SUICIDE BEHAVIOURS AND NEUROCOGNITIVE FUNCTIONING IN ADOLESCENTS

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Suicide is the second cause of death among youngster between 15 and 29 years old (Mortier et al., 2017). It has also been associated with disability and long term negative consequences (Blanco et al., 2015). The study of protective and risk factors like, for instance, neurocognitive performance, is relevant in order to better understand underlying factors of those individuals at risk for suicide or to construct stratification subgroups as an enrichment pretest criterion. The study of neurocognitive factors in adolescents could help to transcend symptom-based classifications and incorporate phenotypic biomarkers for integration with psychological problems.

OBJECTIVES: To characterize the neurocognitive phenotype of adolescents at risk for suicide behaviors by comparing them with age-gender matched comparison group.

METHOD

The sample was composed of 850 students, 375 males (44.1%) from 34 educational centers and 98 classrooms. The mean age was 16.5 years ($SD = 1.36$), with age ranging from 14 to 19 years. **The Penn Computerized Neurocognitive Battery (CNB)** (Gur et al., 2010, 2012), the **Paykel Suicide Scale** (Paykel et al., 1974), and **The Oviedo Infrequency Scale (INF-OV)** (Eduardo Fonseca-Pedrero, Paino-Piñeiro, Lemos-Giráldez, Villazón-García, & Muñiz, 2009) were used in the study.

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RESULTS

The ANOVAs revealed statistically significant differences by group in Episodic Memory ($F_{(1,162)} = 10.806$, $p \leq 0.001$, $partial \eta^2 = 0.063$), Complex Cognition ($F_{(1,162)} = 6.614$, $p = 0.011$, $partial \eta^2 = 0.039$), Social Cognition domain ($F_{(1,162)} = 45.739$, $p \leq 0.001$, $partial \eta^2 = 0.220$), but not for Executive-Control ($F_{(1,162)} = 2.255$, $p \geq 0.05$, $partial \eta^2 = 0.014$). Youths at risk for suicide showed a significant decrease in performance accuracy across these neurocognitive domains compared to non-risk.

CONCLUSIONS

At risk adolescents had a lower performance on Episodic Memory and Social Cognition, although the effect size were moderate in the case of Episodic Memory.
Endophenotypic measures can help us to better understand the prognosis of these problems.
The present study show specific and relevant relations between suicide behaviors and neurocognitive impairment during adolescence.

Table 3
Speed neurocognitive performance scores by group

Group						
	Low Risk		High Risk		<i>p</i>	<i>partial</i> η^2
Neurobeavioural Domain	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>		
Executive Function	-0.107	0.225	-0.324	0.231	≥ 0.05	0.003
Episodic Memory	0.415	0.253	-0.431	0.260	< 0.05	0.034
Complex Cognition	0.521	0.188	-0.409	0.194	< 0.05	0.072
Social Cognition	0.492	0.234	-0.510	0.240	< 0.05	0.055
Sensorimotor	-0.116	0.116	-0.201	0.120	≥ 0.05	0.002