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Effect of basic psychological needs satisfaction on attentional states of pupils in Physical Education

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INTRODUCTION

- Previous studies have underlined the increasing difficulty in maintaining adequate concentration levels among children and adolescents.
- Basic Psychological Needs (BPN) could indirectly predict pupils' concentration in PE.
- The purpose of this study was to analyse the relationship between the Basic Psychological Needs (BPN) satisfaction and the pupils' attentional states in PE context.

METHODS

Participants and procedure:

- 426 high school pupils ($M_{age} = 15.36$ years; $SD_{age} = .82$ years) from 21 class.
- After a PE exercise including instructions, each pupil filled questionnaires.

Measures:

- BPN satisfaction was assessed using three scales (Gillet et al., 2008) measuring the satisfaction of autonomy need (SAUTO), competence need (SCOMP), and relatedness need (SRELA).
- Attentional states were measured with the Exercise Attentional Questionnaire (validation in process), including four dimensions: "concentration on the task" (CTASK), "distraction on the task" (DTASK), "concentration through teacher support" (CTEACH), and "distraction through teacher support" (DTEACH).

Statistical Analysis (SPSS 22 & Amos):

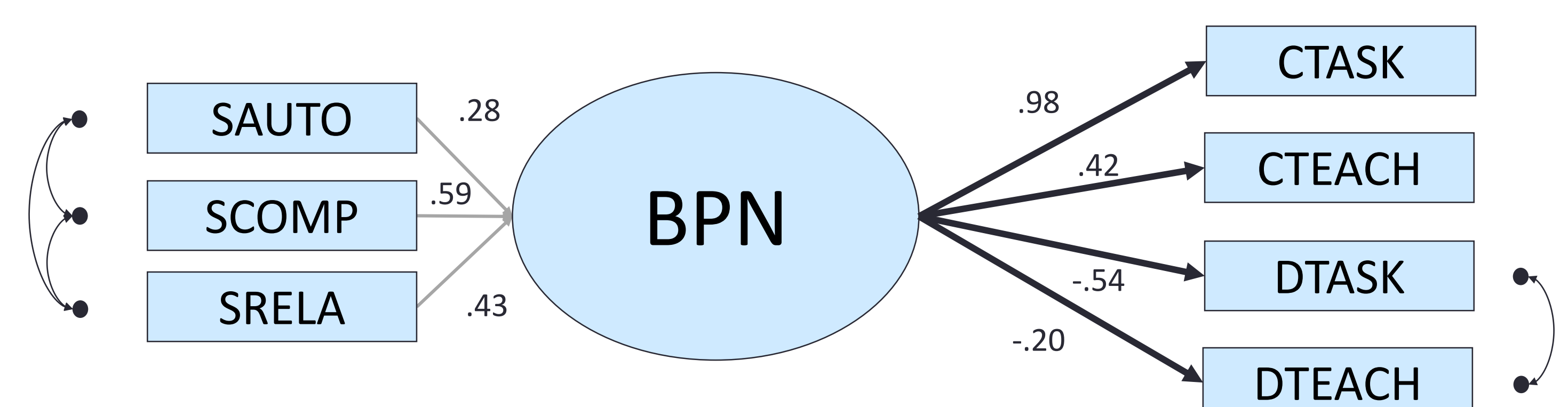
- Linear regressions and Structural Equation Modeling (SEM) were realised in order to understand the relationships.
- Intra-Class Correlations (ICC) were calculated to analyse the influence of the factor class.
- Multi-level regressions were realised to understand relationships controlling class effect

RESULTS

Linear regressions

SAUTO	***	CTASK	$Ajusted R^2 = .076 ; \beta = .280$
SAUTO	**	CTEACH	$Ajusted R^2 = .021 ; \beta = .152$
SAUTO	*	DTASK	$Ajusted R^2 = .013 ; \beta = -.123$
SAUTO	n.s.	DTEACH	
SCOMP	***	CTASK	$Ajusted R^2 = .330 ; \beta = .576$
SCOMP	***	CTEACH	$Ajusted R^2 = .030 ; \beta = .179$
SCOMP	***	DTASK	$Ajusted R^2 = .121 ; \beta = -.351$
SCOMP	*	DTEACH	$Ajusted R^2 = .007 ; \beta = -.099$
SRELA	***	CTASK	$Ajusted R^2 = .172 ; \beta = .418$
SRELA	***	CTEACH	$Ajusted R^2 = .072 ; \beta = .272$
SRELA	***	DTASK	$Ajusted R^2 = .058 ; \beta = -.245$
SRELA	n.s.	DTEACH	

Structural Equation Modeling



p	χ^2	df	GFI	AGFI	RMR	SRMR	RMSEA	LO90	HI90	NFI	TLI	CFI	χ^2/df	AIC
.027	20	10	.987	.963	.058	.028	.049	.016	.080	.975	.973	.987	2	56

Linear mixed model

	VI			
	SAUTO (27%)	SCOMP (4%)	SRELA (12%)	SAUTO*SCOMP*SRELA
CTASK (9%)	*** 1342 _a .037 _b .027 _c	*** 1205 _a .483 _b .033 _c	*** 1295 _a .352 _b .037 _c	*** 1275 .008 _b .001 _c
CTEACH (10%)	** 1491 _a .143 _b .045 _c	*** 1487 _a .173 _b .046 _c	*** 1468 _a .265 _b .045 _c	*** 1474 .005 _b .001 _c
DTASK (7%)	* 1585 _a -.129 _b .050 _c	*** 1535 _a -.379 _b .049 _c	*** 1565 _a -.265 _b .051 _c	*** 1564 -.005 _b .001 _c
DTEACH (2%)	n.s.	* 1404 -.086 _b .042 _c	n.s.	n.s.

Note: a = -2 Log ; b = Estimate ; c = Standard Error ; ns = $p > .05$; * = $p < .05$; ** = $p < .01$; *** = $p < .001$

SUMMARY AND CONCLUSIONS

- BPN satisfaction is related to attention during a PE exercise.
- The competence need satisfaction seemed the most related to pupils' attentional states.
- PE teachers should support BPN through a positive motivational climate, and especially the competence need.
- Futures analyses will be performed using Multilevel Structural Equation Modelling (MSEM).

ACKNOWLEDGMENTS

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