently lost much sleep over worry?	34 (22.2)	119 (77.8)
Have you recently felt constantly under strain?	32 (20.9)	121 (79.1)
Have you recently been able to enjoy normal day-to-day activities?	117 (76.5)	36 (23.5)
Have you recently been feeling reasonably happy all things considered?	114 (74.5)	39 (25.5)
Have you recently been feeling unhappy and depressed?	27 (17.6)	128 (82.4)

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1 **Supplementary Table 11. Response pattern for the “Emotional Exhaustion” component of the Burnout screening tool:**

2 **Validation phase (n=153)**

Burnout screening tool: Emotional Exhaustion	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Are you demotivated to attend work	123 (80.4)	25 (16.3)	5 (3.3)
Does the thought of going to work put you down	130 (85)	23 (15)	0 (0)
Does this work disinterest me	134 (87.6)	13 (8.5)	6 (3.9)
Do you work here solely for money and the job doesn’t motivate / encourage you	117 (76.5)	30 (19.6)	6 (3.9)
Are you worried about attending work	116 (75.8)	24 (15.7)	13 (8.5)
Do you continue to think about work related issues even during non-working hours	91 (59.5)	41 (26.8)	21 (13.7)
Do you feel sleepless, loss of appetite due to continuous thoughts about work	109 (71.2)	38 (24.8)	6 (3.9)
Do you feel lively while being at work*	19 (12.4)	21 (13.7)	113 (73.9)
Do you feel frustrated by your work	118 (77.1)	30 (19.6)	5 (3.3)
Are you satisfied with your work*	12 (7.8)	15 (9.8)	126 (82.4)
Does the thought of work prevent you from enjoying happiness with family & friends	103 (67.3)	34 (22.2)	16 (10.5)

3 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
 4 opposite direction.

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1 **Supplementary Table 12. Response pattern for the “Depersonalization” component of the Burnout screening tool: Validation**  
 2 **phase (n=153)**

Burnout screening tool: Depersonalization	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you express anger at workplace due to work related stress / excess of work	104 (68)	45 (29.4)	4 (2.6)
Does this job make you less caring / indifferent to your fellow colleagues / clients	133 (86.9)	16 (10.5)	4 (2.6)
Have you become insensitive to people around you, since you’ve been working here	135 (88.2)	16 (10.5)	2 (1.3)
Do you almost lose patience by the end of the workday	124 (81)	23 (15)	6 (3.9)
Have you been responsible / felt guilty for your colleague’s / client’s problem(s)	121 (79.1)	28 (18.3)	4 (2.6)

3 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always”.

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1 **Supplementary Table 13. Response pattern for “Personal Accomplishment” component of the Burnout screening tool:**

2 **Validation phase (n=153)**

Burnout screening tool: Personal accomplishment	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you feel you’ve accomplished many worthwhile things in this job	1 (0.7)	12 (7.8)	140 (91.5)
Do you satisfactorily complete your work for the day	2 (1.3)	5 (3.3)	146 (95.4)
Are you satisfied with your efforts in keeping the work atmosphere calm and relaxed	2 (1.3)	5 (3.3)	146 (95.4)

3 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never”.

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1 **Supplementary Table 14. Response pattern for “Workload” component of the workplace screening tool: Validation phase**

2 **(n=153)**

Workplace screening tool: Work load	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you have to do a lot of work in this job	77 (50.3)	46 (30.1)	30 (19.6)
Are you able to develop sufficient time for your domestic and personal work, considering the quantum of official work*	23 (15.6)	36 (23.5)	94 (61.4)
Do you have to work, that requires more than one person to do	86 (56.2)	46 (30.1)	21 (13.7)
Do you feel completing your assignments personally unsatisfied on account of excessive work and lack of time	114 (74.5)	23 (15)	16 (10.5)
Do you have to work under tense circumstances (due to excessive work)	117 (76.5)	28 (18.3)	8 (5.2)

3 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in

4 opposite direction.

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1 **Supplementary Table 15. Response pattern for “Reward” component of the workplace screening tool: Validation phase**  
 2 **(n=153)**

Workplace screening tool: Reward	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do you get less salary in comparison to the quantum of your labor/work	55 (35.9)	34 (22.2)	64 (41.8)
Are you appropriately rewarded for your hard work/labor and efficient performance*	34 (22.2)	44 (28.8)	75 (49)
Do you feel the working conditions are satisfactory from the point of view of our welfare and convenience*	32 (20.9)	33 (21.6)	88 (57.5)

3 All questions are scored with “1”, “2” and “3” corresponding to “never”, “sometimes” and “always” while \*questions are scored in  
 4 opposite direction.

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1 **Supplementary Table 16. Response pattern for the “Community Cooperation” component of the workplace screening tool:**

2 **Validation phase (n=153)**

Workplace screening tool: Community	Never	Sometimes	Always
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Do your colleagues at workplace voluntarily cooperate with you	2 (1.3)	9 (5.9)	142 (92.8)
Do you feel sufficient mutual co-operation and team spirit exists among the employees of the organization/department	2 (1.3)	7 (4.6)	144 (94.1)
Does the workplace permit you to communicate with your colleagues	2 (1.3)	4 (2.6)	147 (96.1)

3 All questions are scored with “1”, “2” and “3” corresponding to “always”, “sometimes” and “never”.

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**Supplement Table 17. Kaiser-Meyer-Olkin (KMO) measure for each of the burnout questions**

Questions	KMO measure
<b>Emotional Exhaustion</b>	
Are you demotivated to attend work	0.781
Does the thought of going to work put you down	0.778
Does this work disinterest me	0.669
Do you work here solely for money and the job doesn't motivate / encourage you	0.502
Are you worried about attending work	0.796
Do you continue to think about work related issues even during non-working hours	0.849
Do you feel sleepless, loss of appetite due to continuous thoughts about work	0.887
Do you feel lively while being at work	0.815
Do you feel frustrated by your work	0.878
Are you satisfied with your work	0.545
Does the thought of work prevent you from enjoying happiness with family & friends	0.841
<b>Depersonalization</b>	
Do you express anger at workplace due to work related stress / excess of work	0.781
Does this job make you less caring / indifferent to your fellow colleagues / clients	0.713
Have you become insensitive to people around you, since you've been working here	0.796
Do you almost lose patience by the end of the workday	0.830
Have you been responsible / felt guilty for your colleague's / client's problem(s)	0.653
<b>Personal accomplishments</b>	
Do you feel you've accomplished many worthwhile things in this job	0.769
Do you satisfactorily complete your work for the day	0.615
Are you satisfied with your efforts in keeping the work atmosphere calm and relaxed	0.782

As KMO measure for each of the questions were > 0.5, therefore all the questions were retained.

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1 **Supplement Table 18. Rotated structured matrix for principal component analysis with varimax rotation of burnout screening**  
 2 **questionnaire**

Questions	Component					Commonality
	1	2	3	4	5	
<b>Emotional Exhaustion</b>						
Are you demotivated to attend work	-0.023	0.122	<b>0.66</b>	0.233	-0.006	0.506
Does the thought of going to work put you down	0.256	0.084	<b>0.734</b>	-0.181	0.094	0.653
Does this work disinterest me	-0.026	<b>0.793</b>	0.003	0.075	0.089	0.662
Do you work here solely for money and the job doesn't motivate / encourage you	-0.055	0.056	-0.013	-0.003	<b>0.827</b>	0.691
Are you worried about attending work	<b>0.531</b>	0.471	0.016	-0.089	-0.036	0.517
Do you continue to think about work related issues even during non-working hours	<b>0.604</b>	-0.13	0.419	0.054	0.023	0.561
Do you feel sleepless, loss of appetite due to continuous thoughts about work	<b>0.526</b>	0.003	0.411	0.187	0.348	0.602
Do you feel lively while being at work	<b>0.521</b>	0.302	0.093	0.126	-0.138	0.462
Do you feel frustrated by your work	<b>0.512</b>	0.348	0.215	0.299	0.322	0.533
Are you satisfied with your work	0.002	-0.027	0.061	0.054	<b>0.897</b>	0.812
Does the thought of work prevent you from enjoying happiness with family & friends	<b>0.612</b>	0.122	0.012	0.096	0.13	0.46
<b>Depersonalization</b>						
Do you express anger at workplace due to work related stress / excess of work	<b>0.67</b>	0.127	0.299	0.074	-0.049	0.628

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Questions	Component					Commonality
	1	2	3	4	5	
Does this job make you less caring / indifferent to your fellow colleagues / clients	0.161	<b>0.83</b>	0.145	0.009	-0.026	0.768
Have you become insensitive to people around you, since you've been working here	0.267	<b>0.604</b>	0.352	0.2	-0.065	0.661
Do you almost lose patience by the end of the workday	0.256	0.341	<b>0.522</b>	0.126	0.186	0.517
Have you been responsible / felt guilty for your colleague's / client's problem(s)	<b>0.519</b>	0.095	-0.229	0.156	0.15	0.473
<b>Personal accomplishments</b>						
Do you feel you've accomplished many worthwhile things in this job	0.101	0.195	-0.012	<b>0.779</b>	0.197	0.7
Do you satisfactorily complete your work for the day	-0.177	-0.084	0.432	<b>0.639</b>	-0.116	0.672
Are you satisfied with your efforts in keeping the work atmosphere calm and relaxed	0.304	0.01	0.018	<b>0.786</b>	0.03	0.712

1 Loadings with > 0.5 are reported in bold.

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2 **Supplement Table 19. Kaiser-Meyer-Olkin (KMO) measure for each the workplace domain questions**

Questions	KMO measure
<b>Work load</b>	
Do you have to do a lot of work in this job	0.831
Are you able to develop sufficient time for your domestic and personal work, considering the quantum of official work*	0.78
Do you have to work, that requires more than one person to do	0.85
Do you feel completing your assignments personally unsatisfied on account of excessive work and lack of time	0.836
Do you have to work under tense circumstances (due to excessive work)	0.817
<b>Reward</b>	
Do you get less salary in comparison to the quantum of your labor/work	0.839
Are you appropriately rewarded for your hard work/labor and efficient performance*	0.657
Do you feel the working conditions are satisfactory from the point of view of our welfare and convenience*	0.691
<b>Community</b>	
Do your colleagues at workplace voluntarily cooperate with you	0.647
Do you feel sufficient mutual co-operation and team spirit exists among the employees of the organization/department	0.687
Does the workplace permit you to communicate with your colleagues	0.502

3 The KMO measure for each questions was > 0.5 hence all the questions were retained.

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1 **Supplement Table 20. Rotated structured matrix for principal component analysis with varimax rotation of the workplace**  
 2 **screening questionnaire**

Questions	Component				Commonality
	1	2	3	4	
<b>Work load</b>					
Do you have to do a lot of work in this job	<b>0.806</b>	-0.053	0.116	-0.060	0.669
Are you able to develop sufficient time for your domestic and personal work, considering the quantum of official work*	<b>0.856</b>	0.156	0.153	0.074	0.786
Do you have to work, that requires more than one person to do	<b>0.77</b>	-0.021	0.151	-0.002	0.616
Do you feel completing your assignments personally unsatisfied on account of excessive work and lack of time	<b>0.615</b>	0.426	0.054	0.165	0.534
Do you have to work under tense circumstances (due to excessive work)	<b>0.672</b>	0.353	-0.160	0.071	0.664
<b>Reward</b>					
Do you get less salary in comparison to the quantum of your labor/work	0.135	0.020	0.295	<b>0.582</b>	0.444
Are you appropriately rewarded for your hard work/labor and efficient performance*	0.133	0.001	<b>0.802</b>	-0.068	0.66
Do you feel the working conditions are satisfactory from the point of view of our welfare and convenience*	0.065	0.174	<b>0.779</b>	0.132	0.665
<b>Community</b>					
Do your colleagues at workplace voluntarily cooperate with you	0.111	<b>0.826</b>	0.103	-0.134	0.724
Do you feel sufficient mutual co-operation and team spirit exists among the employees of the organization/department	0.106	<b>0.822</b>	0.083	0.108	0.705
Does the workplace permit you to communicate with your colleagues	0.044	<b>0.842</b>	0.015	0.160	0.737

3 Loadings with > 0.5 are reported in bold.

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**Supplement Table 21. Number of participants randomly dichotomized as 2 groups, ensuring equal representation of the various occupational groups**

<b>S. N.</b>	<b>Occupations</b>	<b>Random group 1</b>	<b>Random group 2</b>
1.	Outdoor data collection	7	7
2.	Paramedical staff (outdoors) / drivers	10	9
3.	Administrative / indoor desk job workers	3	3
4.	Nurse	15	14
5.	Doctor	11	12
6.	Laboratory staff	8	8
7.	Sanitary workers / outdoor workers / security guards / police	23	23
<b>Total</b>		<b>77</b>	<b>76</b>

All of the three randomization phases included the same number of participants.

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**Supplement Table 22. Significance (*p* value) of the group differences in responses obtained for GHQ-5, burnout and workplace factors questions, between randomly dichotomized groups. Results from all 3 randomizations**

S. N.	Questions	<i>P</i> values obtained by chi-square test between the groups		
		Random 1	Random 2	Random 3
<b>General Health Questionnaire – 5 (GHQ-5)</b>				
1.	Have you recently lost much sleep over worry?	0.99	0.7	0.4
2.	Have you recently felt constantly under strain?	0.7	0.43	0.07
3.	Have you recently been able to enjoy normal day-to-day activities?	0.34	0.34	<b>0.03*</b>
4.	Have you recently been feeling reasonably happy all things considered?	0.2	0.36	0.06
5.	Have you recently been feeling unhappy and depressed?	0.84	0.84	0.27
	Requiring detailed evaluation based on GHQ-5 screening	0.99	0.29	0.07
<b>Burnout: Emotional Exhaustion</b>				
1.	Are you demotivated to attend work	0.39	0.34	0.28
2.	Does the thought of going to work put you down	0.12	0.99	0.12
3.	Does this work disinterest me	0.48	0.68	0.51
4.	Do you work here solely for money and the job doesn't motivate / encourage you	0.67	0.18	0.69
5.	Are you worried about attending work	0.1	0.65	0.09
6.	Do you continue to think about work related issues even during non-working hours	0.41	0.47	0.7
7.	Do you feel sleepless, loss of appetite due to continuous thoughts about work	0.24	0.91	0.72
8.	Do you feel lively while being at work	0.08	0.57	0.3
9.	Do you feel frustrated by your work	0.31	0.47	0.3
10.	Are you satisfied with your work	0.97	0.55	0.82
11.	Does the thought of work prevent you from enjoying happiness with family & friends	0.83	0.14	0.8

Tool to screen workplace mental health and factors influencing it

S. N.	Questions	<i>P values obtained by chi-square test between the groups</i>		
		Random 1	Random 2	Random 3
<b>Burnout: Depersonalization</b>				
1.	Do you express anger at workplace due to work related stress / excess of work	0.34	0.02	0.64
2.	Does this job make you less caring / indifferent to your fellow colleagues / clients	0.59	0.52	0.3
3.	Have you become insensitive to people around you, since you've been working here	0.88	0.3	0.19
4.	Do you almost lose patience by the end of the workday	0.81	0.98	0.22
5.	Have you been responsible / felt guilty for your colleague's / client's problem(s)	0.46	0.99	0.99
<b>Burnout: Personal accomplishments</b>				
1.	Do you feel you've accomplished many worthwhile things in this job	0.6	0.13	0.61
2.	Do you satisfactorily complete your work for the day	0.32	0.9	0.33
3.	Are you satisfied with your efforts in keeping the work atmosphere calm and relaxed	0.32	0.33	0.91
<b>Workplace factors: Work load</b>				
1.	Do you have to do a lot of work in this job	0.67	0.89	0.38
2.	Are you able to develop sufficient time for your domestic and personal work, considering the quantum of official work	0.17	0.85	0.76
3.	Do you have to work, that requires more than one person to do	0.98	0.16	0.63
4.	Do you feel completing your assignments personally unsatisfied on account of excessive work and lack of time	0.38	0.97	0.77
5.	Do you have to work under tense circumstances (due to excessive work)	0.48	0.9	0.72
<b>Workplace factors: Reward</b>				
1.	Do you get less salary in comparison to the quantum of your labor/work	0.4	0.83	0.11



Tool to screen workplace mental health and factors influencing it

S. N.	Questions	<i>P values obtained by chi-square test between the groups</i>		
		Random 1	Random 2	Random 3
2.	Are you appropriately rewarded for your hard work/labor and efficient performance	0.9	0.48	0.05
3.	Do you feel the working conditions are satisfactory from the point of view of our welfare and convenience	0.1	0.97	0.27
<b>Workplace factors: Community</b>				
1.	Do your colleagues at workplace voluntarily cooperate with you	0.95	0.94	0.24
2.	Do you feel sufficient mutual co-operation and team spirit exists among the employees of the organization/department	0.92	0.33	0.92
3.	Does the workplace permit you to communicate with your colleagues	0.22	0.99	0.99

There were no statistical differences in the responses obtained between the randomly dichotomized groups.

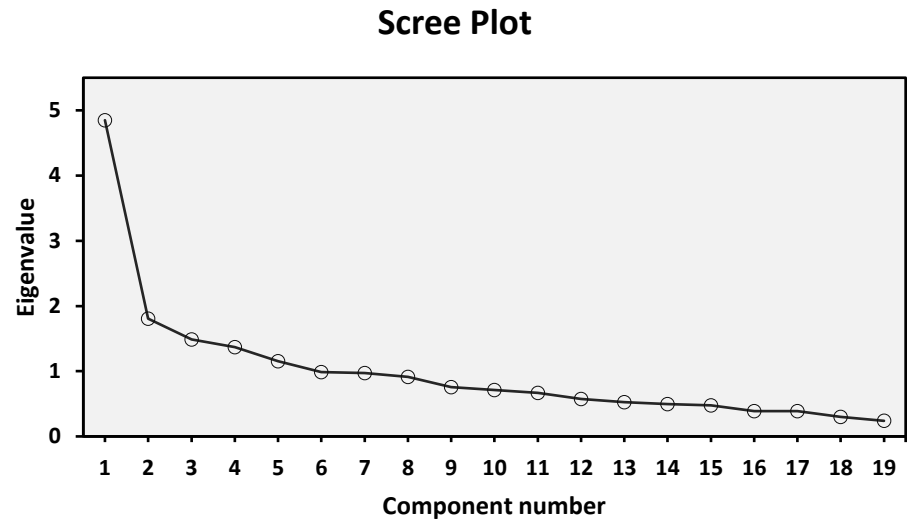
\* Statistically significant different response between the randomly dichotomized groups (3<sup>rd</sup> randomization).

**Supplement Table 23. Mean  $\pm$  standard deviation of the total scores of the questionnaire, for the randomly dichotomized groups. Results from all 3 randomizations**

Questions	Randomization 1		Randomization 2		Randomization 3	
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
GHQ-5 total score (Max. 5)	1.07 $\pm$ 1.3	1.13 $\pm$ 1.5	1.05 $\pm$ 1.4	1.15 $\pm$ 1.4	0.87 $\pm$ 1.3*	1.32 $\pm$ 1.5
Emotional exhaustion total score (Max. 22)	14 $\pm$ 2.8	14.68 $\pm$ 3.4	14.31 $\pm$ 3.3	14.38 $\pm$ 3	14.08 $\pm$ 3.1	14.62 $\pm$ 3.1
Depersonalization total score (Max. 10)	6.09 $\pm$ 1.5	6.1 $\pm$ 1.6	6.16 $\pm$ 1.9	6.04 $\pm$ 1.2	5.89 $\pm$ 1.4	6.3 $\pm$ 1.7
Reduced accomplishment total score (Max. 6)	3.17 $\pm$ 0.6	3.25 $\pm$ 0.76	3.26 $\pm$ 0.8	3.16 $\pm$ 0.6	3.21 $\pm$ 0.7	3.21 $\pm$ 0.7
Total burnout score (Max. 38)	23.27 $\pm$ 4.2	24.04 $\pm$ 4.9	23.73 $\pm$ 5.2	23.58 $\pm$ 3.9	23.18 $\pm$ 4.6	24.13 $\pm$ 4.6
Workload total score (Max. 10)	7.4 $\pm$ 2.6	7.5 $\pm$ 2.8	7.32 $\pm$ 2.5	7.58 $\pm$ 2.8	7.23 $\pm$ 2.7	7.67 $\pm$ 2.7
Reward total score (Max. 6)	5.55 $\pm$ 1.7	5.3 $\pm$ 1.7	5.38 $\pm$ 1.7	5.47 $\pm$ 1.7	5.45 $\pm$ 1.6	5.39 $\pm$ 1.9
Community total score (Max. 6)	3.22 $\pm$ 0.7	3.2 $\pm$ 0.5	3.17 $\pm$ 0.5	3.25 $\pm$ 0.7	3.23 $\pm$ 0.7	3.18 $\pm$ 0.5
Total workplace score (Max. 22)	16.16 $\pm$ 3.7	16 $\pm$ 3.8	15.87 $\pm$ 3.5	16.3 $\pm$ 4	15.92 $\pm$ 3.8	16.25 $\pm$ 3.8

There were no statistical differences in the total scores between the randomly dichotomized groups.

\* Randomly dichotomized groups during 3<sup>rd</sup> randomization, were statistically different in total GHQ-5 scores



**Supplementary Fig. 1. Scree plot demonstrating inflection point, (one among the criteria for determining the number of components to retain for rotation and interpretation).**



**Supplementary Fig. 2. Scree plot demonstrating inflection point, one among the criteria for used to determine the number of components to retain for rotation and interpretation.**

### Systematic review of Indian studies

Systematic review of Indian studies investigating the workplace mental health and workplace factors revealed usage of either western tools without prior validation or tools that fail to include all the constructs of burnout and workplace factors.

Majority of these studies used occupational stress index scale developed during 1981, which apparently investigates role overload, role ambiguity, role conflict, unreasonable group / political pressure, responsibility of the individuals, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability. However with advancement in the understanding of organizational behavior, the workplace factors are categorized under workload, control, community cooperation, fairness, value and reward. Further, the mental health in the Indian studies are assessed with generic mental health tools, therefore specific assessment of occupational mental health is lacking in these studies.

### Summary of the Indian studies

Jain et al (2007) reported job satisfaction, organization climate and occupational stress among 158 workers employed at oil industry (Indian oil corporation), located at Mathura. The tools used include Job satisfaction scale, organizational climate scale and occupation stress index developed during mid-1980's and thereby these scales fail to capture the occupational mental health constructs such as depersonalization and perception of reduced accomplishment nor the workplace constructs namely "Value" and "Fairness".

Yadav & Nagle (2012) investigated the work alienation and occupational stress among 270 women (90 Nurses, 90 teachers and 90 office clerks). The cited study involved work alienation scale and

occupational stress index. These scales doesn't include all the constructs of burnout and workplace factors.

Sirajunnisa & Panchanatham (2010) reported an association between occupational stress and work life balance among 150 professional women (including lecturer, bank officer, doctor and engineer) residing at Tamil Nadu using Occupational stress index and work-life balance scale. The occupational stress index doesn't capture all the constructs of workplace factors, while the work-place balance is an extension of workload. Further, occupational mental health assessment is perhaps beyond the scope the cited study and hence not accessed.

Similarly, many studies have independently investigated the workplace factors using the occupational stress index, while the mental health using generic mental health questionnaire such as depression and somatic symptoms and such as "workload", "Control", "Community cooperation", "Value", "Reward" using non-validated western tools. The details of these studies are listed below.

Study (site)	Participant and workplace	Workplace factors	Psychological symptoms	Comments
Singh 2015	210 employees in manager positions	Occupational stress index	-	Incomplete evaluation / screening of workplace factors
Mishra et al 2015	Bank mangers	Occupational stress index	-	Incomplete evaluation / screening of workplace factors
Krishna et al 2015	76 Machine operators of steel plant	Occupational stress index	-	Incomplete evaluation / screening of workplace factors

Study (site)	Participant and workplace	Workplace factors	Psychological symptoms	Comments
Soumyashree et al 2018 Karnataka	132 workers from stone crushing industry	Occupational stress index	-	Incomplete evaluation / screening of workplace factors
Singh et al 2016 (Varnasi)	210 executives	Occupational stress index	Depression	Incomplete evaluation / screening of workplace factors and generic mental health assessment
Ali et al 2019, (Uttar pradesh)	335 bank employees	Occupational stress index		Incomplete evaluation / screening of workplace factors
Upadhyay & Singh 2017 (Varnasi)	104 female bank workers	Occupational stress index	-	Incomplete evaluation / screening of workplace factors
Sahu & Pathardikar 2018 (Lucknow)	Workers from manufacturing unit	Occupational stress index & job satisfaction	-	Incomplete evaluation / screening of workplace factors
Singh et al 2016 (Various cities in India)	210 executive workers	Control., workload	Somatic symptoms	Incomplete evaluation / screening of workplace factors and generic mental health assessment
Karim 2018 (Mizoram)	84 bank employees	Occupational stress index	-	Incomplete evaluation / screening of workplace factors

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