Centrality of Community Activities in a Network Analysis of Outcome-limiting Factors: Implications for Recovery-oriented Strategies

Armida Mucci
Department of Psychiatry
University of Campania Luigi Vanvitelli

Campania
University
Luigi Vanvitelli

Cognition and Brain imaging Research Group
Department of Psychiatry - University of Campania Luigi Vanvitelli

Silvana Galderisi
Armida Mucci
Paola Bucci
Giuseppe Piegari
Eleonora Merlotti
Annarita Vignapiano
Davide Palumbo
Giulia Maria Giordano
Antonella Amodio
Daria Pietrafesa
Carmen Aiello
Debora Molle
Sara Patriarca
Francesco Brando
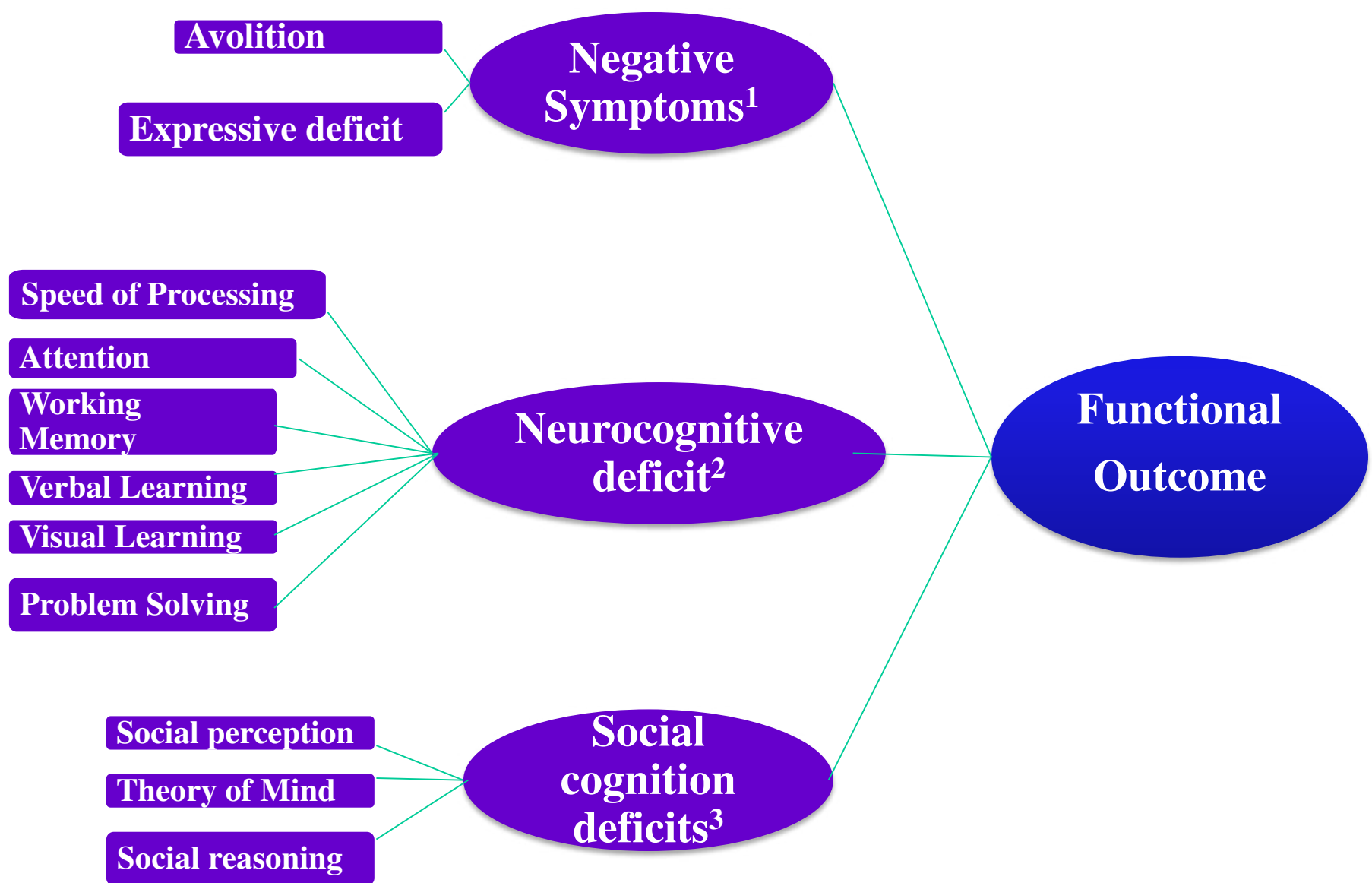**Alessia Nicita**
Luigi Giuliani
Cristina Romaldi

Outline of the presentation

- ✓ Implications of recovery-oriented approaches
- ✓ Variables influencing real-life functioning
- ✓ Modeling relationships between disease-related factors and functioning
- ✓ The Italian study on factors influencing real-life functioning in schizophrenia
- ✓ The network analysis
- ✓ Follow-up preliminary results
- ✓ Conclusions

# Implications of recovery-oriented approaches

The focus of recovery-oriented approaches is on fostering hope and resilience, fighting self-stigma, supporting self-determination and promoting social inclusion.

The implementation of recovery-oriented plans requires an in depth understanding of key factors influencing real-life functioning.

Avolition

Expressive deficit

Negative Symptoms[1]

Speed of Processing

Attention

Working Memory

Verbal Learning

Visual Learning

Problem Solving

Neurocognitive deficit[2]

Social perception

Theory of Mind

Social reasoning

Social cognition deficits[3]

Functional Outcome

[1]Addington et al. Can J Psychiatry 2003; [1]Harvey & Strassnig World Psychiatry 2013; [1]Galderisi et al, Schizophr Res 2013; [1,2,3]Galderisi et al, World Psychiatry; [2]Dickerson F, et al. Schizophr Res 1999; [2]Green MF, et al. Schizophr Bull 2000; [3]Couture et al. Schizophr Bull 2006; [3]Green et al, Arch Gen Psychiatry 2012; [3]Harvey & Strassnig World Psychiatry 2013; [3]Reickmann et al, Schizophr Res 2005.

Negative Symptoms, Cognitive Impairment and Real-Life Functioning
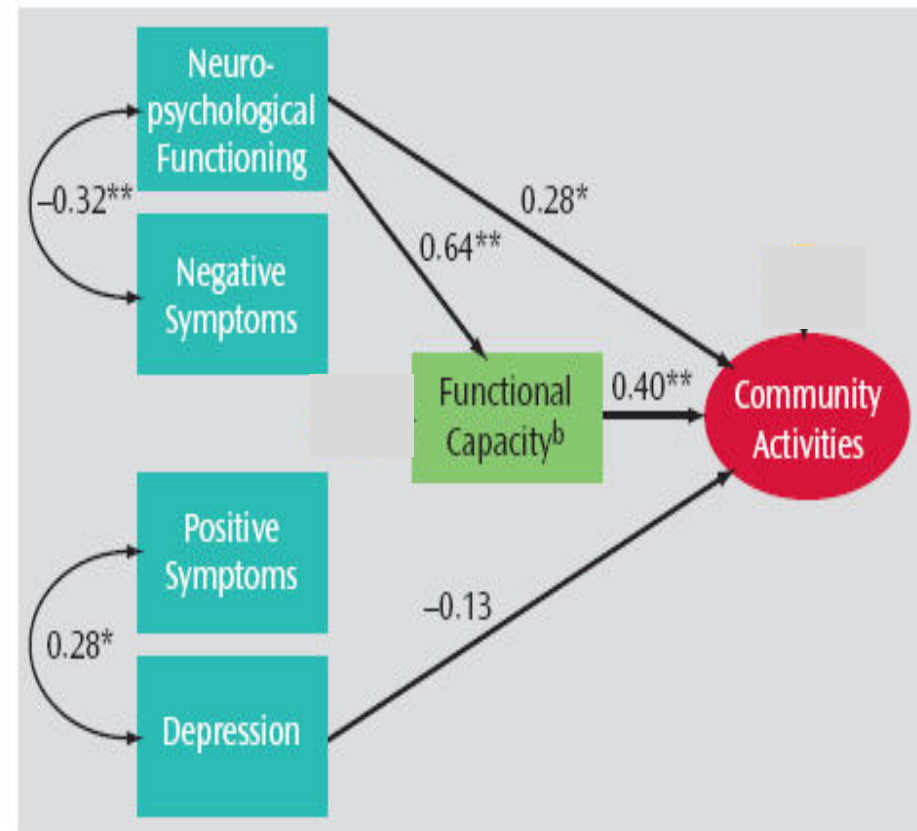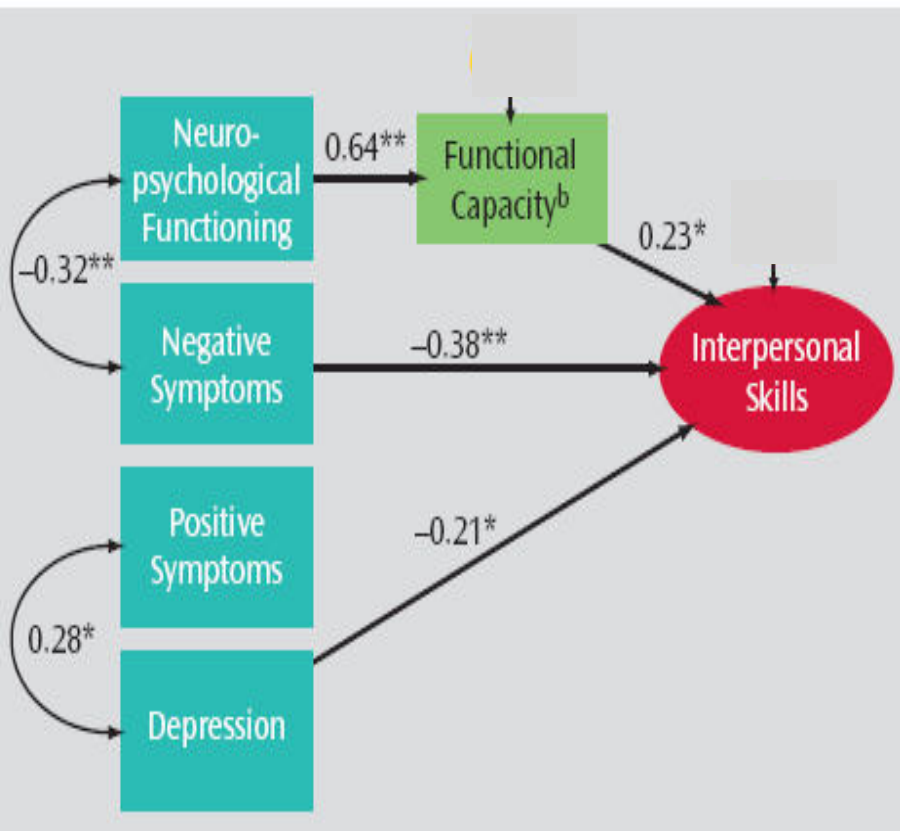
Bowie et al, Am J Psichiatry, 2006

Prediction of participation in everyday life activities

Bowie et al, Biol Psychiatry 2008
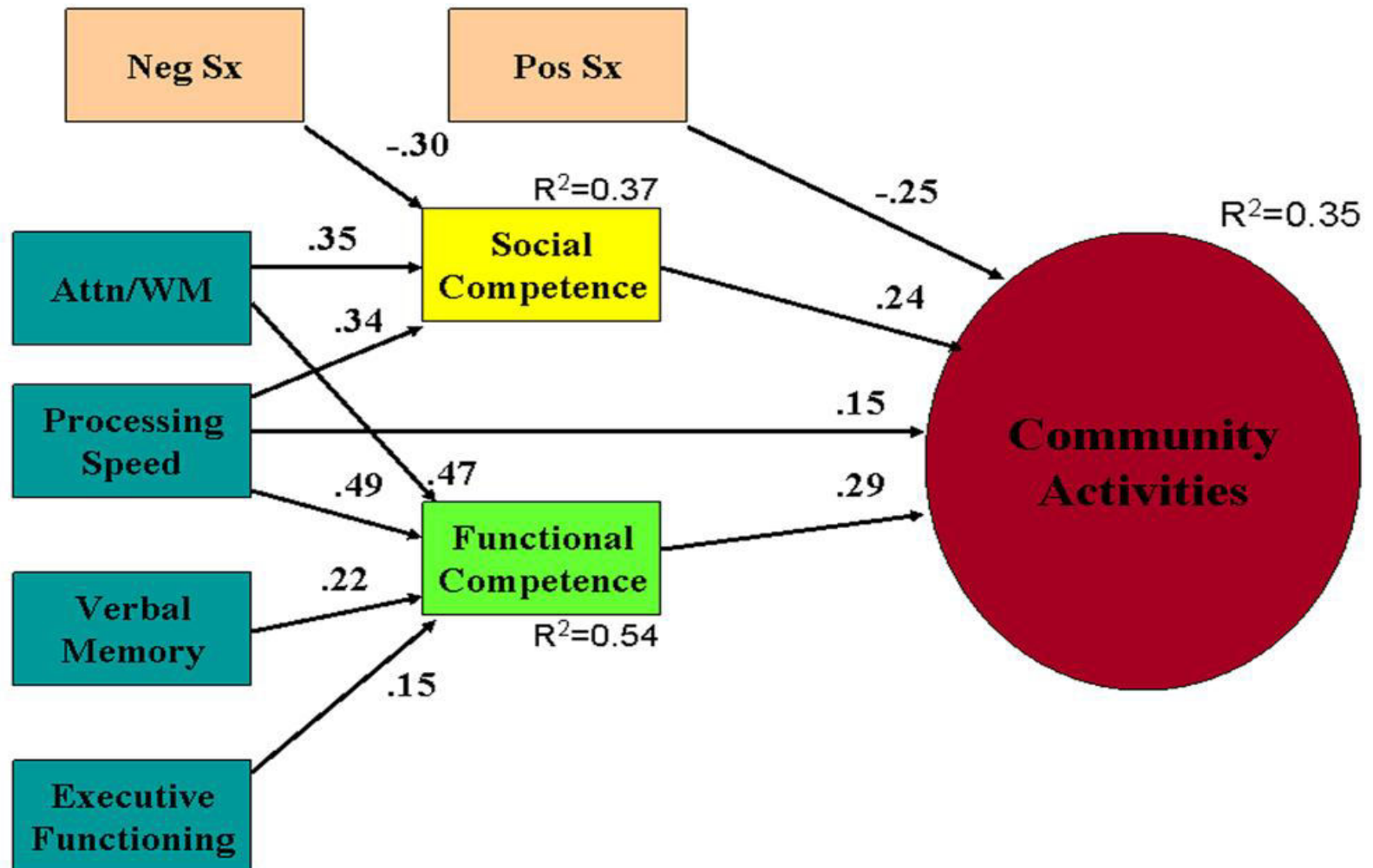
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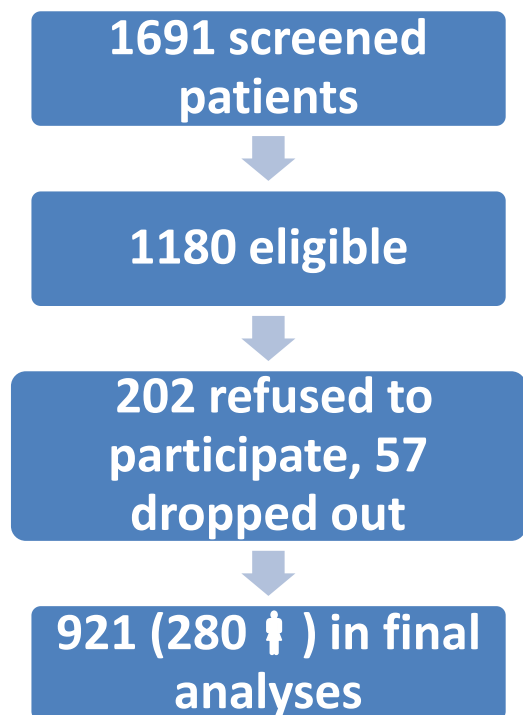
The influence of illness-related variables, personal resources and context-related factors on real-life functioning of people with schizophrenia
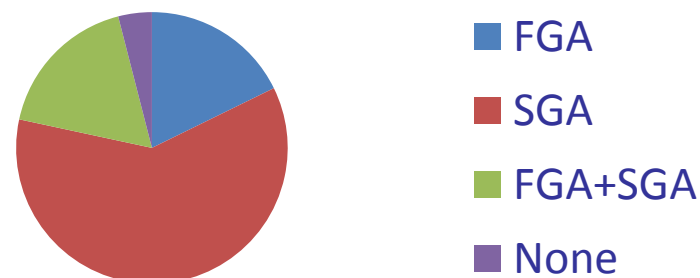
Clinically stable
No relapse or hospitalization
No change in AP treatment
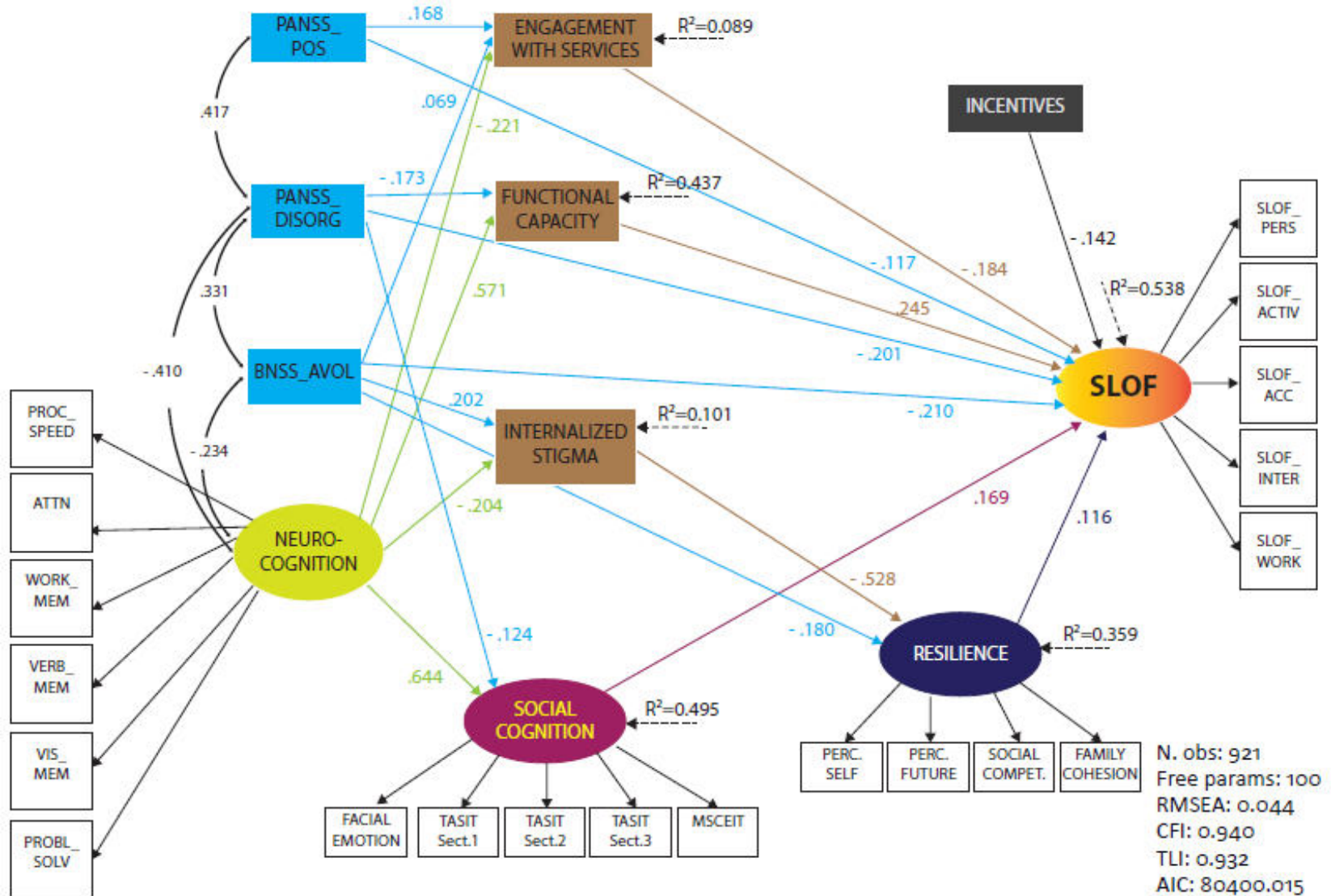**for the three months preceding inclusion**

1691 screened patients

↓

1180 eligible

↓

202 refused to participate, 57 dropped out

↓

921 (280 ♀) in final analyses

Antipsychotic Treatment

- FGA
- SGA
- FGA+SGA
- None

Symptomatic remission 21.8%

Functional remission 12% (32% R; 6% NR)

Galderisi et al, World Psychiatry 2014; Rossi et al, European Arch Psychiat Clin Neurosci 2016
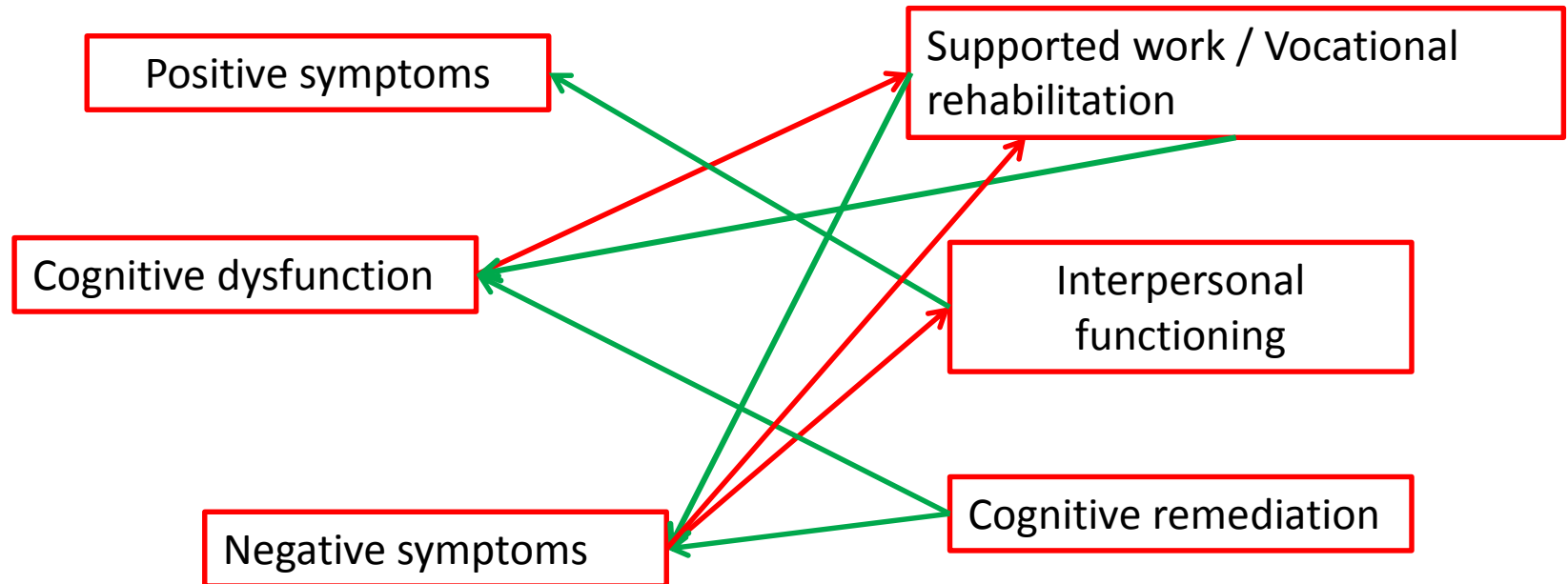
Final Structural Equation Model

Galderisi et al, World Psychiatry 2014

Relationships between illness-related variables and functioning

Positive symptoms

Supported work / Vocational rehabilitation

Cognitive dysfunction

Interpersonal functioning

Negative symptoms

Cognitive remediation

Bell et al, *J Nerv Ment Dis.* 2005; Bio & Gattaz, *Schizophr Res.* 2011; Collip et al, *Schizophr Bull.* 2013; Cella et al, Schizophr Bull .2015

Network analysis

Variable C has least centrality;
A, B and E the highest centrality.
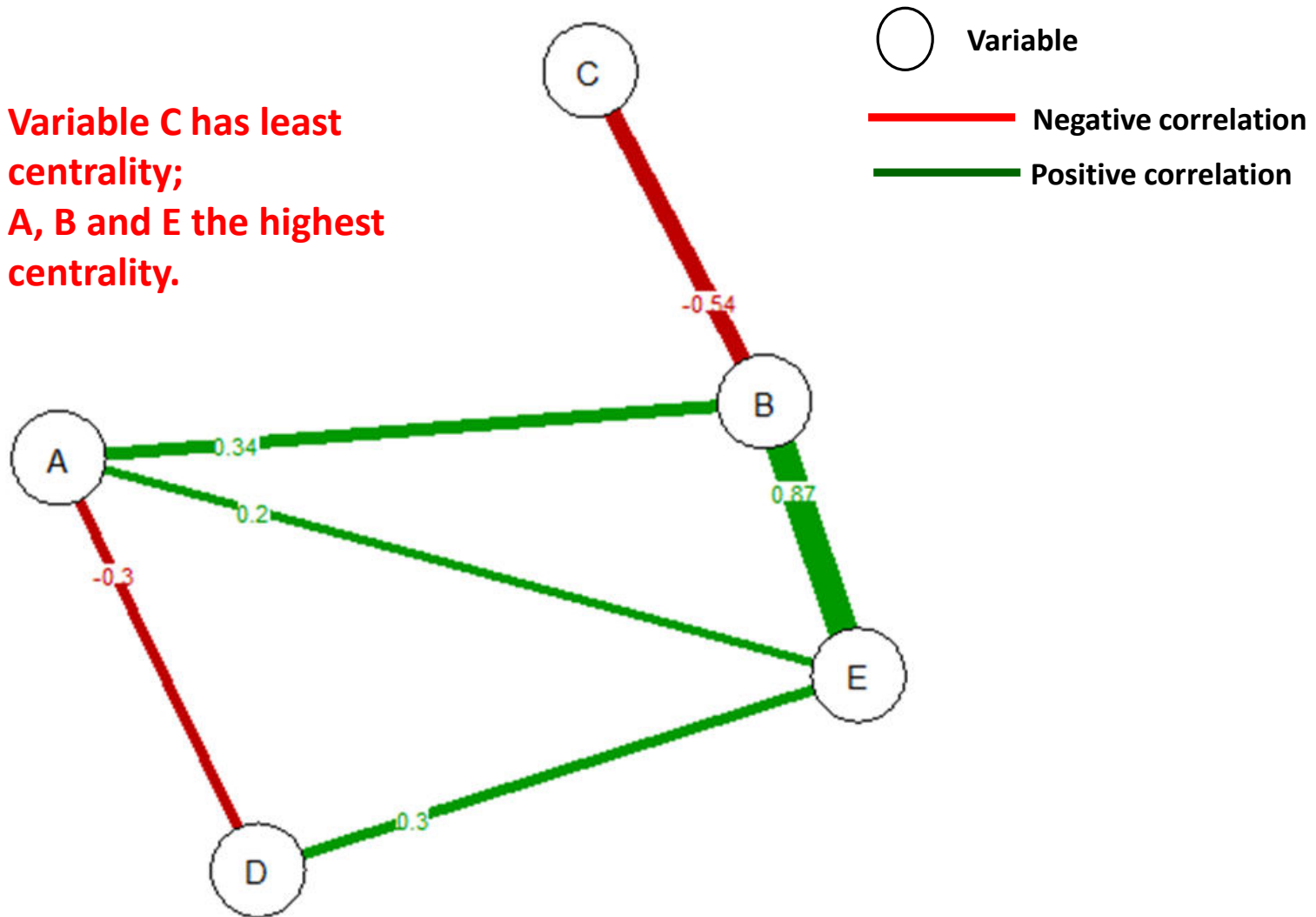
A network analysis of variables influencing real-life functioning

Table 1. Assessment Instruments and Study Measures

Domains and Variables	Instruments	Measures
Psychopathologic variables: negative symptoms, depression, overall psychopathologic variables, positive symptoms, disorganization	BNSS[17,18]; CDSS[19]; PANSS[20]	BNSS expressive deficit (sum of the subscales blunted affect and alogia), BNSS avolition (sum of the subscales anhedonia, asociality and avolition); CDSS total score; PANSS total, PANSS positive symptom factor (sum of the items delusions, hallucinations, grandiosity and unusual thought content), PANSS disorganization (P2 item; ie, conceptual disorganization)
Neurocognition	MCCB[21,22]	MCCB domain scores: speed of processing, verbal and spatial learning, reasoning and problem solving, attention, working memory
Social cognition	MCCB[21,22]; FEIT[23]; TASIT[24]	MSCEIT managing emotion section score; FEIT total; TASIT-1, TASIT-2, and TASIT-3[a]
Real-life functioning	SLOF[25]	SLOF interpersonal relationships, SLOF everyday life skills, SLOF work skills
Functional capacity	UPSA-B[26]	UPSA-B total score
Service engagement with mental health services	SES[27]	SES total score
Internalized stigma	ISMI[28]	ISMI total score
Resilience	RSA[29]	RSA factors: perception of self, perception of the future, social competence, family cohesion
Incentives	A count variable was created to reflect the availability of a disability pension, access to family financial and practical support, and registration on employment lists	Total incentives

Abbreviations: BNSS, Brief Negative Symptom Scale; CDSS, Calgary Depression Scale for Schizophrenia; FEIT, Facial Emotion Identification Test; ISMI, Internalized Stigma of Mental Illness; MCCB, Measurement and Treatment Research to Improve Cognition in Schizophrenia Consensus Cognitive Battery; MSCEIT, Mayer-Salovey-Caruso Emotional Intelligence Test; PANSS, Positive and Negative Syndrome Scale; R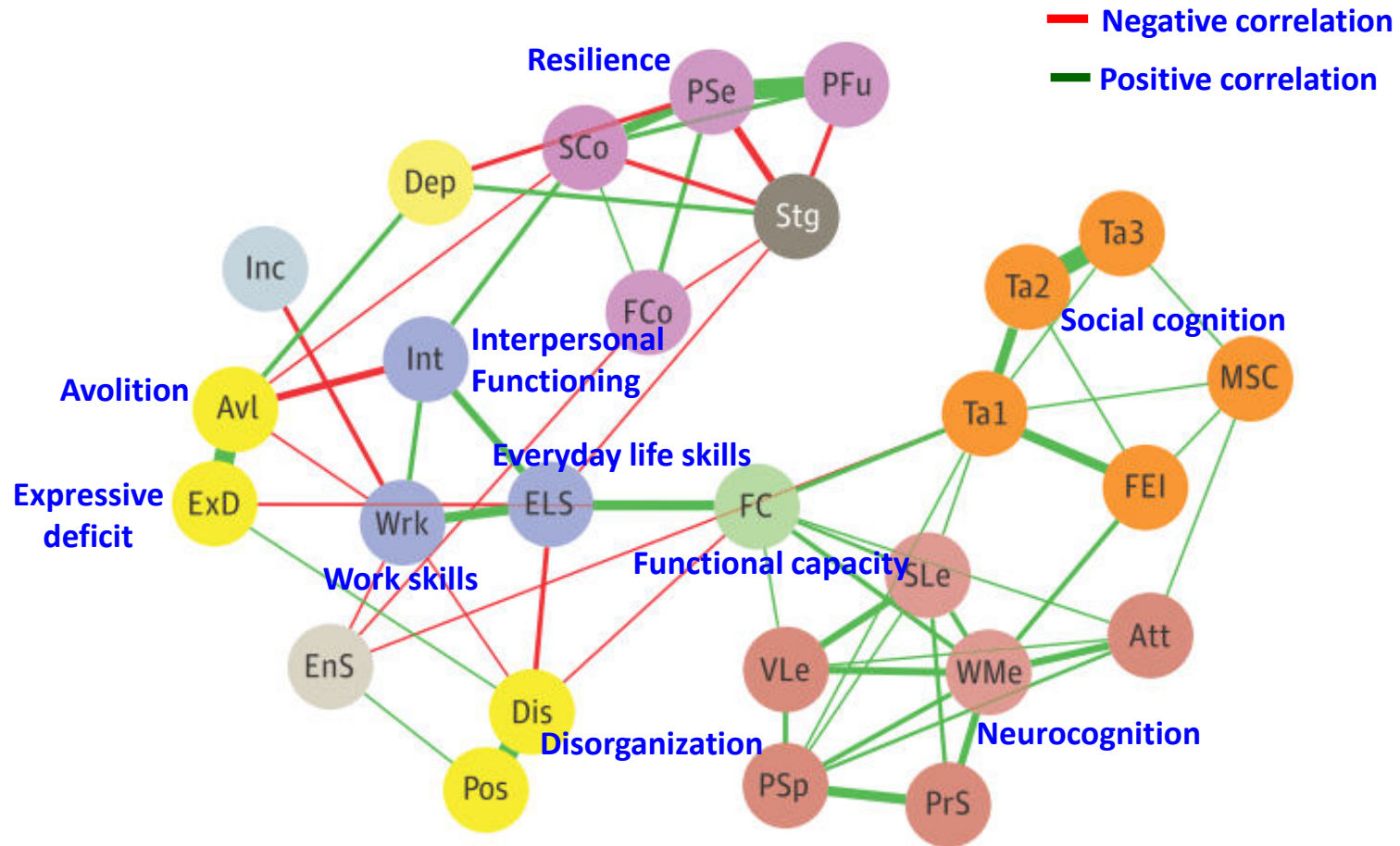SA, Resilience Scale for Adults; SES, Service Engagement Scale; SLOF, Specific Level of Functioning Scale; TASIT, The Awareness of Social Inference Test; UPSA-B, University of California San Diego Performance-based Skills Assessment Brief.

[a] TASIT-1 indicates section 1: emotion evaluation; TASIT-2, section 2: social inference minimal; and TASIT-3, section 3: social inference–enriched.

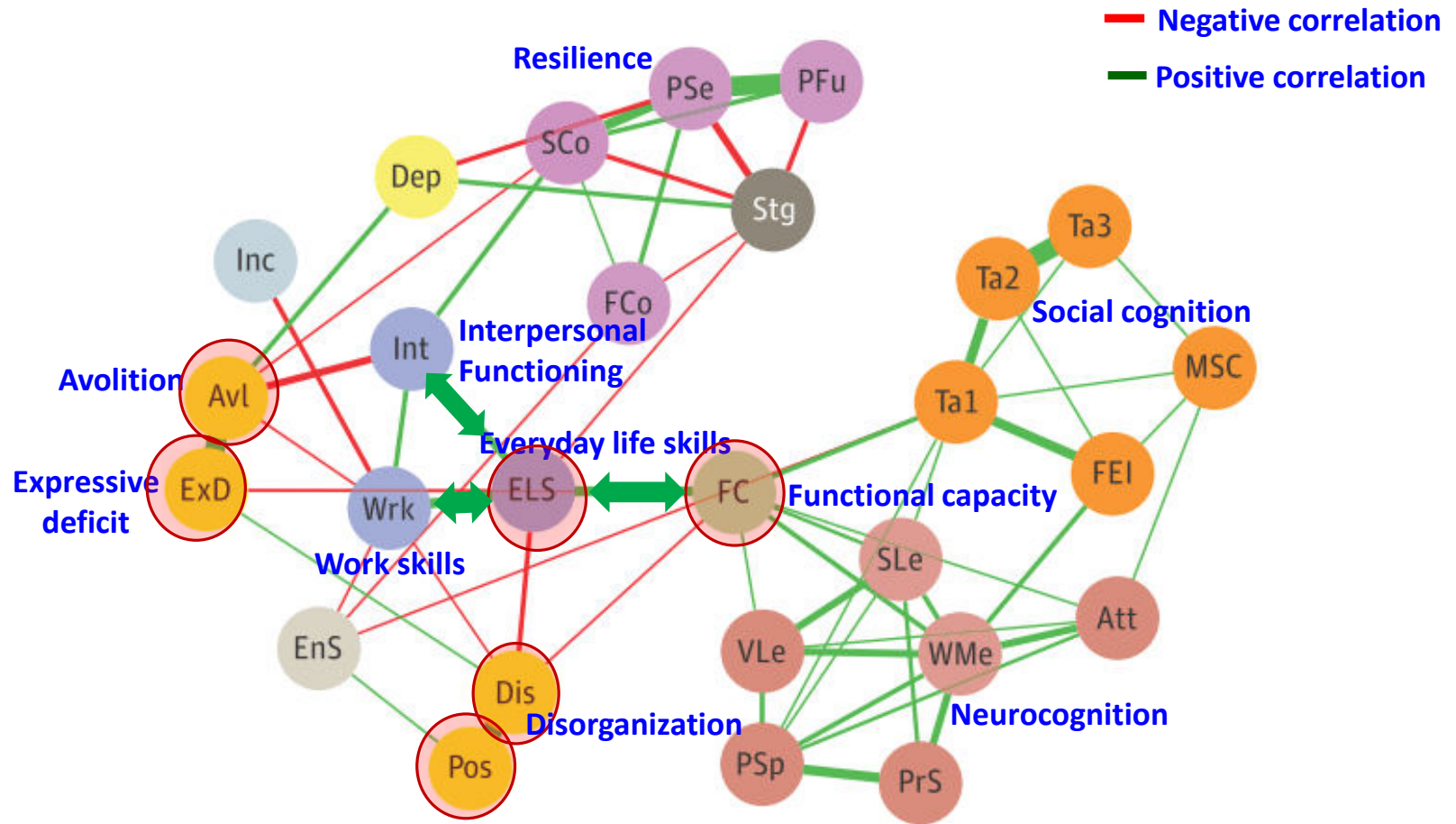## Demographic and clinical characteristics of the study sample

Characteristic	Total Participants (N = 740)
Age, mean (SD), y	40.0 (10.9)
Male sex, No. (%)	519 (70.1)
Married, No. (%)	58 (7.8)
Working, No. (%)	216/713 (30.3)
Educational level, mean (SD), y	11.7 (3.3)
Age at onset, mean (SD), y	24.1 (7.1)
Duration of illness, mean (SD), y	16.4 (10.7)
Antipsychotic treatment at first episode, No. (%)	
First generation	261 (35.3)
Second generation	236 (31.9)
Both	33 (4.5)
Unknown	210 (28.4)
Current antipsychotic treatment (last 3 mo), No. (%)	
First generation	107 (14.5)
Second generation	510 (68.9)
Both	100 (13.5)
None	23 (3.1)
Integrated treatment, No. (%)	203 (27.4)
Patients in symptomatic remission, No. (%)[a]	163 (22.0)

Galderisi et al JAMA Psychiatry online first 14-02-2018

A network analysis of variables influencing real-life functioning

Resilience: Pse, Perception of self; PFu, Perception of future; SCo, Social competence; FCo, Family cohesion; **Neurocognition**: VLe, Verbal learning; SLe, Visuospatial learning; Att, Attention; PrS, Problem solving; PSp, Processing speed; WMe, Working memory; **Social Cognition**: Ta1-Ta3, TASIT Section 1-3; FEI, FEIT; MSC, MSCEIT managing emotion section; **Real-life Functioning**: Int, SLOF Interpersonal relationships; ELS, SLOF Everyday life skills; Wrk, SLOF work skills; Stg, **Stigma**; EnS, **Service engagement**; FC, **Functional capacity**; Pos, **PANSS Positive factor**; Dis, **PANSS P2-Disorganization**; ExD, **BNSS Expressive deficit domain**; Avl, **BNSS Avolition**; Dep, **CDSS total score for Depression**; Inc, **Incentives**.

Galderisi et al JAMA Psychiatry online first 14-02-2018

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Characteristics of subjects at 4-year follow-up

Socio-demographic and clinical data - N = 618	
Gender (% males)	69.1
Age (years, mean±SD)	45.1±10.5
Education (years, mean±SD)	11.7±3.4
Married (%)	7.4
Stable affective relationships (%)	18.9
Working (%)	34.4
Legal problems (%)	1.3
Home care (%)	8.3
Currently in a residential facility (%)	10.1
Relapses (%)	43.5
Number of relapses (median, range)	2 (1-21)

Remission & recovery

	N	%
Baseline		
Symptom remission	140/618	22.7
Recovery*	83/618	13.4
4-year follow-up		
Symptom remission	185/618	29.9
Recovery*	113/618	18.3
Recovered at baseline & FU	36/618	5.8

*UPSA-B>78 and symptom remission according to Andreasen's criteria
**subjects with complete data on UPSA-B

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Conclusions

The high centrality of functional capacity and everyday life skills suggests that improving the ability to perform tasks relevant to everyday life is critical for any therapeutic intervention in schizophrenia.

The data-driven analysis supports recovery-oriented approaches with a focus on basic functioning goals more than on symptom control.

Special thanks

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Campania
University
Luigi Vanvitelli

Armida Mucci Department of Psychiatry

Wien 21-02-2019

Thank you for your attention

armida.mucci@gmail.com