Problematic Internet Use and Emotion Regulation in University Students: a pilot study.

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INTRODUCTION

Problematic Internet Use (PIU) has commonly been considered as a middle stage of the continuum between normative use of internet and internet addiction (1). Literature suggests as mainly symptoms of PIU the use of Internet as a maladaptive way to cope with negative affect and distress and the preference for online social interaction (2). Young adults with emotion regulation difficulties may show more PIU symptoms, especially those experiencing more stressful or challengeable periods in their lives and with daily contact with online tools and internet devices.

MATERIALS AND METHODS

Undergraduate students (n=72) from University of Lisbon were randomly invited to participate in the study. After informed consent, they completed a brief sociodemographic and heath status questionnaire and Problematic Internet Use, Alexithymia, Impulsivity and Negative Affect were measured through Portuguese versions of psychometrically adequate scales (Table 1).

RESULTS

Participants characteristics:
- Mean age = 21 years old (SD=3,72)
- Mainly female (68%), without health problems (92%)
- Mainly no medications intake (73%) or psychoactive substances use (93%) in the last 3 months
- 19,7% reported relatives or close friends with gambling/gaming problems
- Moderate level of PIU (M=37,5; SD=13,46)

Table 1 – Psychometric tools

Generalized Problematic Internet Use Scale-2, **GPIUS2** (3)	15 items (5-point rating scale) assessing: **POSI** (preference for online social interaction) **MR** (mood regulation) | **DSR** (deficient self-regulation) | **NO** (negative outcomes)
Toronto Alexithymia Scale of 20 items, **TAS-20** (4)	20 items (5-point rating scale) assessing: **DIF** (difficulties in identifying feelings) **DDF** (difficulties in describing feelings) **EOT** (externally-oriented thinking)
Short Version of Impulsive Behavior Scale, **S-UPPSP** (5)	20 items (4-point rating scale) measuring: **NU** (negative urgency) | **LPM** (lack of premeditation) | **LPV** (lack of perseverance) **SS** (sensation seeking) | **PU** (positive urgency)
Hospital Anxiety and Depression Scale, **HADS** (6)	Anxiety and Depression subscales (each one composed of 7 items, 4-point rating scale)

REFERENCES

(1) Caplan, S., Williams, D. & Yee, N. (2009). Problematic Internet use and psychosocial well-being among MMO players. *Computers in Human Behavior, 6,* 1312-1319.
(2) Caplan, S. E., & High, A. C. (2010). Online social interaction, psychosocial well-being, and problematic internet use. In K. Young, & C. Nabuco de Abreu (Eds.), *Internet addiction: A handbook and guide to evaluation and treatment* (pp. 35-53). Hoboken, NJ: John Wiley & Sons, Inc.
(3) Pontes, H., Caplan, S. C. & Griffiths, M. D. (2016). Psychometric validation of the Generalized Problematic Internet Use Scale 2 in a Portuguese sample. *Computers in Human Behavior, 63,* 823-833.
(4) Prazeres N, Parker D, Taylor J. Adaptação Portuguesa da Escala de Alexitimia de Toronto de 20 Itens (TAS-20). *Revista Iberoamericana de Diagnostico y Evaluación Psicológica, 9,* 9-21.
(5) Torrado, M., Eusébio, S., Teixeira, M. & Ouakinin, S. (2017). Gambling disorders and emotion dysregulation: the role of alexithymia and impulsivity. (Poster) *5th Annual Scientific Conference of the EAPM,* Barcelona, 28 June-July.
(6) Pais-Ribeiro, J., Silva, I., Ferreira, T., Martins, A., Meneses, R. & Baltar, M. (2007). Validation study of a Portuguese version of the Hospital Anxiety and Depression Scale. *Psychology, Health & Medicine, 12*(2), 225-237.

Positive correlations were found especially between GPIU2 and NU and SS; and between GPIUS2 and DIF (Table 2).

Table 2 – Spearman Correlations (* $p ≤ .05$ | ** $p ≤ .01$)

|	GPIUS2 Total	GPIUS2 POSI	GPIUS2 MR	GPIUS2 DSR	GPIUS2 NO
SUPPS-P NU	,463**	,331**	,321**	,356**	,429**
SUPPS-P LPV					
SUPPS-P LPM					
SUPPS-P SS	,385**		,375**	,253*	,328**
SUPPS-P PU					
TAS-20 Total					
TAS-20 DIF	,269*			,244*	
TAS-20 DDF					
TAS-20 EOT					
HADS-Anx					
HADS-Dep	,241*				

Principal Component Analysis identified 2 main profiles (Table 3 and Chart 1).

Table 3 – PCA

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,454	37,116	37,116	4,454	37,116	37,116
2	1,902	15,850	52,966	1,902	15,850	52,966

Chart 1 – PCA

Component Plot
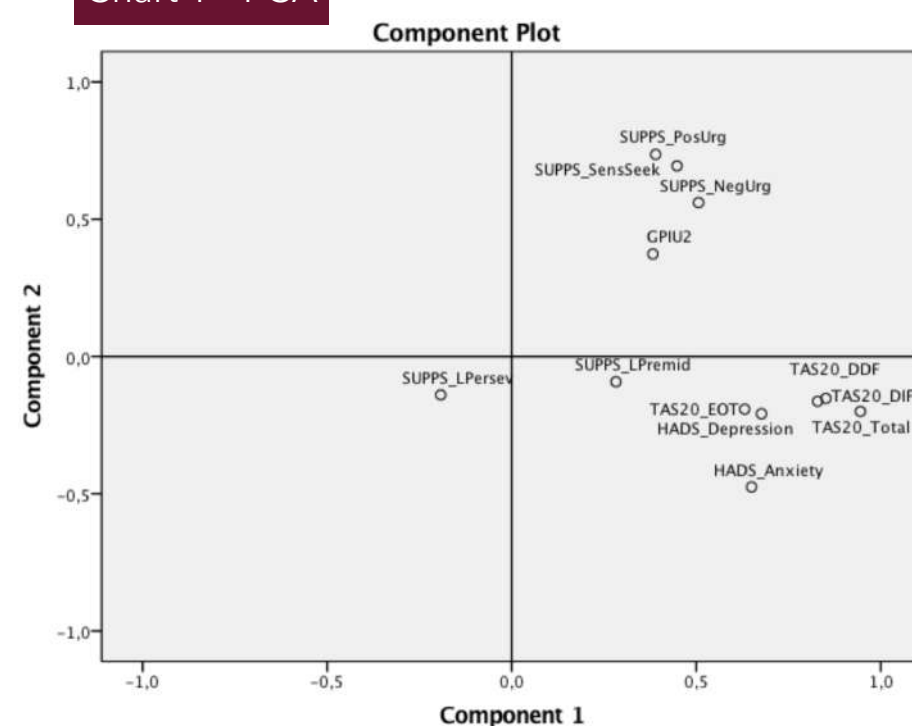
MODEL 1 (37% variance)
PIU in individuals with high impulsivity, alexithymia and negative affect.

MODEL 2 (16% variance)
PIU in individuals with well-stablished impulsive traits and less affective psychopathology and alexithymia.

CONCLUSIONS

PIU seem to be particularly related with patterns involved in maladaptive emotion regulation, namely NU and SS (impulsivity) and also DIF (alexithymia).

PCA identified **2 specific profiles** of individuals with PIU: **1)** one with **trace and state characteristics** associated with emotion dysregulation; and **2)** other, in which seem to prevail **impulsive traits** (especially sense of urgency and SS, excluding lack of premeditation and perseverance).

These findings may highlight specific features associated to PIU in university students, which need to be further investigated in different groups and larger samples. Preventive and harm reduction strategies and programs regarding PIU in this specific population may be required.

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