

The Effect of Sleep Difficulties, Big-five Personality Traits and Psychological Distress on Daytime Functioning

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INTRODUCTION

Sleep problems may have adverse effects on associated daytime functioning. **Objectives:** To analyse if sleep difficulties, personality, and psychological distress were associated/predictive of sleep difficulties interference in daytime functioning (SDIDF).

METHOD

Research Project

Perfectionism and emotion regulation – a transgenerational perspective (Ref. 098-CE-2014), approved by the Ethics Committee of the Faculty of Medicine, University of Coimbra.

Sample

242 university students (78.9% women), aged 18-25 years (mean=20.51; SD=1.65).

Instruments (1)

The Portuguese versions of the:

- **NEO-FFI-20** (Lima, 2014)

- **Depression, Anxiety and Stress Scale** (DASS-21, Pais Ribeiro et al, 2014)

Instruments (2)

- **Three questions** to assess the difficulties in initiating (**DIS**), maintaining sleep (**DMS**) and early morning awakening (**EMA**). Summing these items scores a sleep difficulties index (**SDI**) was calculated.

- **An item assessed Sleep Difficulties Interference in Daily Life, Activities and Behavior/Mood** (SDIDF) and five groups were constructed, based on its answer options: 1-*none*; 2-*very little*, 3-*a little*; 4-*a lot*; 5-*very much*.

Sleep questions and sleep item were retrieved from a previous questionnaire of our research team (Azevedo & Bos, 2006)

RESULTS (1)

DIS, DMS and EMA (3/4 nights a week or almost every night) were reported by 9.1%, 7.8% and 5.4%, respectively. 99 (24.4%) of the students reported *none* SDIDF and 183 (75.6%) reported having SDIDF. Women revealed higher levels of SDIDF than men (M=2.53, SD=1.07; M=2.10, DP=1.12, t=-2.49, p=.015).

Students groups reporting SDIDF revealed higher levels of SDI, neuroticism and psychological distress than all the groups that reported *none* SDIDF (**TABLE 1**).

TABLE 1 Groups of Sleep Difficulties Interference in Daily Life, Activities and Behavior/Mood (SDIDF) (One-Way ANOVA)

Variables	None N=99 (24,4%) Mean (SD); Range 1	Very Little N=62 (25.6%) Mean (SD); Range 2	A Little N=87 (36%) Mean (SD); Range 3	A Lot N=23 (9.5%) Mean (SD); Range 4	Very Much N=11 (4.5%) Mean (SD); Range 5	Test	Multiple Comparisons
SDI	5.05 (1.52); 3-9	6.47 (1.86); 3-12	7.05 (1.97); 4-14	8.39 (2.10); 4-13	9.09 (3.83); 5-15	K=55.269 p<.001	1<2**, 3**, 4**, 5**; 2<4**, 5*; 3<4**
N	9.93 (2.27); 4-16	10.97 (2.57); 6-19	11.98; 2.70; 7-18	12.22; 3.58; 6-20	12.55; 3.36 6-16	K=23,969 p<.001	1<2*, 3**, 4**, 5**; 2<3*
DASS Total	7.41 (9.42); 0-46	11.11 (9.40); 0-38	15.24 (13.12); 0-62	19.65 (12.48); 3-52	20.00 (15.43); 2-49	K=35.808 p<.001	1<2**, 3**, 4**, 5**; 2< 4**, 5*

RESULTS (2)

Hierarchical regression analysis revealed that gender, SDI, neuroticism and psychological distress explained 28.5% of SDIDF variance. SDI and neuroticism were the significant predictors (**TABLE 2**).

Legend:

*p<.05; **p<.01;

SDI: Sleep difficulties index,

N: Neuroticism;

DASS Total: Depression, anxiety, Stress Scale Total Score

TABLE 2 : Predictors of SDIDF (Hierarchical Regression Analysis)

Model	Variables	Beta	t	p	R ²	R ² Change	F Change	p
1	Gender	.163	2.552	.011*	.026	.026	6.511	.011*
2	Gender SDI	.083 .475	1.455 8.334	.147 <.001**	.246	.219	69.454	<.001**
3	Gender SDI N	.072 .428 .183	1.281 7.415 3.198	.201 <.001** .002**	.277	.031	10.226	.002**
4	Gender SDI N DASS Total	.062 .404 .131 .113	1.113 6.808 2.007 1.671	.267 <.001** .046* .096	.285	.008	2.791	.096

CONCLUSIONS

Sleep difficulties and neuroticism independently contributed to impairments in daytime functioning. Psychological distress was also implicated in this outcome. These variables might be considered to improve the quality of life of students with sleep problems.

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