

Neurocognitive predictors of proactive coping in Schizophrenia

Nuno Rocha^{1,2}, Cristina Queirós¹, Susana Aguiar¹ & António Marques¹

¹ Laboratório de Reabilitação Psicossocial – Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto e Escola Superior de Tecnologia da Saúde do Instituto Politécnico do Porto

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nrocha@estsp.ipp.pt; cqueiros@fpce.up.pt; susana.aguiar@gmail.com; ajpsmarques@estsp.ipp.pt

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Objective

People with schizophrenia have extensive impairments in social/occupational functioning and tend to fail using effective coping skills in order to adaptively face daily life stressors. While neurocognitive predictors of psychosocial functioning have been extensively studied (e.g., Green et al., 2000; Rocha et al., 2009), it remains unclear in what degree neurocognition affects proactive coping skills in schizophrenia. In one of the few studies found focusing the impact of neuropsychological functioning on coping skills, it was found that executive dysfunction and mnemonic impairments were related to decreased usage of active coping mechanisms (Wilder-Willis, Shear, Steffen, & Borkin, 2002). In this sense, the aim of this study was to examine the predictive value of neurocognition for a variety of domains related to coping, focusing proactive coping in particular, and to calculate the amount of explained variance accounted for by neurocognitive variables.

Methods

Sample consisted of 28 schizophrenic patients followed approximately during a 30 months period. All participants were assessed for neurocognitive functions on the following domains: attention (d2 cancellation test), executive functioning (Wisconsin Card Sorting Test), processing speed (Digit Symbol – Coding and Symbol Search), working memory (Digit Span and Letter-Number Sequencing), calculation (Arithmetic), visuo-spatial organization and memory (Rey-Osterrieth complex figure test) and general intellectual ability (IA test). All patients completed the Proactive Coping Inventory to assess their coping skills 30 months post cognitive assessment. Data was analyzed by stepwise multiple regressions with the neurocognitive measures entered as predictor variables and the Proactive Coping Inventory domains as dependent variables. A probability of 0.05 was used to enter a variable in the equation, while a probability of 0.10 was used to remove a variable.

The Proactive Coping Inventory (Greenglass, 2002) comprises 55 items, measuring the following domains:

- Proactive coping subscale
- Reflective coping subscale
- Strategic planning subscale
- Preventive coping subscale
- Instrumental support seeking subscale
- Emotional support seeking subscale
- Avoidance coping subscale

Results and Conclusion

Stepwise multiple regression predicting Proactive Coping, and amount of variance accounted for by neurocognitive variables

	F	sig.	R ²	β	T	sr ²	sig.
Global Model	9.482	0.001**	0.431				
Predictors							
Rey - Memory				0.398	2.445	0.297	0.022*
Digit Span				0.395	2.427	0.134	0.023*

Stepwise multiple regression predicting Strategic Planning, and amount of variance accounted for by neurocognitive variables

	F	sig.	R ²	β	T	sr ²	sig.
Global Model	7.324	0.003**	0.365				
Predictors							
Rey - Memory				2.524	3.309	0.165	0.018*
Digit Span				1.723	2.882	0.125	0.097†

Stepwise multiple regression predicting Instrumental Support Seeking , and amount of variance accounted for by neurocognitive variables

	F	sig.	R ²	β	T	sr ²	sig.
Global Model	7.324	0.016*	0.204				
Predictors							
Rey - Memory				0.451	2.579	0.204	0.016*

Stepwise multiple regression predicting Reflective Coping and amount of variance accounted for by neurocognitive variables

	F	sig.	R ²	β	T	sr ²	sig.	
Global Model	7.841	0.002**	0.385					
Predictors								
Digit Span					0.432	2.554	0.301	0.017*
Rey - Memory					0.313	1.851	0.084	0.076†

Stepwise multiple regression predicting Preventive Coping, and amount of variance accounted for by neurocognitive variables

	(df) F	sig.	R ²	β	T	sr ²	sig.	
Global Model	(2,34) 8.505	0.001**	0.344					
Predictors								
Digit Span					0.586	3.689	0.344	0.001**

Stepwise multiple regression predicting Emotional Support Seeking, and amount of variance accounted for by neurocognitive variables

	F	sig.	R ²	β	T	sr ²	sig.	
Global Model	9.079	0.006**	0.259					
Predictors								
Arithmetic					0.509	3.013	0.259	0.006**

¹ p<0.1 * p<0.050 ** p<0.010

Several stepwise multiple regressions were performed after correlating variables in study. Visuo-spatial memory and working memory emerged as significant predictors of proactive coping ($R^2=0.43$), reflective coping ($R^2=0.39$) and strategic planning ($R^2=0.37$) domain; working memory was a significant predictor of the Preventive Coping ($R^2=0.34$) domain; visuo-spatial memory was a significant predictor of the instrumental support seeking subscale ($R^2=0.20$); and calculation significantly predicted the emotional support seeking subscale ($R^2=0.26$). None of the neurocognitive functions were correlated to avoidance coping.

Neurocognitive functioning, specially memory skills, seem to play an important role on the use of proactive and strategic coping skills in patients with schizophrenia. The strengthening of cognitive skills by means of cognitive rehabilitation may be used as a way to promote adaptive coping.

References

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