

Inzicht en psychose

Op zoek naar nieuwe inzichten

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- Schizofrenie is een vreselijke ziekte die het functioneren van mensen enorm beperkt, en ook hun mogelijkheden om goede relaties met anderen te hebben
- Acute psychoses brengen gevaar voor de patiënt met zich mee, pijn en moeite voor de naaste betrokkenen en enorme kosten voor de maatschappij (McEvoy, 2004)

- Clinici zien bijna nooit patiënten met schizofrenie de klagen over het hebben van een vreselijke ziekte of die actief behandeling zoeken voor de nare consequenties
- Het niet innemen van voorgeschreven medicatie is de belangrijkste reden van heropnames bij patiënten met schizofrenie
McEvoy (2004)

Kirmayer et al. (2004): the case of Martin

- Patiënt met paranoïde wanen
- Rapporteerde onaangename lichamelijke gewaarwordingen door “subsonische straling” die vanuit verborgen bronnen op hem gericht wordt
- Herkent psychotische symptomen bij anderen (kennis met atoombom in lichaam)
- Op de vraag in hoeverre dat verschilt van zijn eigen vreemde ervaringen antwoordt hij: “Dr. K., I’m surprised at you – the laser beams are *real*.”

- In the case of Martin, Kirmayer et al. (2004) note, the paradoxes of insight abound: “Although he could recognize another person’s delusions as absurd, he steadfastly held to his own; while continuing to experience hallucinations and delusions, he was able to describe his schizophrenic illness in psychologically sophisticated terms and had a clear concept of its prognosis.” (p. 198)

Ziekteinzicht en psychose

- Poor insight = unawareness of illness
- In een grote W.H.O. studie werd gevonden dat 85% van schizofrenie patienten in diverse landen een gebrek aan inzicht vertoonde (Carpenter et al., 1973)

Klinische relevantie (David, 2004)

- poor treatment compliance
- poor medication adherence
- poorer global functioning
- severity of psychopathology
- recurrence and poorer outcome
- violent behavior in patients with schizophrenia (Buckley et al. 2004).

Wat wordt bedoeld met “inzicht”?

- Besef dat er iets niet in orde is met eigen psyche/gedrag (‘ietsisme’)
- Inzicht in de aard, ontstaan, beloop vd ziekte (‘de patient als psychiater’)

Wat bedoel ik met “inzicht”?

- Het besef van de patiënt dat
 - Er dingen niet goed gaan in het dagelijks functioneren
 - Dit te maken heeft met zijn/haar psychische gesteldheid
 - Hulp van anderen geboden is om de situatie te verbeteren

Meten van inzicht bij psychose

- PANSS G12
- SUMD
- SAI-E
- SAIQ
- Birchwood

Insight item

SAI-E q4	“How do you explain your condition/disorder/illness”
SAI-E q3	“Do you think your condition amounts to a mental illness or mental disorder?”
SAI-E q5	“Has your condition (use patient’s term) led to adverse consequences or problems in your life?”
BIS q8	“None of the unusual things I experience are due to an illness”
SAI-E q8	Attribution of symptoms
BIS q2	“I am mentally well”
BIS q7	“If somebody said that I have a nervous or a mental illness then they would be right”
BIS q5	“The doctor is right in prescribing medication for me”
BIS q3	“I do not need medication”
SAI-E q6	““Do you think your condition (use patient’s term) or the problem resulting from it needs treatment?”
SAI-E q2	“Do you think this means there is something wrong with you?”
SAI-E q1	“Do you think you have been experiencing any emotional or psychological changes or difficulties?”
BIS q6	“I do not need to be seen by a doctor or psychiatrist”
BIS q1	“Some of my symptoms are made by my mind”
SAI-E q7	Awareness of symptoms

SAI-E = Schedule for the Assessment of Insight — Expanded.

BIS = Birchwood Insight Scale.

De drie aspecten van David (1990)

- (1) awareness of having an illness,
- (2) recognizing psychotic symptoms as abnormal
- (3) acceptance of prescribed treatment.

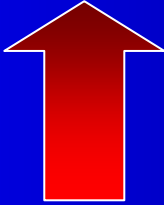
Cognitieve neuropsychiatrie

- Een theoriegestuurde benadering gericht op het verklaren van psychiatrische symptomen in termen van cognitieve processen in de hersenen
- Verbindt de klinische psychiatrie met de cognitieve psychologie en met de neurowetenschappen

Halligan & David (2001) *Nature Reviews Neuroscience*

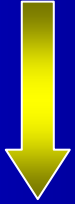
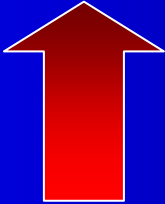
symptomen

psychiatrie



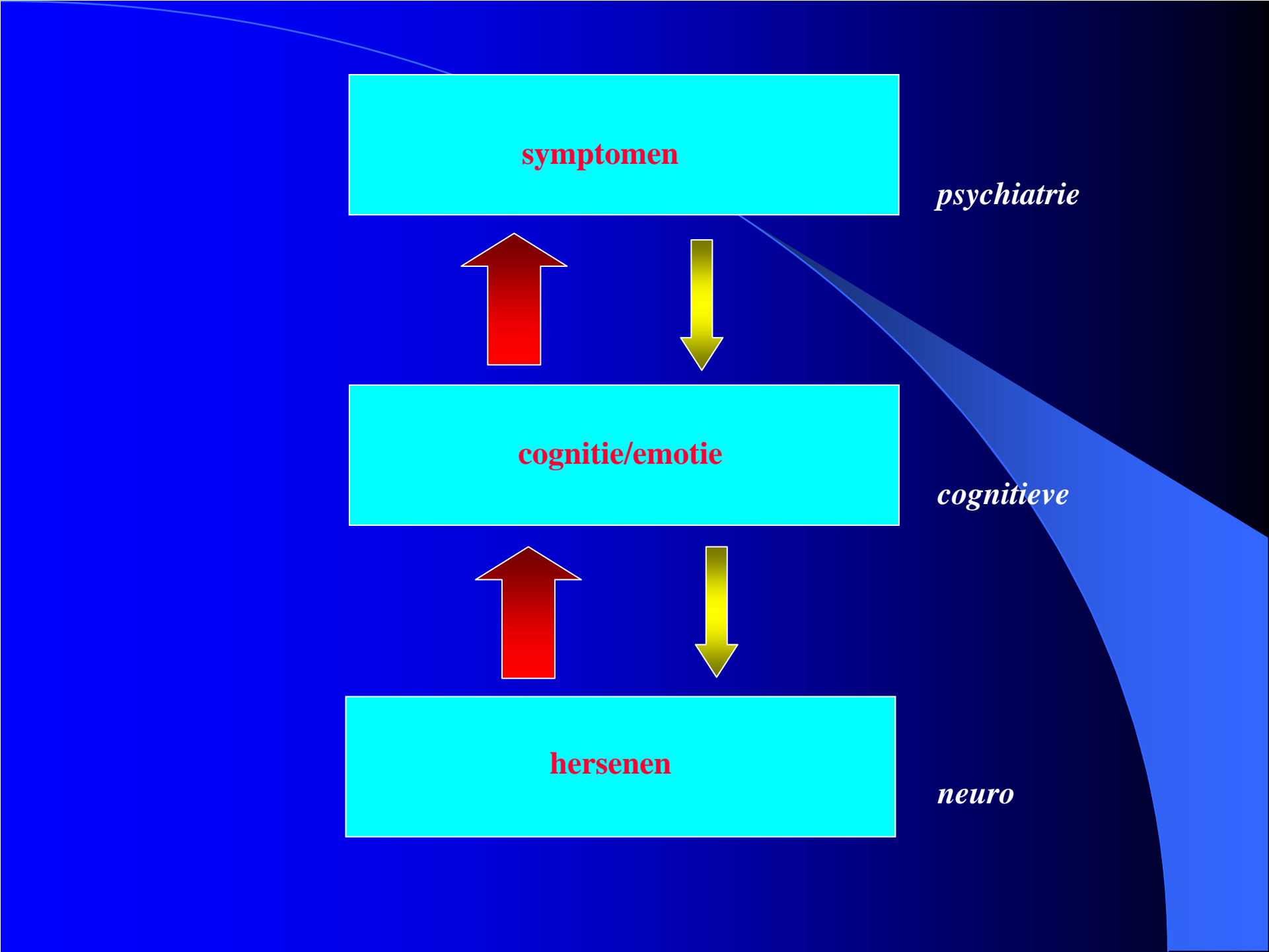
cognitie/emotie

cognitieve

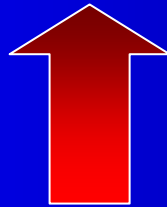


hersenen

neuro



hallucinaties

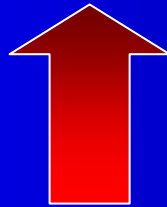


brondiscriminatie



Anterieure cingulus

ziekte-inzicht



???



???

Drie verklaringen

- Klinische symptomen
- Ontkenning
- Neuropsychologisch: executief functioneren

Mintz et al. 2003, *Schiz Res.*

- small negative relationship between insight and global, positive and negative symptoms.
- small positive relationship between insight and depressive symptoms in schizophrenia

Gebrekkig inzicht = ontkenning?



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Schizophrenia Research 75 (2005) 147–157

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Is unawareness of psychotic disorder a neurocognitive or
psychological defensiveness problem?

Kenneth L. Subotnik^{a,*}, Keith H. Nuechterlein^{a,b}, Victoria Irzhevsky^a,
Christina M. Kitchen^a, Stephanie M. Woo^c, Jim Mintz^a

- Three scales from the Minnesota Multiphasic Personality Inventory were used as indicators of psychological defensiveness: Scales L (Lie), K (Correction), and R (Repression)
- Unawareness of illness was not associated with attentional deficits but with combination of two measures of psychological defensiveness from the MMPI reflecting guardedness, psychological suppression, attempting to present oneself in a socially desirable light, and social acquiescence.



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Schizophrenia Research 94 (2007) 12–22

SCHIZOPHRENIA
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Insight, distress and coping styles in schizophrenia

Michael Cooke ^a, Emmanuelle Peters ^a, Dominic Fannon ^b, Anantha P.P. Anilkumar ^b,
Ingrid Aasen ^{a,b}, Elizabeth Kuipers ^a, Veena Kumari ^{a,*}

- Geen verband met “denial”, wel met “positive reinterpretation” (re-labelling)
- meer inzicht = meer distress (anxiety, depression)

Hebben cognitieve stoornissen het primaat?

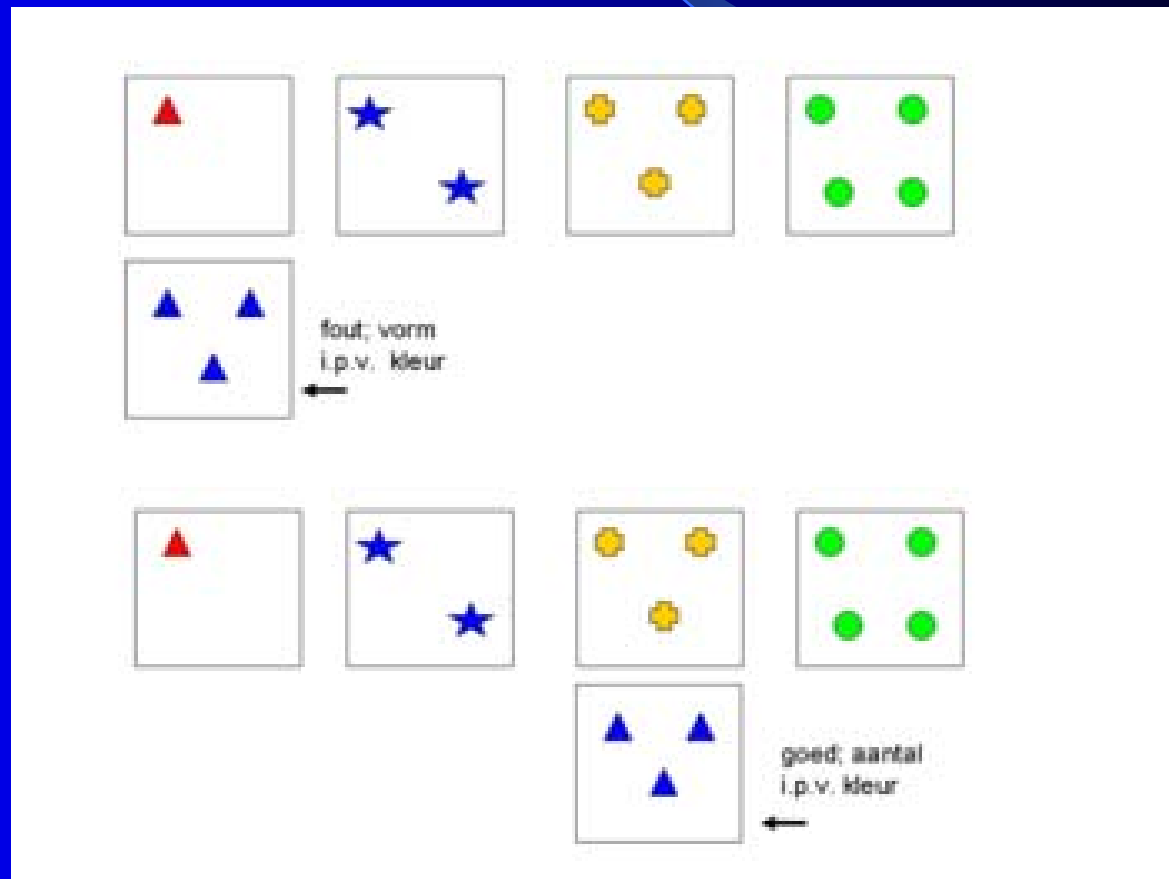
- Hypothese:
 - Laag IQ bemoeilijkt nadenken over eigen denken en doen in relatie tot context
 - Gestoorde aandachts- en geheugenfuncties bemoeilijken nadenken over eigen denken en doen in relatie tot context
 - Gestoorde executieve functies

Cognitive impairment: *generalized or specific?* Heinrichs, 2001

- Global verbal memory: $d=1.41$
- Digit span $d=0.69$
- language comprehension (tokenst) $d=0.98$
- selective attention (dichot listng) $d=1.16$
- Intelligence (IQ) $d=1.10$
- WCST $d=0.88$
- Word Fluency $d=1.09$
- Stroop $d=0.97$

WCST: mentale flexibiliteit

- perserverative errors



Insight in psychosis and neuropsychological function

Meta-analysis

ANDRÉ ALEMAN, NIRUJ AGRAWAL, KEVIN D. MORGAN
and ANTHONY S. DAVID

	Studies ¹ <i>n</i>	Participants ² <i>n</i>	<i>R</i> ³	95% CI	<i>Z</i> ⁴	<i>P</i>	<i>Q</i> _(<i>n</i>) ⁵	<i>P</i>
Psychosis								
Total cognition	35	2354	0.17	0.13 to 0.21	8.3	<0.0001	30.2	0.65
IQ	20	1385	0.14	0.09 to 0.19	5.1	<0.0001	7.1	0.99
Memory	10	477	0.08	−0.04 to 0.21	1.3	0.19	14.6	0.10
Executive function	21	1472	0.19	0.14 to 0.24	7.1	<0.0001	15.1	0.77
WCST	13	712	0.23	0.16 to 0.30	6.1	<0.0001	11.2	0.51
Schizophrenia								
Total cognition	11	660	0.23	0.15 to 0.30	5.8	<0.0001	4.8	0.91
IQ	4	174	0.26	0.12 to 0.40	3.4	<0.001	0.6	0.89
Memory	3	129	0.28	0.11 to 0.43	3.2	0.002	1.1	0.58
Executive function	5	331	0.19	0.08 to 0.30	3.3	0.001	0.50	0.97
WCST	5	311	0.25	0.14 to 0.36	4.2	<0.0001	4.3	0.37

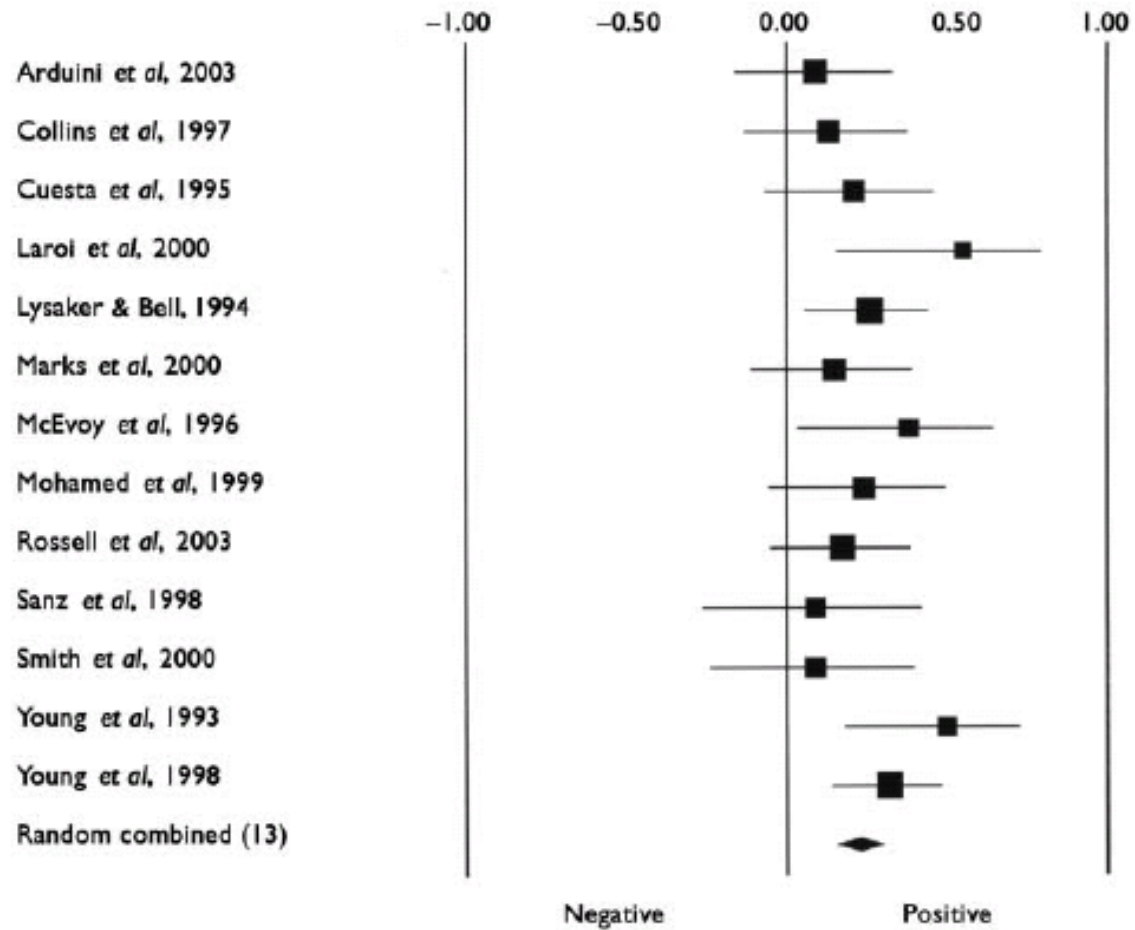
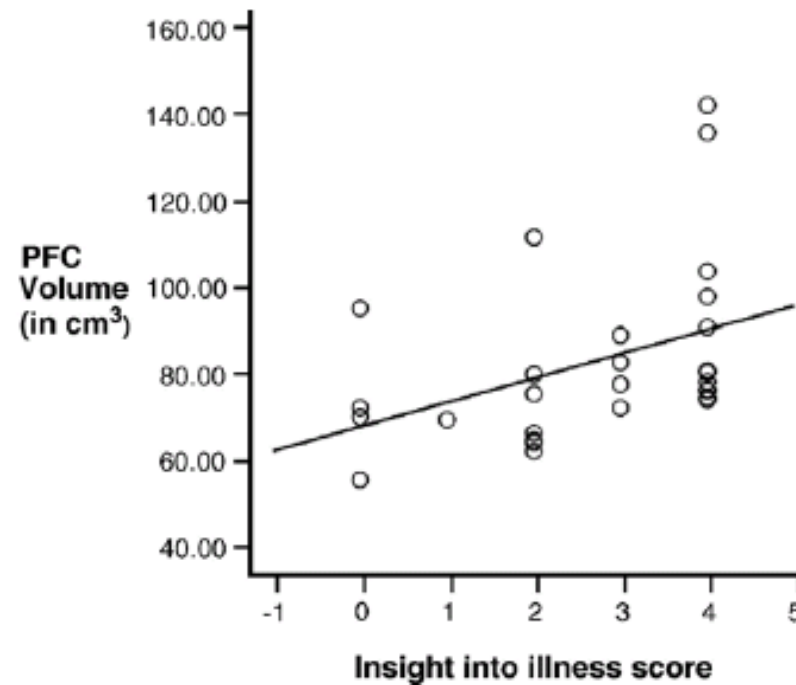


Fig. 3 Forest plot of studies included in the meta-analysis of the relationship between insight and Wiscconsin Card Sorting Test performance.

Prefrontal cortex and insight in schizophrenia: A volumetric MRI study

Adegboyega Sapara^a, Michael Cooke^a, Dominic Fannon^b, Alan Francis^c,
Robert W. Buchanan^c, Anantha P.P. Anilkumar^b, Ian Barkataki^b,
Ingrid Aasen^{a,b}, Elizabeth Kuipers^a, Veena Kumari^{a,*}



Insight and prefrontal cortex in first-episode Schizophrenia

Mujeeb U. Shad,^{a,*} Sri Muddasani,^{a,1} Konasale Prasad,^{a,2}
John A. Sweeney,^{b,3} and Matcheri S. Keshavan^{a,4}

Table 2

Raw and intracranial volume (ICV)-adjusted total DLPFC and hippocampal volumes of subjects with and without insight deficits

	Good insight (<i>n</i> = 17, <i>M/F</i> = 9/8)	Poor insight (<i>n</i> = 18, <i>M/F</i> = 15/3)
Average Lt. DLPFC (±SD)	18.31 ± 2.11	17.99 ± 2.64
Average Rt. DLPFC	19.06 ± 2.10	17.06 ± 1.69

Average Lt. hippocampal (±SD)	3.35 ± 0.80	3.20 ± 0.97
Average Rt. hippocampal (±SD)	3.40 ± 1.1	3.17 ± 0.87

Morgan et al. *British Journal of Psychiatry*.2010; Insight, grey matter and cognitive function in first-onset psychosis

- Those with no symptom relabelling ability had significant global and regional grey matter deficits primarily located at the posterior cingulate gyrus and right precuneus/cuneus.
- The cingulate gyrus (as part of a midline cortical system) along with right hemisphere regions may be involved in illness and symptom self-appraisal in first-onset psychosis.

Table 4 Comparison of brain structure and cognitive function between patients with low or moderate-high insight levels
Symptom relabelling ability

	No symptom relabelling		Some symptom relabelling		<i>B</i>	β	<i>P</i>
	<i>n</i>	Mean (s.d.)	<i>n</i>	Mean (s.d.)			
<i>Brain structure</i>							
Volume, ml							
Total grey	20	545.0 (5.5)	62	583.9 (57.1)			0.01
Lateral ventricles ^a	20	16.9 (6.3)	62	18.0 (13.8)			NS
Cluster volume, ml							
Posterior cingulate gyrus (bilateral)	20	1.4 (0.2)	62	1.7 (0.2)			0.002
Insula (left hemisphere)	20	0.9 (0.1)	62	1.1 (0.9)			0.002
Superior temporal gyrus (right hemisphere)	20	1.6 (0.2)	62	1.8 (0.1)			0.002
Superior temporal gyrus (left hemisphere)	20	0.8 (0.1)	62	1.0 (0.1)			0.002
Cuneus (right hemisphere)	20	0.5 (0.1)	62	0.6 (0.1)			0.002

Main hypothesis

- Reduced insight arises from abnormalities in brain circuits subserving self-evaluation
 - Self-evaluation: the ability to think critical about and make judgments regarding one's own cognitive, personality, physical and emotional characteristics

ziekte-inzicht

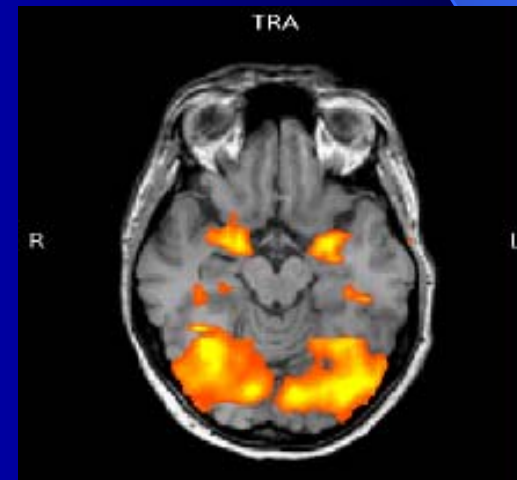
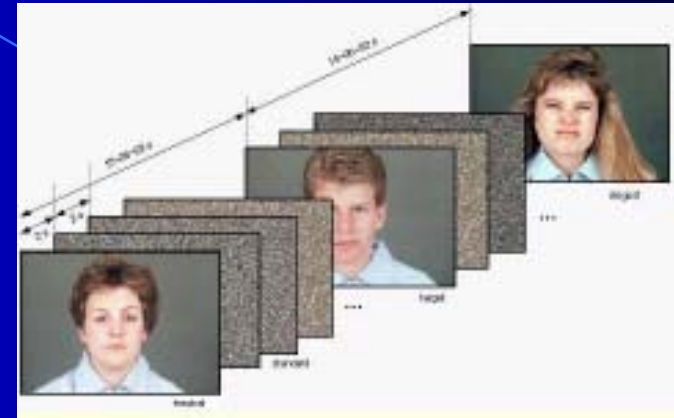


Zelf-evaluatie



Mediaal prefrontale cortex

Functional MRI

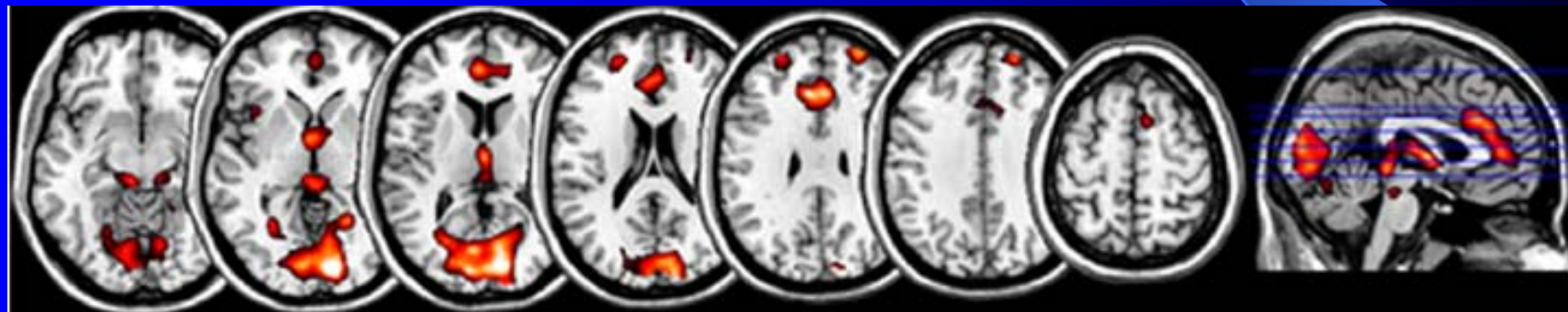


Voorbeelden van taken

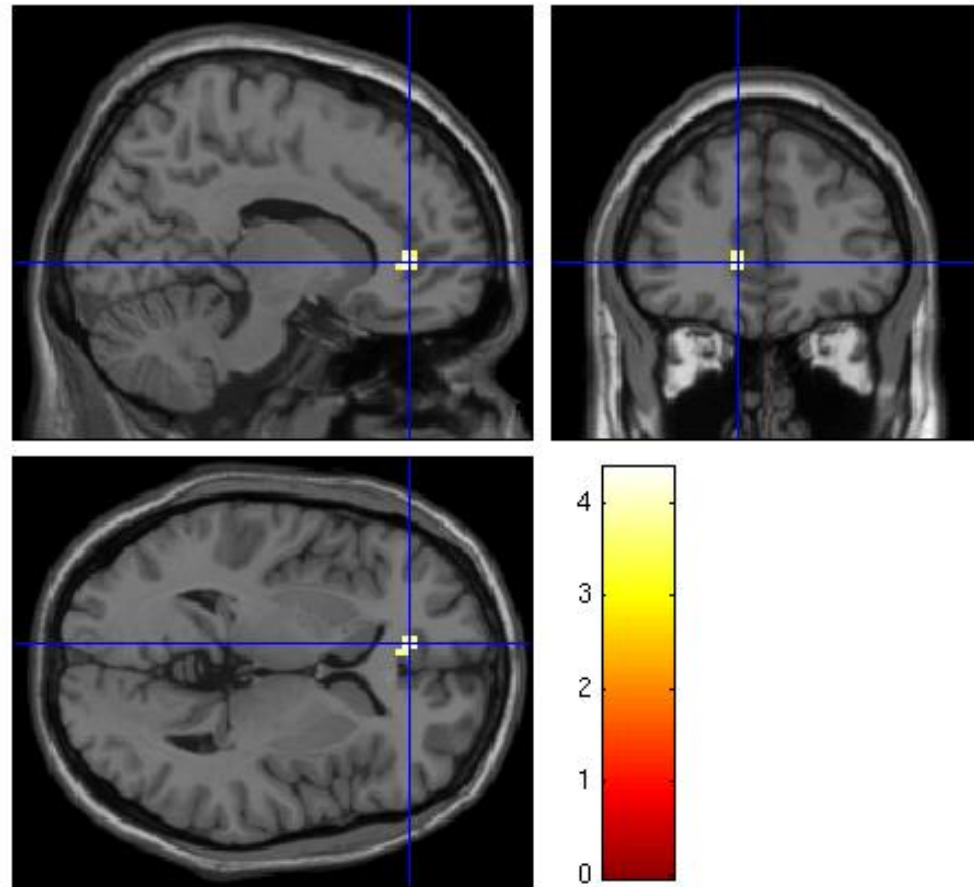
- Zelf-evaluatie: reageren op stellingen over het Zelf versus stellingen over een goede kennis, of algemene stellingen
- - Ik vergeet belangrijke dingen
 - Ik ben een goede vriend
 - Hij is een aardig persoon
 - Tien seconden is meer dan een minuut
 - Je hebt water nodig om te leven

Activation of Anterior Insula during Self-Reflection

Gemma Modinos^{1*}, Johan Ormel², André Aleman¹



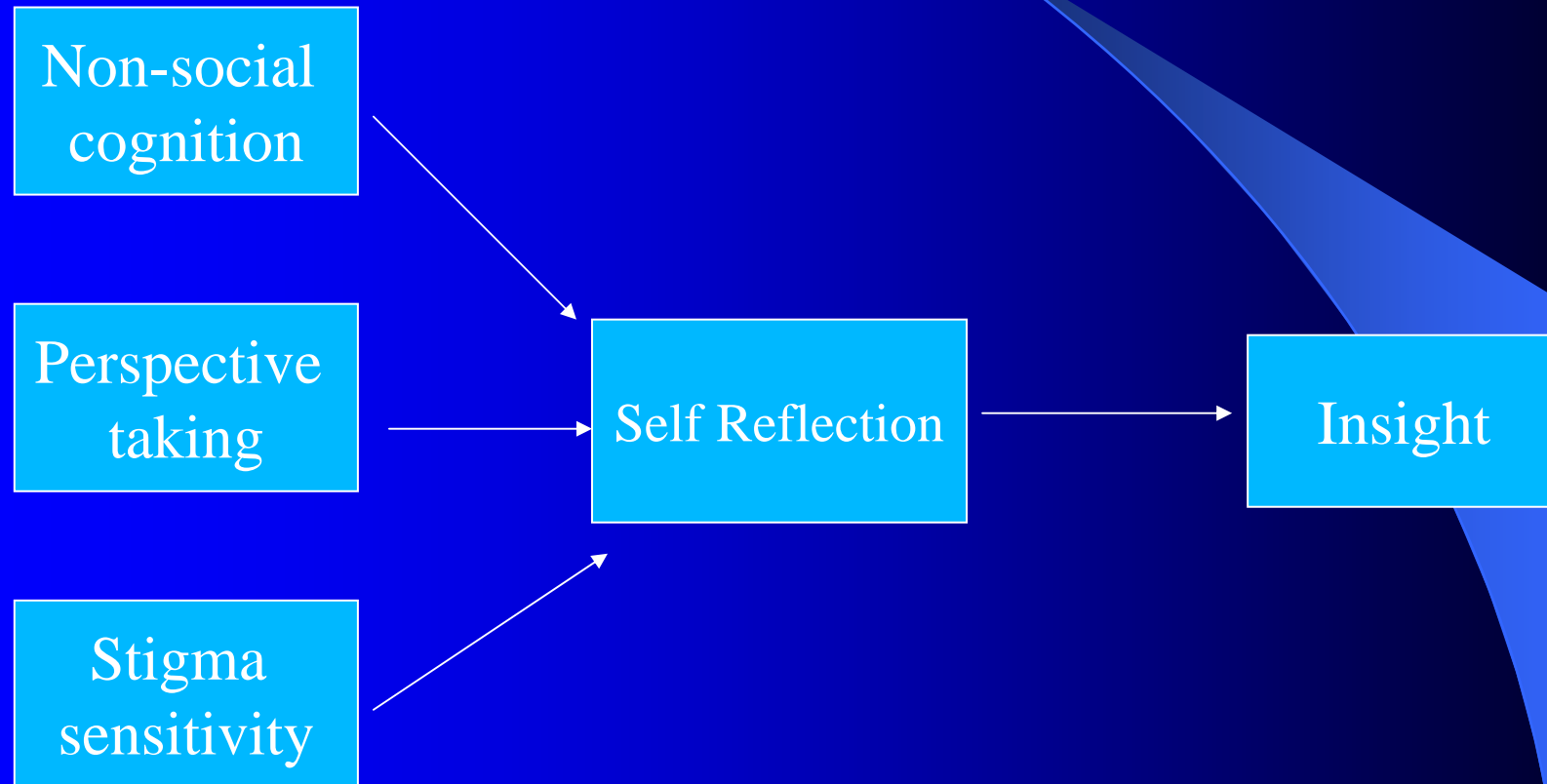
Stronger connectivity in ACC default mode network for patients with good insight (N=25) as compared to patients with poor insight (N=18)



Liemburg et al. in preparation

A comprehensive model of insight in schizophrenia

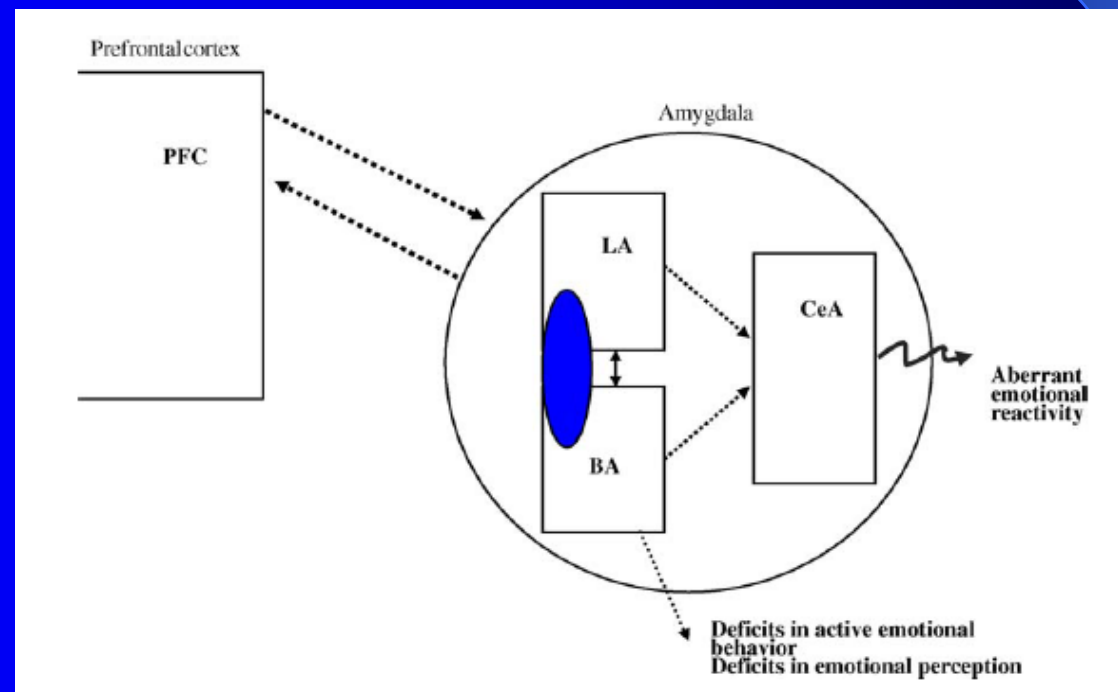
(Pijnenborg & Aleman, *Tijdschr Psychiatrie* 2010)



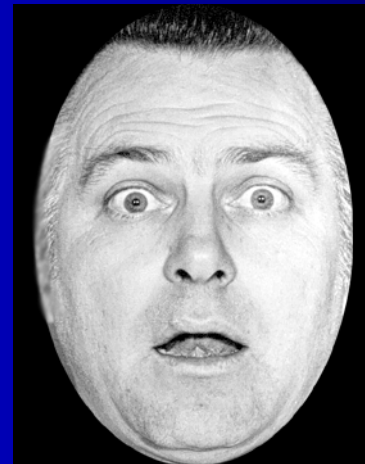
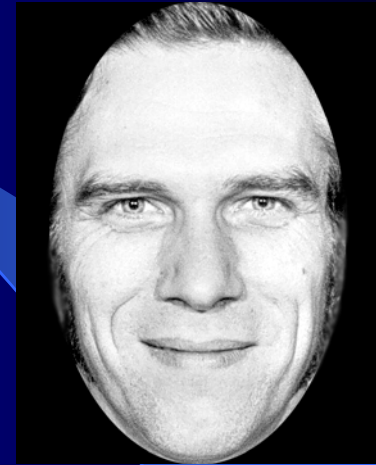
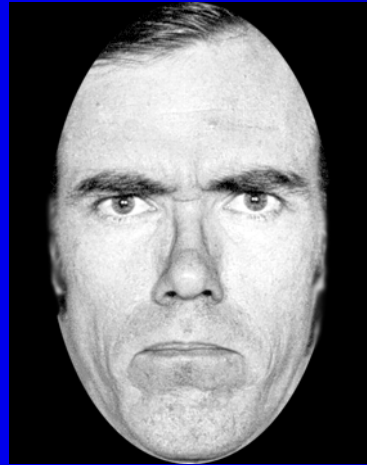


Strange feelings: Do amygdala abnormalities dysregulate the emotional brain in schizophrenia?

André Aleman^{a,*}, René S. Kahn^b



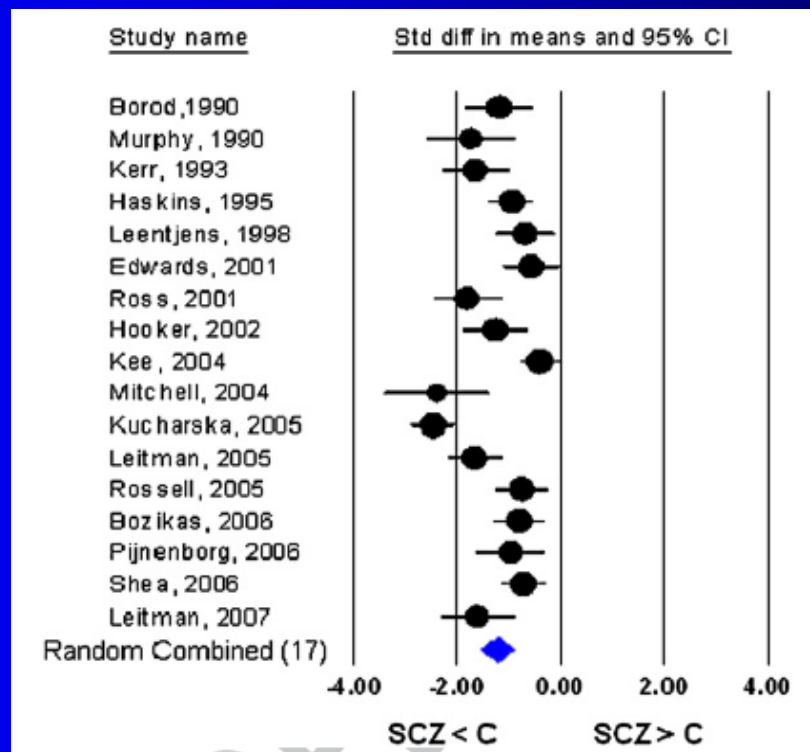
Emotie



Ekman
gezichten

Impaired recognition and expression of emotional prosody in schizophrenia: Review and meta-analysis

Marjolijn Hoekert ^{a,*}, René S. Kahn ^b, Marieke Pijnenborg ^{a,c}, André Aleman ^a



Social cognition and insight

- Quee et al. (2011): emotion perception and theory of mind (Hinting task) contribute, independent of neurocognition, to differences in insight (302 patients from GROUP)
- Pijnenborg et al. (submitted): IQ, prosody perception, ToM and empathy were associated with insight (in 46 patients with schizophrenia). Only affective ToM and empathy emerged as unique and significant contributors to the prediction of insight.

Insight in Psychosis: Relationship With Neurocognition, Social Cognition and Clinical Symptoms Depends on Phase of Illness

Piotr J. Quee^{*,1,2}, Lisette van der Meer^{2,3}, Richard Bruggeman¹, Lieuwe de Haan⁴, Lydia Krabbendam⁵, Wiepke Cahn⁶, Niels C.L. Mulder⁷, Durk Wiersma¹, and André Aleman^{2,3}

Table 2. Relationships With Insight for Patients Overall, Patients With ROP and Patients With Multiple Episode Psychosis (MECP)

Patient Group/Model	df	Insight Composite Measure			P	F	R	R ²	P _{change}	F _{change}	R ² _{change}
		β _{Neurocognition}	β _{Social Cognition}	β _{Clinical Symptoms}							
Overall											
Neurocognition	4,262	.250 ^b	—	—	<.001	5.540	.279	.078	—	—	—
Social cognition	5,261	.177 ^b	.159 ^a	—	<.001	5.642	.312	.098	.018	5.655	.020
Clinical symptoms	6,260	.108	.140 ^a	-.225 ^b	<.001	7.110	.375	.141	<.001	13.141	.043
ROP patients											
Neurocognition	3,53	.011	—	—	.942	.129	.085	.007	—	—	—
Social cognition	4,52	-.019	.051	—	.975	.118	.095	.009	.763	.092	.002
Clinical symptoms	5,51	-.038	.057	-.059	.986	.127	.111	.012	.684	.168	.003
MECP patients											
Neurocognition	3,206	.315 ^b	—	—	<.001	8.621	.334	.112	—	—	—
Social cognition	4,205	.229 ^b	.203 ^b	—	<.001	8.671	.380	.145	.005	7.950	.033
Clinical symptoms	5,204	.148 ^a	.169 ^a	-.258 ^b	<.001	10.216	.447	.200	<.001	14.165	.056

Note: β = standardized beta coefficient, P_{change}, F_{change}, and R_{change} refer to the statistical significance of the model as compared with its preceding model. Included covariates are gender, age, and phase of illness.

^aCorrelation significant at the 0.05 level.

^bCorrelation significant at the 0.01 level.

Cooke et al. Br J Psychiatry. 2007 Sep;191:234-7
*Insight in psychosis: influence of cognitive
ability and self-esteem*

67 people with psychosis

CONCLUSIONS: The relationship between insight and IQ might reflect both the basis of insight in intellectual ability and the influence of a psychological mechanism that preserves self-esteem

Schizophrenia Bulletin vol. 33 no. 1 pp. 192–199, 2007
doi:10.1093/schbul/sbl016
Advance Access publication on August 7, 2006

Toward Understanding the Insight Paradox: Internalized Stigma Moderates the Association Between Insight and Social Functioning, Hope, and Self-esteem Among People with Schizophrenia Spectrum Disorders

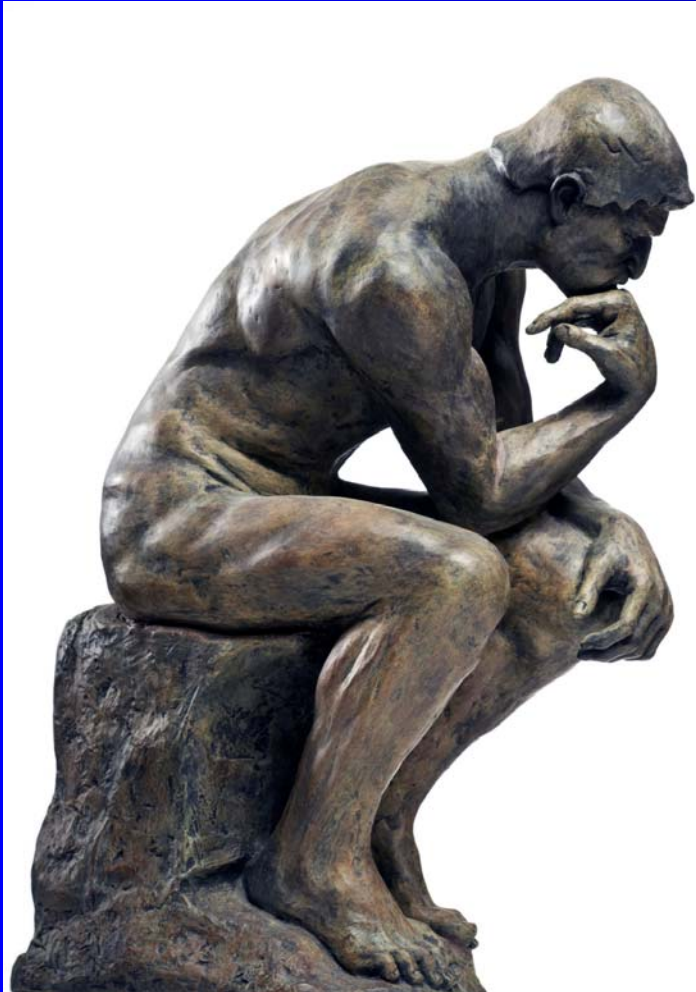
Paul H. Lysaker^{1–3}, David Roe⁴, and Philip T. Yanos^{5,6} Relative to persons with other psychiatric disorders,

Brain stimulation?

- Gerretsen et al. (2010, *J ECT*): transient illness awareness (<8 hours) after individual bilateral electroconvulsive therapy treatments in the case of a 39-year-old man with antipsychotic refractory schizophrenia.

Cognitive therapy to improve insight?

- Rathod et al. (2005; *Schizophr Res.*): Short insight-focused Cognitive Behaviour Therapy (CBT) intervention from trained nurses in the community
- At 1-year follow-up, the result on total insight and compliance was durable



REFLEX

a social cognitive
treatment for
insight in psychosis

Dr. Marieke Pijnenborg

Prof. Dr. M. van der Gaag

Dr. C. Bockting

Prof. Dr. A. Aleman

Om mee naar huis te nemen

- Verminderd ziekte-inzicht bij psychose is een belangrijk klinisch probleem en een wetenschappelijk raadsel
- Verstoringen in cognitieve en emotionele processen spelen een rol
- Nader onderzoek dient uit te wijzen of verminderde frontaal-limbische interacties, noodzakelijk voor “self-reflection” onderliggend zijn aan slecht inzicht bij psychoses (en integratie feedback anderen in attributies omtrent eigen situatie)
- De ontwikkeling van nieuwe cognitief-therapeutische benaderingen is mogelijk en noodzakelijk

Met dank aan

- Dr. R. Knegtering
- Dr. Marieke Pijnenborg
- Prof. M. van der Gaag
- Drs. Piotr Quee
- Drs. Lisette van der Meer
- Dr. Gemma Modinos
- Prof. D. Wiersma

