

Are questionnaires useful in distinguishing burnout, depression and distress?

Comparing the BAT and the Four-Dimensional Symptom Questionnaire (4DSQ)

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1. Research question

In the Netherlands, one distinguishes 3 stress-related disorders:

- **Strain** (irritated, poor sleep,...)
- **'Overstrain'** (*'surmenage'* – limitations in functioning)
- **Burnout** (chronical, more than 6 months, exhaustion)

But also **depression**

At the same time: **questionnaires** to assess these mental states

So: are these questionnaires useful in distinguishing the various disorders?
And perhaps especially: burnout versus depression?

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2. Design and method

Employees who reported to be ill due to mental/psychological complaints (-> ArboNed) in period March-June 2020 (4 months)

N = 5,791

Diagnosis (physician) versus (self administered) questionnaires

1) Two online questionnaires (within 2 weeks):

- BAT-23 (4 subscales; alpha > .80)
- Four-Dimensional Symptom Questionnaire (4DSQ):
 - Anxiety (12 items; alpha .88)
 - Depression (6 items; alpha .85)
 - Distress ('psychological' strain symptoms; 12 items; alpha .92)
 - Somatisation ('physical' strain symptoms; 16 items, alpha .88)

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2) Independent diagnosis by company medical doctor (within 6 weeks) as:

- Strain (n = 985; 17%)
- 'Overstrain' ('surmenage' – '*other adjustment disorders*'; n = 3,289; 57%)
 - > not necessarily related to work; unspecific 'rest category'
- Burnout (n = 749; 13%)
- Depressive episode (n = 768; 13%)

Method: **discriminant analysis** ('regression with nominal categories')

-> prediction of the diagnosed groups based on the subscales of both questionnaires

- Can we predict group membership...
- ... and if so, based on which scales?
- However: 'surmenage' was too unspecific group -> ignored...

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So, prediction of group membership of three groups: distress, burnout, depression -> always 2 discriminant functions (2nd least important)

Three sets of analysis: BAT, 4DSQ, BAT + 4DSQ

Information on:

- Discriminant coefficients (like regression coefficients)
- Canonical correlation (like multiple correlation R)
- Groups centroid of each group (which groups are contrasted?)
- Percentage correctly classified

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3. Results

Table 1: Discriminant analyses (standardized coefficients), three groups (distress, burnout and depressive episode)

Scales	BAT		4DSQ		BAT + 4DSQ	
	Function 1	Function 2	Function 1	Function 2	Function 1	Function 2
• BAT-exhaustion	0,62	-1,05			-0,17	0,70
• BAT-mental distance	-0,20	0,99			-0,03	-0,35
• BAT-cognitive impairment	0,41	0,63			0,13	0,25
• BAT-emotional impairment	0,25	-0,11			-0,08	0,24
• 4DSQ-somatisation			-0,41	0,79	-0,39	0,35
• 4DSQ-anxiety			0,19	-0,38	0,20	-0,28
• 4DSQ-distress			-0,12	0,73	-0,09	0,15
• 4DSQ-depression			1,08	-0,30	1,08	-0,09
Canonical correlation	0,21	0,10	0,51	0,13	0,52	0,21
<u>Group centroid</u>						
Burnout	0,22	-0,11	-0,33	0,19	-0,36	0,30
Distress	-0,26	-0,02	-0,44	-0,13	-0,43	-0,21
Depressive episode	0,12	0,13	0,89	-0,02	0,90	-0,01
Correctly classified (%)						
Burnout	42,8		38,6		50,0	
Distress	45,8		51,9		52,0	
Depressive episode	36,4		61,5		60,5	
Total	42,0		50,9		54,0	

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Bat only: weaker prediction overall, especially depressive episode

*BAT exhaustion -> burnout

*BAT mental distance & cognitive impairment -> depressive episode

4DSQ only: better prediction overall, especially depressive episode – but weak regarding burnout

*4DSQ depression -> depressive episode

*4DSQ somatization & distress -> burnout

BAT & 4DSQ together: best classification

*4DSQ depression -> depressive episode

*BAT exhaustion (& 4DSQ somatization) -> burnout

*BAT mental distance (& 4DSQ somatization) -> distress

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4. Conclusion

- Results with BAT-12 very similar to those with BAT-23
- **“Yes we can, but only if we join forces”:**
 - Both questionnaires have a *specific contribution*
 - BAT -> Burnout (but less good for depressive episode)
 - 4DSQ -> Depressive episode (but less good for burnout)
 - Together much better prediction
 - (Strain: combination of mental distance (BAT) & anxiety (4DSQ))
 - Practice: preferably use both questionnaire together (*‘two know more than one’*)
 - Distinction burnout versus depressive episode (to certain degree) possible
- **Discussion:**
 - ‘Overstrain’/‘other adjustment disorders’: (large) residual category
 - Mental distance ‘reacts somewhat peculiar too’ (-> distress & depression)

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So, set the BAT free and let it fly! 😊



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