

La neurophobie des étudiants en médecine. Diagnostic et Traitement

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“The successful teacher is no longer at a height, pumping knowledge at high pressure into passive receptacles... he is a senior student anxious to help his juniors.”

– Sir William Osler

“The task of the modern educator is not to cut down jungles, but to irrigate deserts.”

– C. S. Lewis

PHOBIES

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Wikipédia x sophetlaurent

Sécurisé https://fr.wikipedia.org/wiki/Liste_des_phobies

Article Discussion Lire Modifier Modifier le code Historique Rechercher sur Wikipédia

Liste des phobies

Cet article ne cite pas suffisamment ses sources (décembre 2015).

Si vous disposez d'ouvrages ou d'articles de référence ou si vous connaissez des sites web de qualité traitant du thème abordé ici, merci de compléter l'article en donnant les **références utiles à sa vérifiabilité** et en les liant à la section « Notes et références » (modifier l'article, comment ajouter mes sources ?).

Les suffixes français **-phobie**, **-phobique**, **-phobe** (du grec ancien φόβος / *phóbos*, φοβία / *phobía*) sont utilisés en tant qu'usage technique dans la **psychiatrie** pour construire des mots décrivant des **peurs** irrationnelles comme étant des **troubles psychiatriques** (ex. **agoraphobie**), dans la **chimie** décrivant des aversions chimiques (ex. **hydrophobie**), en **biologie** décrivant des organismes désapprouvant certaines conditions (ex. **halophobie**), et en **médecine** décrivant l'intensité d'un stimulus, habituellement sensible (ex. **photophobie**).

Cet article recense les noms de ces différentes peurs (**phobies**) répertoriées dans une approche phénoménologique, descriptive et **comportementaliste**. En **psychanalyse**, cette liste ne serait pas pertinente puisque ce ne sont pas les symptômes et leurs formes (très variables et instables particulièrement pour les phobies), mais leurs mécanismes intrapsychiques qui sont à étudier¹.

Sommaire [masquer]

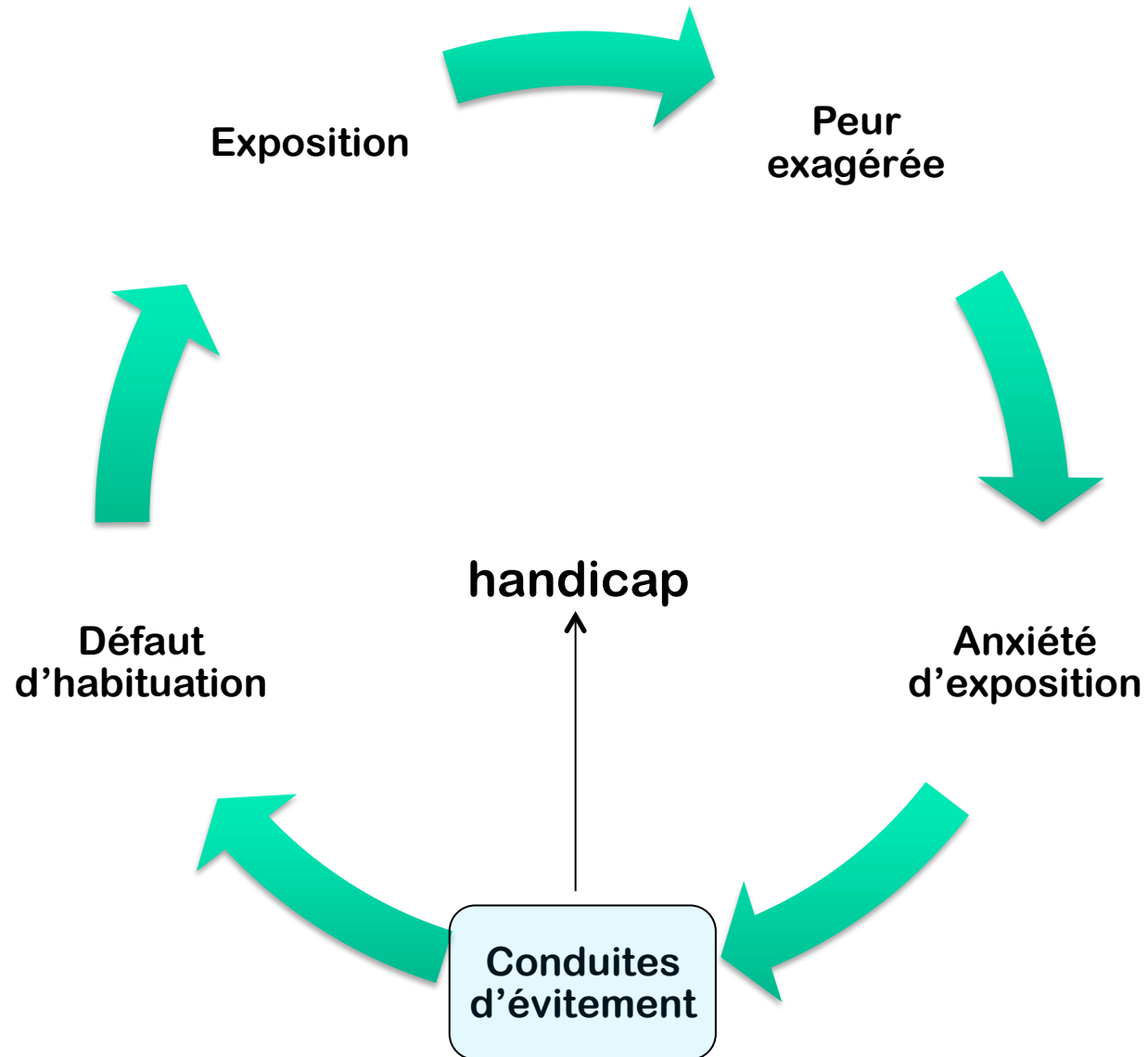
- 1 Phobies notables (sens psychologique du terme)
- 2 Troubles psychologiques
 - 2.1 Phobies animales
- 3 Affections non-psychologiques
- 4 Superstitions
- 5 Discriminations
- 6 Biologiques / chimiques
- 7 Autres
- 8 Couleurs
- 9 Médias
- 10 Notes et références
- 11 Annexes
 - 11.1 Articles connexes

Phobies notables (sens psychologique du terme)

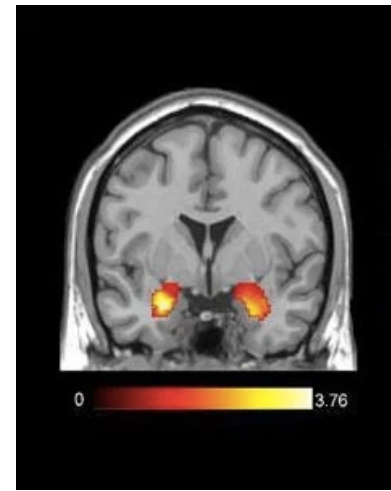
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Tout afficher

PHOBIES



PHOBIES



Exposition

Peur exagérée



handicap

Défaut d'habituat

Anxiété d'exposition



Conduites d'évitement



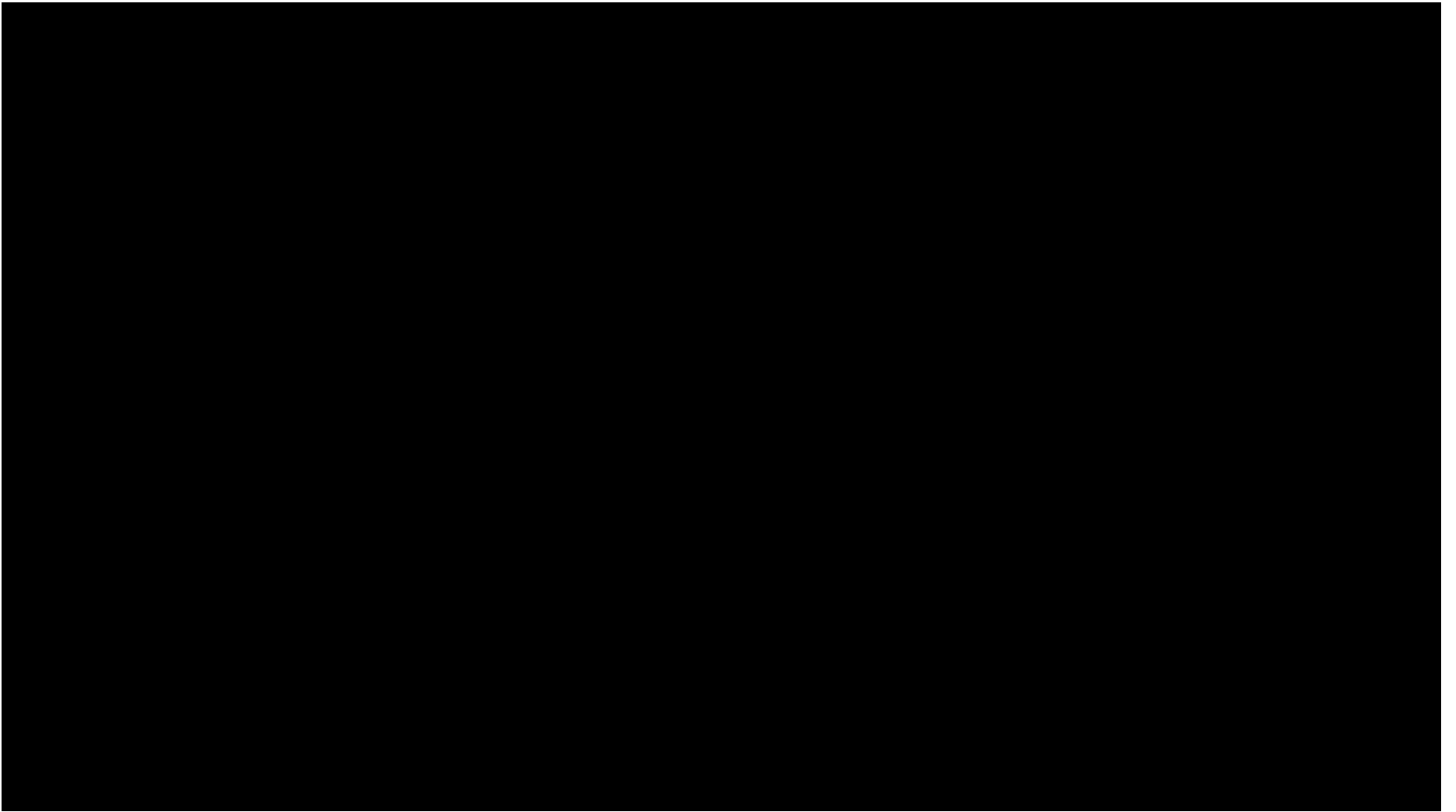
NEUROPHOBIA

Ralph F Jozefowicz (1994)

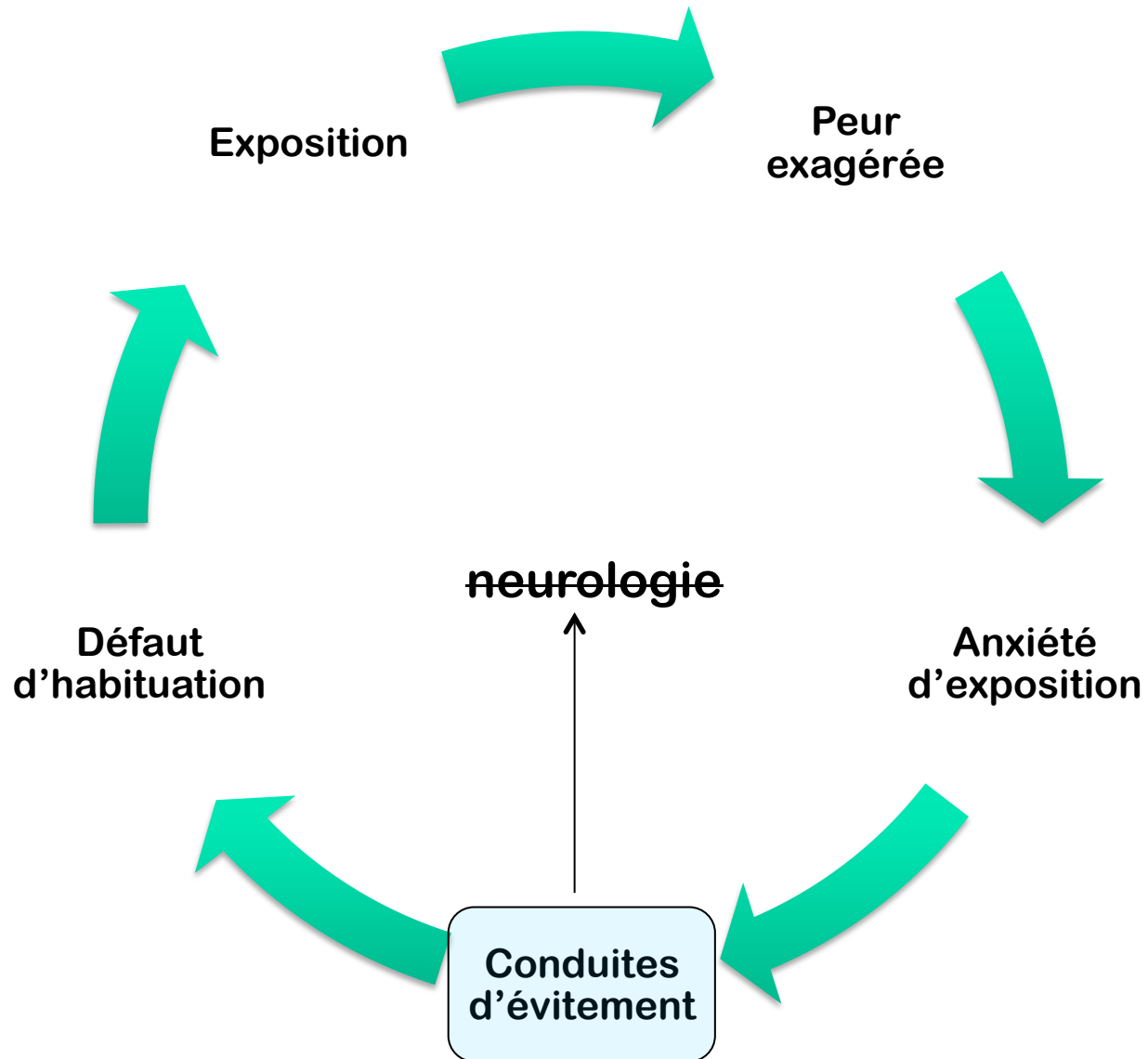
Neurophobia : the fear of neurology among medical students

« neural sciences and clinical neurology are overly complex and many of these students develop a syndrome that I shall call « neurophobia » »

Arch Neurol 1994; 51:328-329

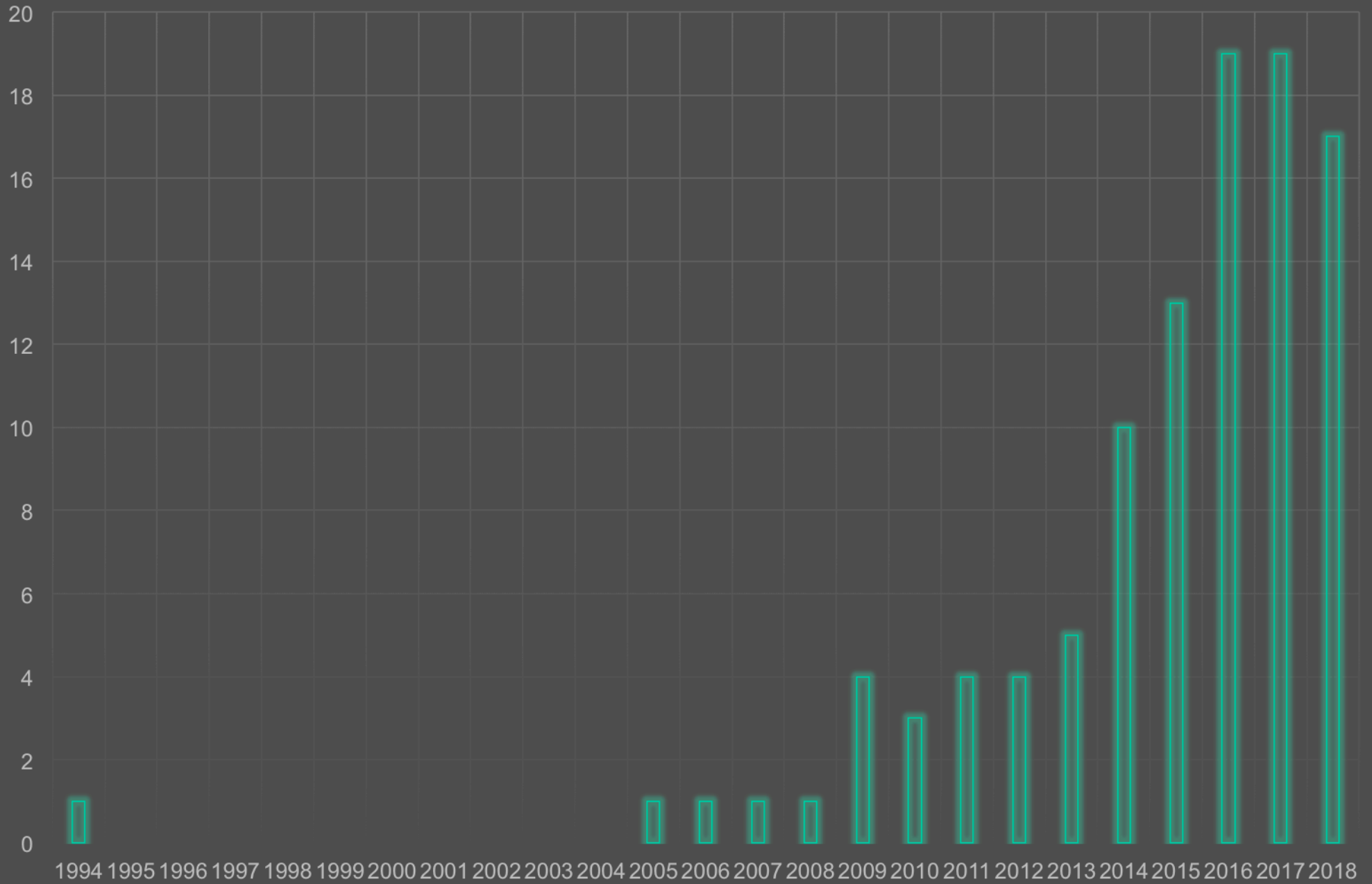


NEUROPHOBIE



Publications sur la NEUROPHOBIE

WEB OF SCIENCE DATABASE (16/01/2019 n=104)

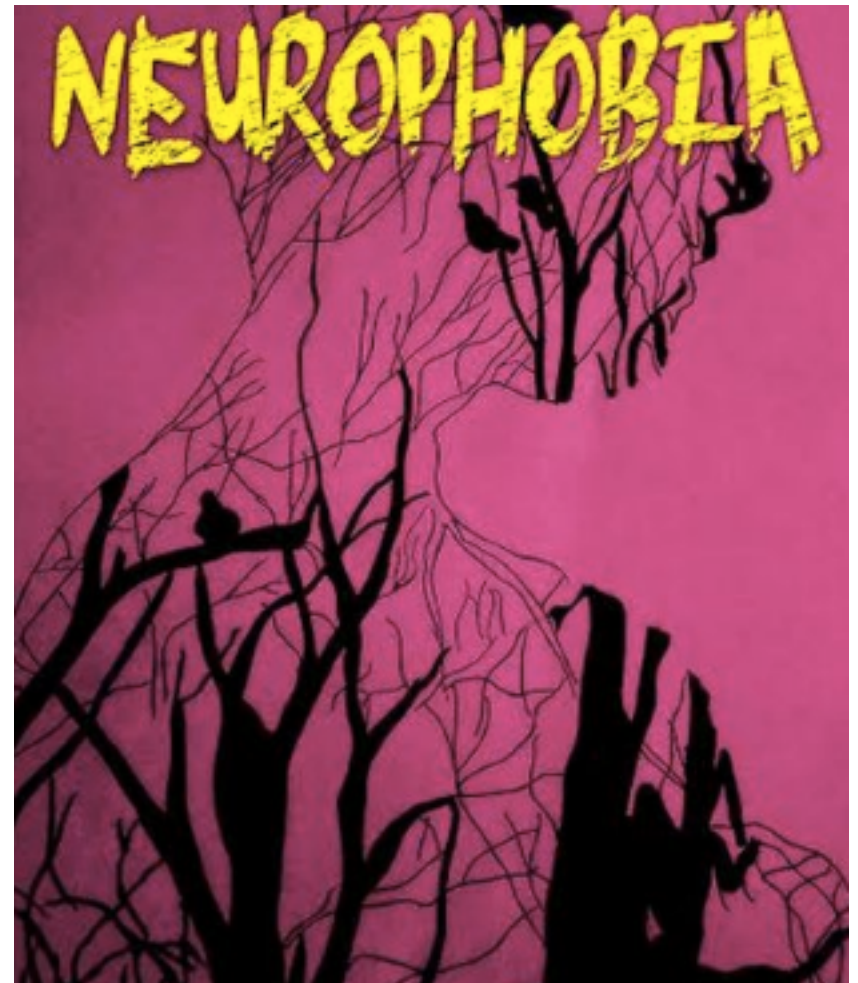


British Medical Journal 1999



“the neurologist is one of the great archetypes: a brilliant, forgetful man with a bulging cranium....who....talks with ease about bits of the brain you’d forgotten existed, adores diagnosis and rare syndromes, and—most importantly—never bothers about treatment”

1- DIAGNOSTIC



NEUROPHOBIA

Defined as « *a fear of the neural sciences and clinical neurology that is due to the students inability to apply knowledge of basic sciences to clinical situations* »

Incidence : 50% (\Rightarrow 18-47%)

Slight familial predilection

M=W

Distribution **bimodal** : neural science course in the preclinical yars and neurology clerkship.

Jozefowicz, Arch Neurol 1994; 51:328-329

NEUROPHOBIA

CLINICAL SIGNS

Early : Intimidation boredom

Late : Cynical and nihilistic

MAJOR SIGN : CONFUSION

Unable to localise lesions, do not understand « how things work » with the nervous system.

Cannot synthesize information.

Jozefowicz, Arch Neurol 1994; 51:328-329

Is clinical neurology really so difficult?

F Schon, P Hart, C Fernandez

Neurosciences need to be made more accessible for medical students

345 réponses (étudiants + docteurs)

1- Quel est votre niveau de connaissance ?

(1-nul, 6-great)

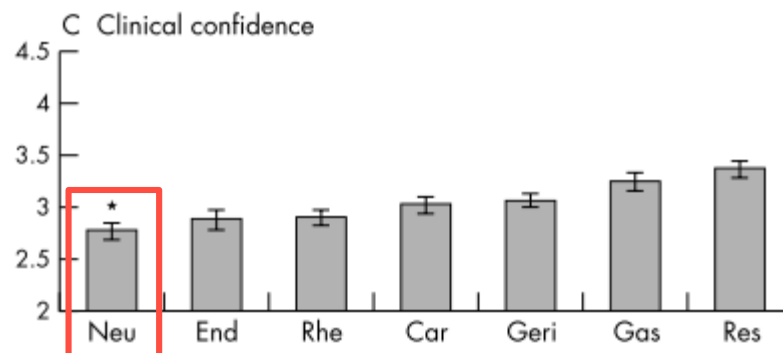
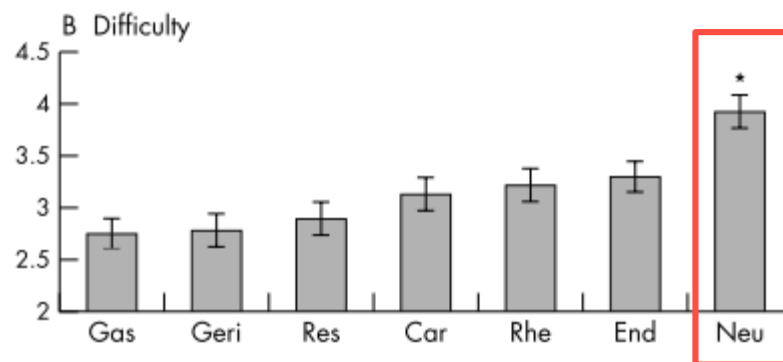
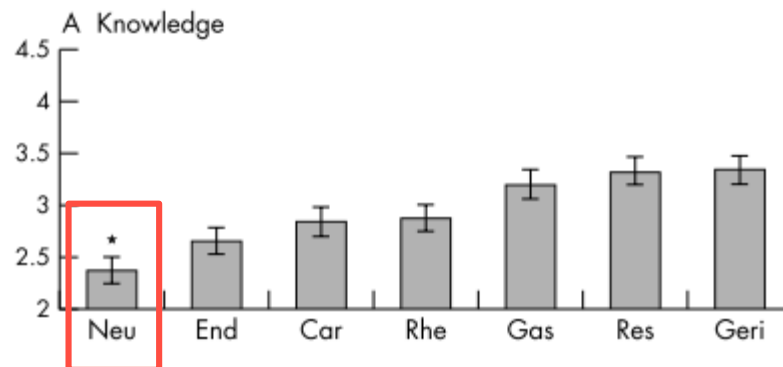
2- Trouvez vous la discipline facile ou difficile ?

(1- très facile, 6- très difficile)

159 réponses (docteurs qualifiés SHO/GP)

3- Comment vous sentez vous devant un patient qui a une plainte/un tableau clinique peu clair dans l'un de ces domaines ?

(1- pas sûr de moi, 6- très confiant)



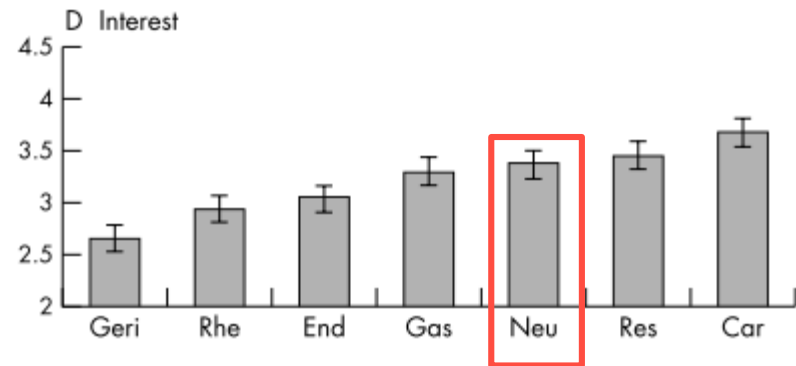
Is clinical neurology really so difficult?

F Schon, P Hart, C Fernandez

Neurosciences need to be made more accessible for medical students

345 réponses (étudiants + docteurs)

1- Quel est votre intérêt pour la discipline ?
(1-aucun, 6-très intéressé)



Around the world



NEUROPHOBIE

‘Neurophobia’ – attitudes of medical students and doctors in Ireland to neurological teaching

E. Flanagan^a, C. Walsh^b and N. Tubridy^c

^aDepartment of Medicine, Mater Hospital, Eccles St, Dublin, Ireland; ^bDepartment of Statistics and Epidemiology, Trinity College, Dublin, Ireland; and ^cDepartment of Neurology, St Vincent’s University Hospital, Elm Park, Dublin, Ireland

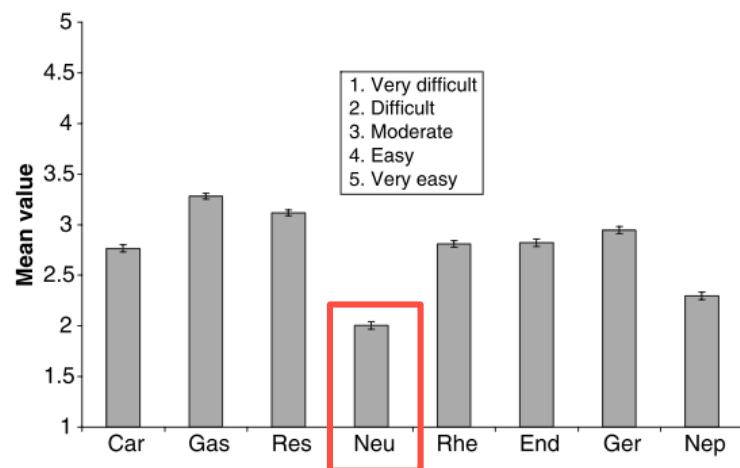


Figure 1 Bar graph illustrating how participants rated the degree of difficulty of eight medical specialties. Car, cardiology; Gas, gastroenterology; Res, respiratory; Neu, neurology; End, endocrinology; Rhe, rheumatology; Ger, geriatrics; Nep, nephrology; (whiskers show standard errors).

457-completed questionnaires: seven Medical Registrars, 29 Medical SHOs, four interns, 145 medical students year 6, 173 medical students year 5, 93 medical students year 4 and six participants who did not specify their position. This gave a total of 411 medical students, 40 junior doctors and six unspecified

RESEARCH ARTICLE

Open Access

National survey of UK medical students on the perception of neurology

Julia Pakpoor^{1*}, Adam E Handel², Giulio Disanto³, Richard J Davenport⁴, Gavin Giovannoni³, Sreeram V Ramagopalan² and on behalf of the Association of British Neurologists

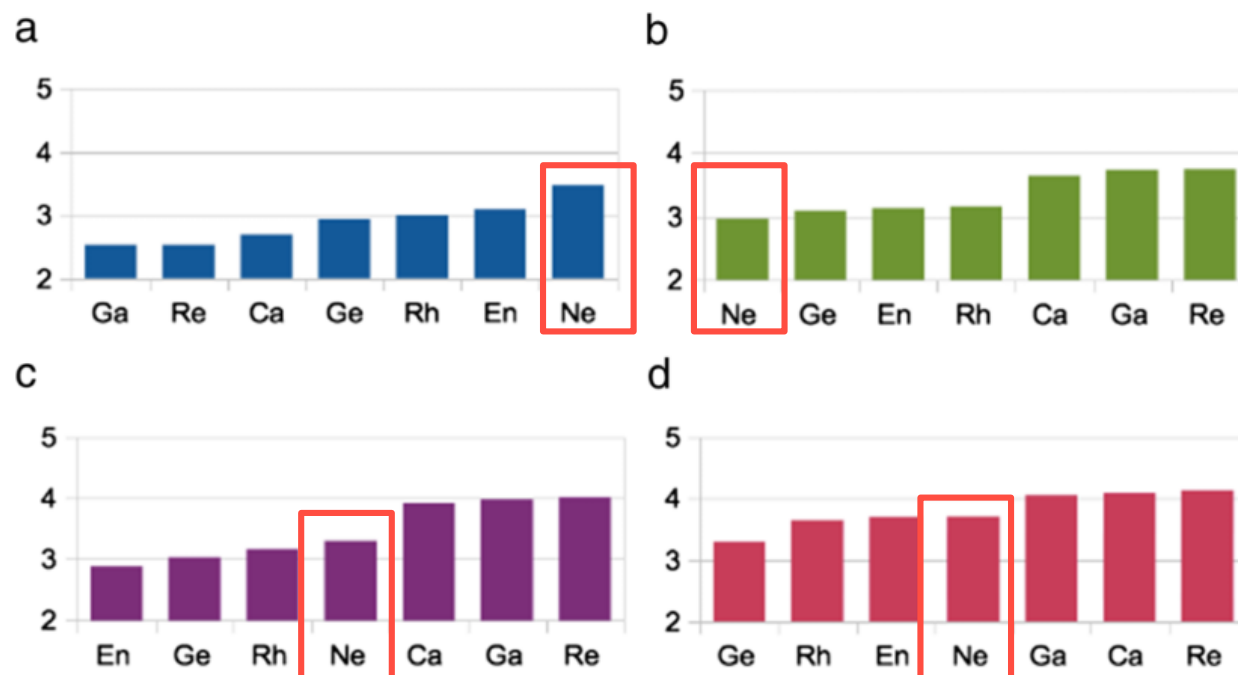


Figure 1 Mean survey score results of seven medical specialties. a. difficulty. b. comfort in drawing up a differential diagnosis. c. comfort in examination of patients. d. Quality of teaching. Ne = neurology, Ga = gastroenterology, Re = respiratory, Ca = cardiology, Ge = geriatrics, Rh = rheumatology and En = endocrinology. 1 = very easy/uncomfortable/poor, 2 = easy/uncomfortable/poor, 3 = moderate/satisfactory, 4 = difficult/comfortable/good, 5 = very difficult/comfortable/good.

Neurophobia in Medical Students and Junior Doctors—Blame the GIK

Kai-qian Kam*, ¹MBBS, Glorijoy SE Tan*, ^{1,4}MBBS, Kevin Tan, ^{2,3}BMBS, MRCP, Erle CH Lim, ³MBBS, FRCP, Nien Yue Koh, ⁴MBBS, MRCP, Nigel CK Tan, ^{2,3}MBBS, FRCP

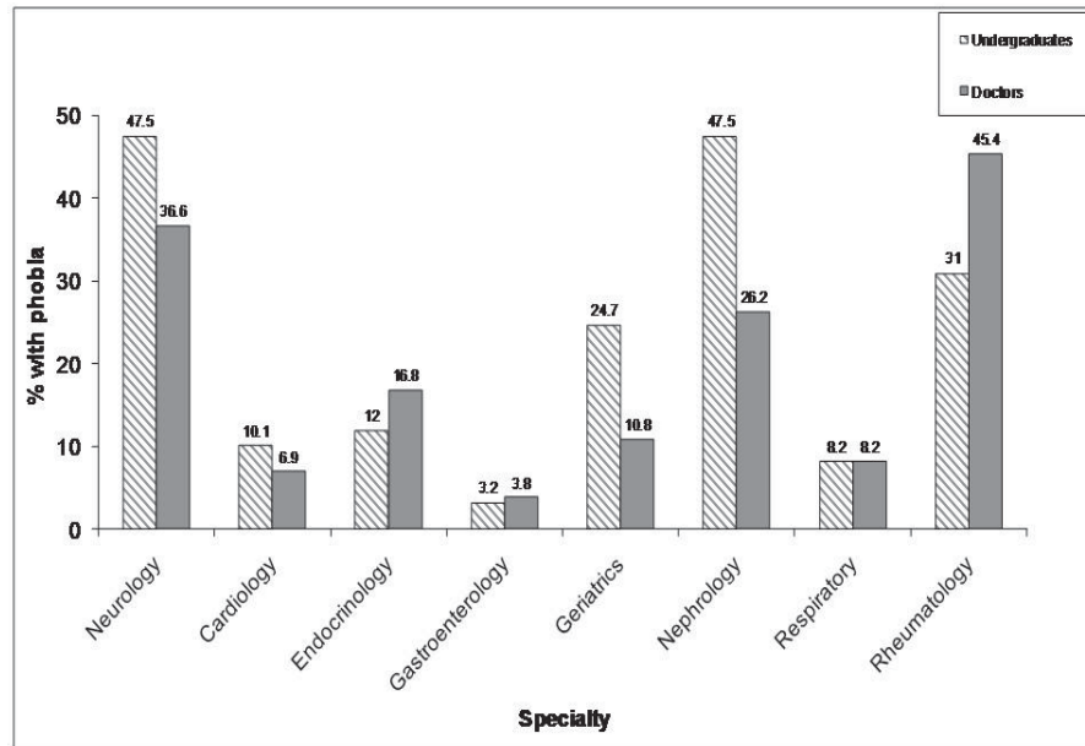


Fig. 1. Prevalence of phobias across medical specialties, expressed as a percentage. Striped bars represent medical students, solid bars represent junior doctors.

158 medical students (63.5%) and 131 junior doctors (73.2%) responded to the questionnaire. Neurophobia prevalence was 47.5% in medical students, highest amongst all medical subspecialties, and 36.6% in junior doctors.

Neurophobia in Medical Students and Junior Doctors—Blame the GIK

Kai-qian Kam*, ¹MBBS, Glorijoy SE Tan*, ^{1,4}MBBS, Kevin Tan, ^{2,3}BMBS, MRCP, Erle CH Lim, ³MBBS, FRCP, Nien Yue Koh, ⁴MBBS, MRCP, Nigel CK Tan, ^{2,3}MBBS, FRCP

Table 3. Risk Factors for Neurophobia, Modelled with Logistic Regression

		Crude Odds Ratio	Adjusted Odds Ratio	95% CI	P value
Medical Students	Male gender	1.0	1.0		
	Female gender	1.8	3.0	1.3 – 6.7	0.007
	Neurology Interest				
	Moderate to great interest	1.0	1.0		
	No interest to some interest	3.2	2.5	1.0 – 6.2	0.05
	Neurology Knowledge				
	Moderate to great knowledge	1.0	1.0		
	No knowledge to some knowledge	9.9	10.1	4.5 – 22.8	<0.001
Junior Doctors	Taught neurology by neurologist				
	Taught neurology by neurologist	1.0	1.0		
	Taught neurology by non-neurologist	2.3	2.8	1.2 – 6.6	0.02
	Male gender				
	Male gender	1.0	1.0		
	Female gender	2.1	2.0	0.9 – 4.6	0.08
	Neurology Interest				
	Moderate to great interest	1.0	1.0		
No interest to some interest	4.1	3.0	1.3 – 7.0	0.01	
Junior Doctors	Neurology Knowledge				
	Moderate to great knowledge	1.0	1.0		
	No knowledge to some knowledge	4.3	2.7	1.2 – 6.2	0.02

158 medical students (63.5%) and 131 junior doctors (73.2%) responded to the questionnaire. Neurophobia prevalence was 47.5% in medical students, highest amongst all medical subspecialties, and 36.6% in junior doctors.

RESEARCH ARTICLE

Open Access

Neurophobia among medical students and non-specialist doctors in Sri Lanka

Anne Thushara Matthias¹, Poorna Nagasingha¹, Priyanga Ranasinghe^{2*} and Saman B Gunatilake¹

Table 1 Current level of knowledge, difficulty and confidence in the different medical specialties among medical students and non-specialist doctors

	Mean score (±SD)	
	Medical Students (n = 148)	Doctors (n = 100)
Current level of knowledge (range 0–5)		
Cardiology	3.12 (±0.86) [*]	2.96 (±1.03) [*]
Respiratory Medicine	3.00 (±0.90) [*]	2.86 (±1.00) [*]
Gastroenterology	2.84 (±0.87) [*]	2.75 (±0.90) [*]
Endocrinology	2.54 (±0.99)	2.59 (±0.98)
Neurology	2.53 (±0.96) [*]	2.59 (±1.08) [*]
Rheumatology	2.42 (±0.94)	2.57 (±1.06)
Dermatology	2.16 (±1.00) [*]	2.49 (±1.10)

Level of difficulty (range 0–5)		
Neurology	3.46 (±0.99) [*]	3.33 (±1.11) [*]
Endocrinology	3.07 (±0.96) [*]	3.03 (±0.90) [*]
Cardiology	3.06 (±0.84) [*]	3.03 (±0.98) [*]
Gastroenterology	2.84 (±0.78) [*]	2.55 (±0.87) [*]
Rheumatology	2.82 (±0.88) [*]	2.64 (±1.08) [*]
Dermatology	2.80 (±1.11) [*]	2.76 (±0.90) [*]
Respiratory Medicine	2.73 (±0.82) [*]	2.69 (±0.93) [*]

Level of confidence (range 0–4)		
Shortness of breath	2.72 (±0.66) ^{a,b,c}	2.58 (±0.80) ^{a,b,c}
Chest pain	2.70 (±0.75) ^{a,b,c}	2.66 (±0.85) ^{a,b,c}
Fever	2.68 (±0.73) ^{a,b,c}	2.80 (±0.79) ^{a,b,c}
Heartburn	2.65 (±0.72) ^{a,b,c}	2.91 (±0.83) ^{a,b,c}
Cough	2.62 (±0.65) ^{a,b,c}	2.94 (±0.72) ^{a,b,c}
Abdominal pain	2.35 (±0.69) ^{a,b,c}	2.45 (±0.79) ^{a,b,c}
Headache	2.13 (±0.78) ^a	2.30 (±0.86) ^a
Numbness of feet	2.03 (±0.64) ^b	2.13 (±0.78) ^b
Dizziness	1.91 (±0.73) ^c	2.31 (±0.79) ^c

^{*}Mean for Neurology significantly different from means for these specialties (p < 0.01); ^{a,b,c}Neurological complaints had a significantly lower mean compared with other complaints (p < 0.05)

100 non-specialist doctors and 148 medical students responded to the questionnaire (response rate–99.2%)

Attitudes Toward Neurosciences in Medical Students in Wuhan, China: A Survey Study

Rimas V. Lukas¹, Brian Cooper², Ivy Morgan², James R. Brorson¹, Hongmei Dong², Renslow Sherer²

Table 1. Students' Self Assessment of Their Knowledge in Medical Specialities (scale 1–5)

	Knlg in Pulm	Knlg in Gastro	Knlg in Nephro	Knlg in Endocri	Knlg in Cardio	Knlg in Neuro	Knlg in Rheum	Knlg in Geriatrics
Mean	3.33	3.29	3.17	3.10	3.02	2.78	2.68	2.63
SD	0.802	0.867	0.789	0.844	0.822	0.943	0.883	0.889
95% CI	3.03	3.00	2.90	2.85	2.70	2.45	2.34	2.29
	3.55	3.57	3.42	3.41	3.24	3.07	2.92	2.87

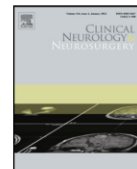
Knlg, knowledge; Pulm, pulmonary; Gastro, gastroenterology; Nephro, nephrology; Endocri, endocrinology; Cardio, cardiology; Neuro, neurology; Rheum, rheumatology; SD, standard deviation; CI, confidence interval.

The bold in Table 1 is to emphasize the mean in Neurology.

Table 3. Students' Rating of Preference of Teaching Methods for Learning Neurology (scale 1–5)

	Bedside	Small Group	Lectures	Textbooks	Internet	Peers
Mean	4.00	3.77	3.50	3.42	3.32	3.30
SD	1.000	1.072	0.910	0.871	1.099	0.951
95% CI	3.69	3.42	3.19	3.09	2.99	2.98
	4.37	4.14	3.81	3.68	3.73	3.63

SD, standard deviation; CI, confidence interval.



Neurophobia among general practice trainees: The evidence, perceived causes and solutions

Mark O. McCarron^{a,*}, Michael Stevenson^b, Angela M. Loftus^c, Pascal McKeown^d

Table 2

Mean differences in Likert scores demonstrating effect sizes with confidence intervals.

Specialty versus neurology	Knowledge mean difference (95% CIs)	Interest mean difference (95% CIs)	Difficulty mean difference (95% CIs)	Confidence mean difference (95% CIs)
Cardiology	0.88 (0.74, 1.02)	0.25 (0.06, 0.45) [*]	-1.05 (-1.20, -0.91)	0.94 (0.80, 1.08)
Endocrinology	0.56 (0.42, 0.70)	0.20 (0.01, 0.40) [*]	-0.69 (-0.83, -0.54)	0.64 (0.50, 0.78)
Gastroenterology	0.96 (0.82, 1.10)	0.42 (0.23, 0.62)	-1.54 (-1.68, -1.39)	1.34 (1.20, 1.48)
Geriatrics	1.00 (0.86, 1.14)	0.38 (0.19, 0.58)	-1.30 (-1.45, -1.16)	1.27 (1.13, 1.41)
Respiratory Med	0.97 (0.82, 1.11)	0.41 (0.21, 0.60)	-1.44 (-1.59, -1.30)	1.30 (1.16, 1.45)
Rheumatology	0.42 (0.27, 0.56)	0.32 (0.13, 0.52) ^{**}	-0.96 (-1.10, -0.81)	0.70 (0.56, 0.84)

The negative signs for difficulty indicate that all other specialties were perceived as easier.

All comparisons are significant at $p < 0.001$ except ^{*} $p < 0.05$ and ^{**} $p < 0.01$

One hundred and eighteen questionnaires were returned from 205 primary care trainees, representing a 58% response rate from all of the primary care trainees in Northern Ireland.

As postgraduate training offers an opportunity to compensate for any fear of the neural sciences, we specifically studied GP trainees (reply).

Neurophobia among medical students

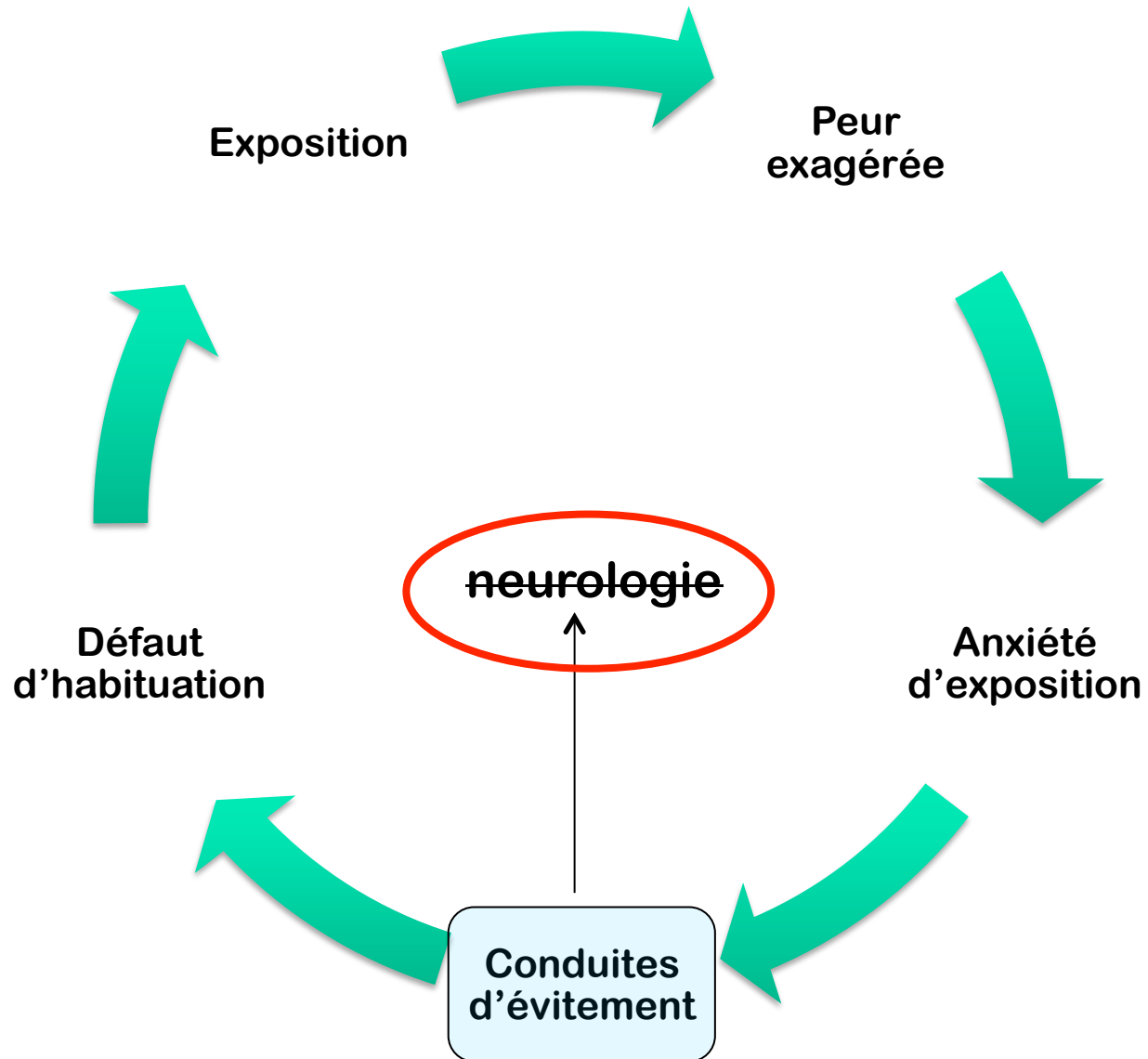
Ahmad A. Abulaban, MBBS, Tahir H. Obeid, FRCP, Hussein A. Algabtani, MD, FRCPC, Suleiman M. Kojan, MD, FRCPC, Ali M. Al-Khatthaami, MD, FRCPC, Abdulrhman A. Abulaban, MBBS, Maryam F. Bokhari, MBBS, Anas A. Merdad, MBBS, Subaib A. Radi, MBBS.

Questions	4th year n=140 (33.2%)		5th year n=68 (16.1%)		6th year n=227 (53.8%)		Intern n=49 (11.6%)		P-value
	Disagree %	Mean score	Disagree %	Mean score	Disagree %	Mean score	Disagree %	Mean score	
My neurology teaching experience is strong	16.4	2.4	32.4	2.1	41.2	1.8	22.9	2.3	<0.001
I consider neurology a future career option	17.9	2.5	24.2	2.4	45.7	1.9	47.9	1.9	<0.001
Neurological signs are difficult to elicit consistently	10.8	2.3	22.4	2.1	23.3	2.2	12.5	2.3	0.094
In neurology, limited treatments are available	11.0	2.5	25.0	2.3	17.0	2.5	12.8	2.8	0.064
Neurological diseases are complicated and difficult	7.1	2.7	13.4	2.5	9.2	2.6	6.4	2.6	0.636
Neurological disorders are challenging and interesting	5.1	3.2	7.6	3.2	13.4	2.8	6.5	3.0	0.007
Patients are uncooperative and difficult to examine	15.8	2.3	25.4	2.2	19.6	2.3	27.7	2.1	0.613
Most neurological diseases have poor outcome	13.5	2.4	17.6	2.4	10.4	2.6	2.2	2.9	0.031
Dealing with patients with neurological disorders is more difficult emotionally than non-neurologic diseases	11.0	2.6	14.7	2.7	15.2	2.6	8.3	2.9	0.435
Neurology requires a very long training time	3.6	3.2	8.8	3.0	3.1	3.1	8.3	2.9	0.177
My knowledge in Neurology is sufficient	32.6	1.9	50.0	1.7	49.4	1.7	39.6	1.9	0.076
Neurology is difficult	13.1	2.6	13.2	2.5	13.4	2.5	25.5	2.3	0.660

Possible response are: (1) disagree, (2) agree somewhat, (3) agree moderately, and (4) agree strongly. Maximum score per question = 4

We conducted a cross-sectional survey of 422 interns and medical students of different levels, at 6 different medical schools in Saudi Arabia.

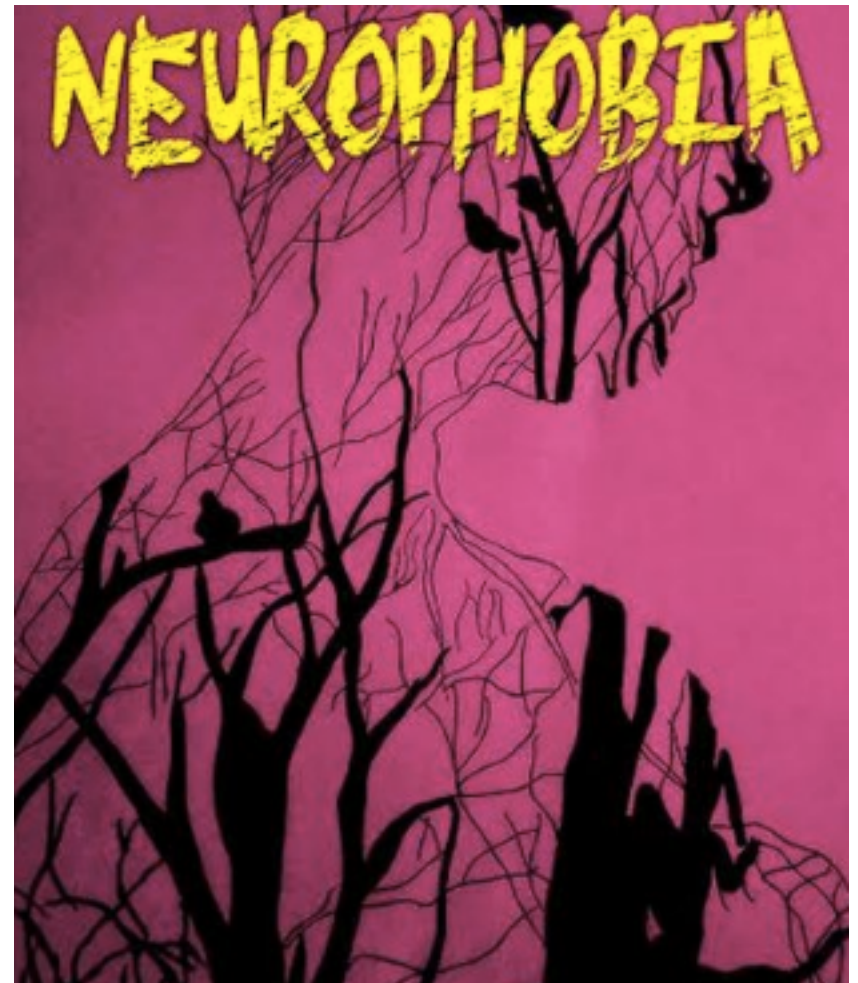
NEUROPHOBIE



NEUROPHOBIA 2019

- Perception quasi-universelle de la neurologie comme une discipline compliquée, peu accessible, « réservée »
- Non liée au niveau d'étude (auto-entretendue)
- Touchant entre 20 et 50% des étudiants et des étudiantes

2- ETIOLOGIES



Is clinical neurology really so difficult?

F Schon, P Hart, C Fernandez

Neurosciences need to be made more accessible for medical students

78 réponses ouvertes (GP/SHO)

C'est quoi le problème avec la neurologie ?

Table 1 Responses to the open questions

"Why is neurology difficult?"		"How can teaching be improved?"	
Poor teaching	17	More teaching	19
Trouble with neuroanatomy	16	More integrated teaching	17
Trouble with clinical examination	16	Simple/basic teaching	13
Trouble with neuroscience	11	Better teaching	13
Hard reputation	8	More models/aids	5
Complexity of the subject	7	More revision sessions	2
Too many rare diagnoses	6	Simplify examination	2
Lack of integrated teaching	6	More neurology for SHOs	1
Wide ranging subject	5	More neuroanatomy	1
Non-neurologists teaching	3	Simpler textbooks	1
Need to visualise in three dimensions	3	Left blank	19
Not enough teaching time	3	Unclear comments	4
Not enough neurology for SHOs	2		
Patients incurable	1		
Left blank	8		
Unclear comments	10		

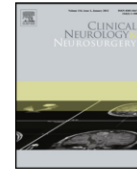
Is clinical neurology really so difficult?

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Neurosciences need to be made more accessible for medical students

Les cinq raisons possibles de la Neurophobie (78 réponses SHO-GP)

- 1- nécessité de connaître des neurosciences (3,05)
- 2- la neurologie est mal enseignée (2,95)
- 3- la neurologie a la réputation d'être une discipline complexe (2,56)
- 4- l'examen clinique neurologique est compliqué (2,50)
- 5- nombre important de diagnostics neurologiques (2,00)



Neurophobia among general practice trainees: The evidence, perceived causes and solutions

Mark O. McCarron^{a,*}, Michael Stevenson^b, Angela M. Loftus^c, Pascal McKeown^d

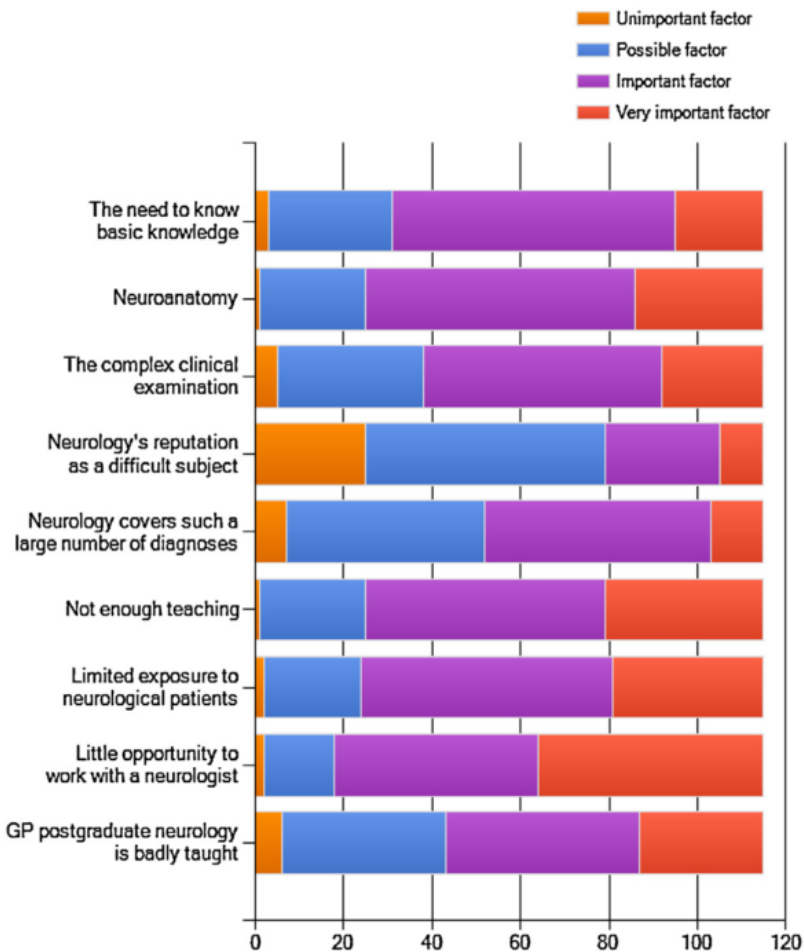


Fig. 1. Contribution of various factors to perceived difficulty in neurology.

Table 3

Open text suggestions to improve neurology teaching.

Theme	Number
More teaching – clinical tutorials, knowledge and skills	77
GP guide for referrals	39
Quick and better neurological examination	34
Specific core neurology teaching day/day release teaching	28
Attendance at neurology clinics/formal attachment	27
More confidence	26
Specific neurological conditions – headache, multiple sclerosis and neuropathy	23
Online learning resources	15
Access to feedback	7
Better neurology teaching at medical school	5
Better access to neurology service	2

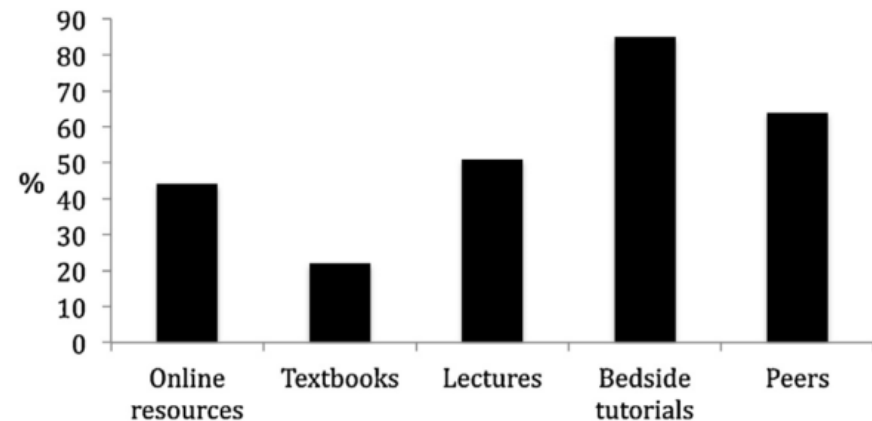


Fig. 2. Very useful or extremely useful methods to learn neurology.

‘Neurophobia’ – attitudes of medical students and doctors in Ireland to neurological teaching

E. Flanagan^a, C. Walsh^b and N. Tubridy^c

^aDepartment of Medicine, Mater Hospital, Eccles St, Dublin, Ireland; ^bDepartment of Statistics and Epidemiology, Trinity College, Dublin, Ireland; and ^cDepartment of Neurology, St Vincent’s University Hospital, Elm Park, Dublin, Ireland

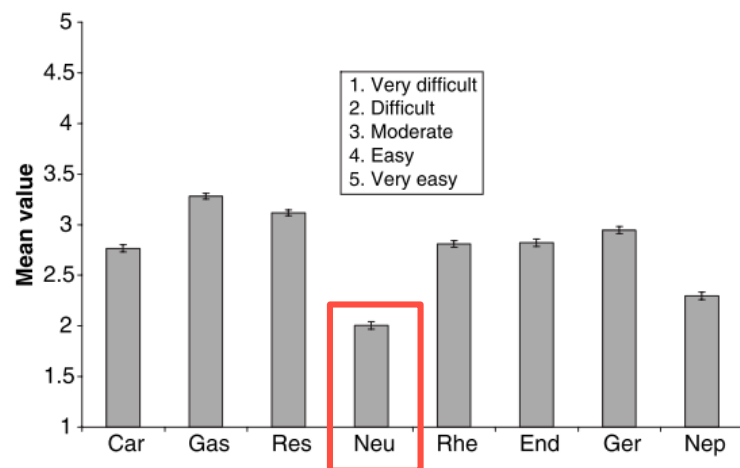


Figure 1 Bar graph illustrating how participants rated the degree of difficulty of eight medical specialties. Car, cardiology; Gas, gastroenterology; Res, respiratory; Neu, neurology; End, endocrinology; Rhe, rheumatology; Ger, geriatrics; Nep, nephrology; (whiskers show standard errors).

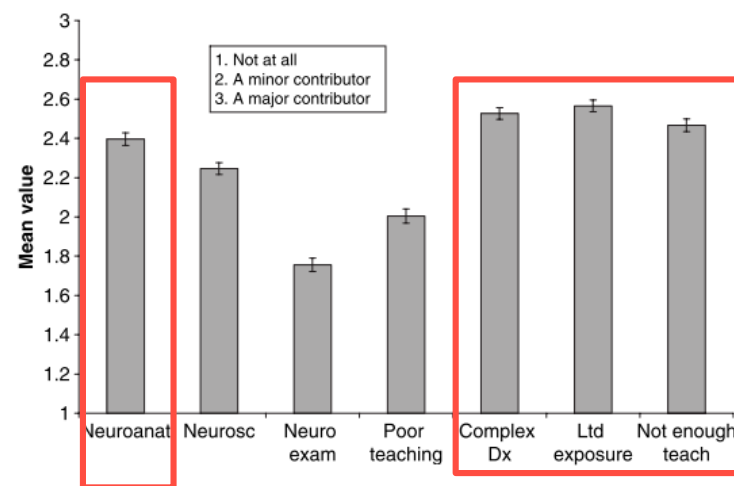


Figure 2 Bar graph illustrating the reasons participants found neurology a difficult subject. Neuroanat, neuroanatomy; Neurosc, neuroscience; Neuro Exam, the clinical neurological exam; Poor teaching, poor teaching; Complex Dx, many complex diagnoses; Ltd Exposure, limited exposure to neurological patients; Not Enough Teach, not enough teaching; (whiskers show standard errors).

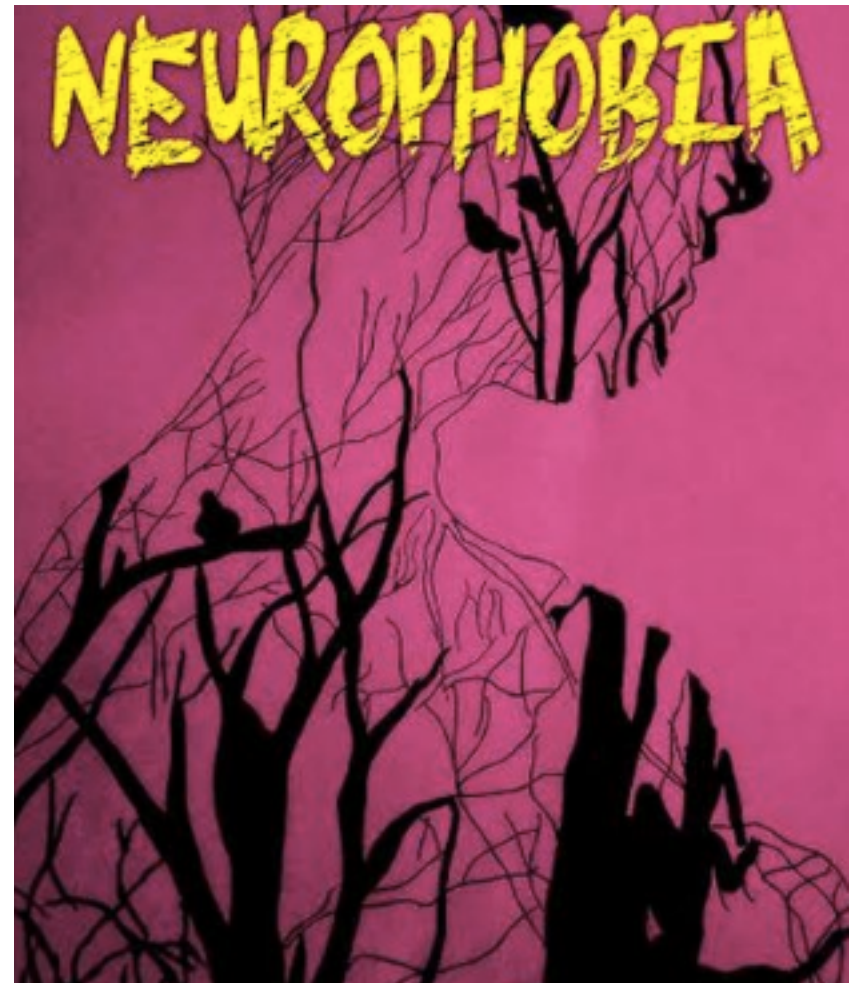
457-completed questionnaires: seven Medical Registrars, 29 Medical SHOs, four interns, 145 medical students year 6, 173 medical students year 5, 93 medical students year 4 and six participants who did not specify their position. This gave a total of 411 medical students, 40 junior doctors and six unspecified

Racines du problème

- 1- discipline qui a la réputation d'être difficile
- 2- manque de confiance des praticiens confrontés à un trouble neurologique
- 3- connaissances limitées dans le domaine

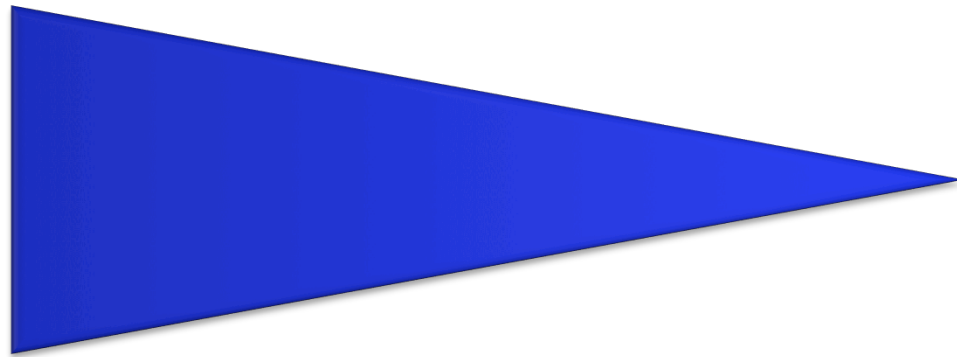
Problème lié à l'enseignement

3- REMEDES



Où trouver les remèdes ?

neurophobie



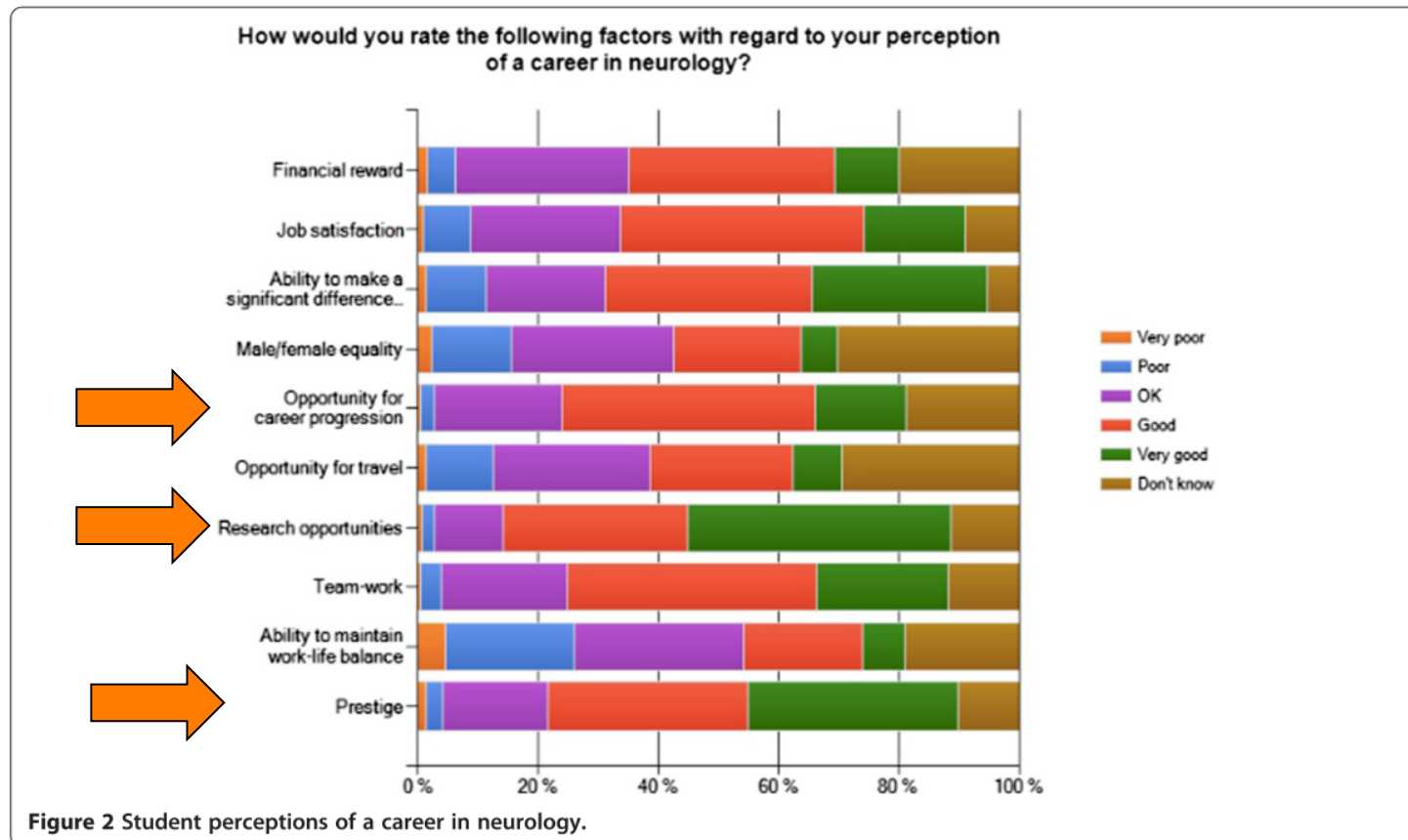
neuromanie

RESEARCH ARTICLE

Open Access

National survey of UK medical students on the perception of neurology

Julia Pakpoor^{1*}, Adam E Handel², Giulio Disanto³, Richard J Davenport⁴, Gavin Giovannoni³, Sreeram V Ramagopalan² and on behalf of the Association of British Neurologists



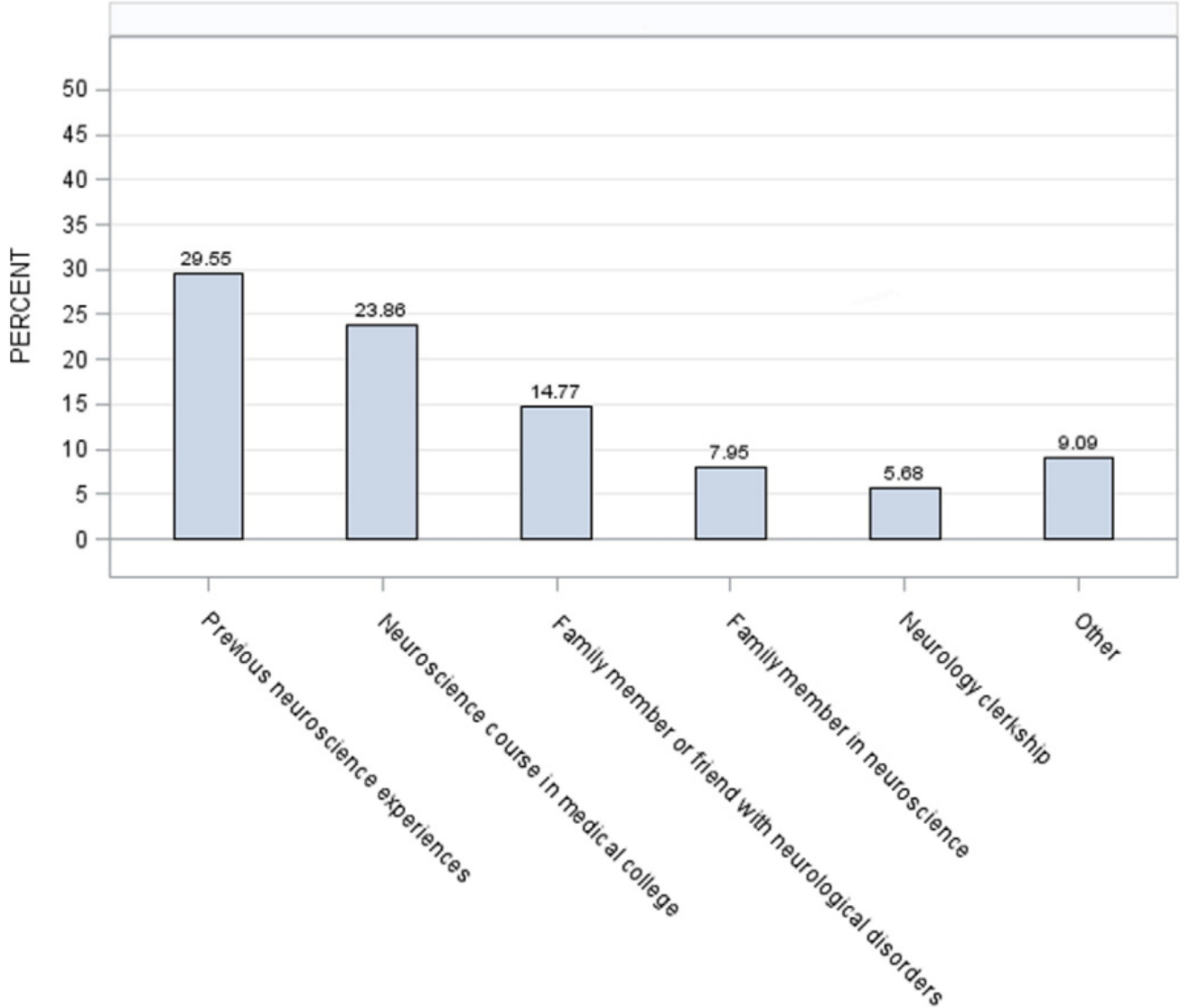


Factors that impact medical student and house-staff career interest in brain related specialties☆



Abdulbaset H. Kamour DrPH^a, Dong Y. Han PsyD^{b,c,d}, David M. Mannino MD^a, Amy B. Hessler DO^b, Sachin Kedar MD^{e,f,*}

A.H. Kamour et al. / Journal of the Neurological Sciences 369 (2016) 312–317



Clinical neuroscience attachments: a student's view of 'neurophobia'

James Giles, Fourth Year Medical Student, The University of Manchester, UK

SUMMARY

Background: Neurophobia has been described as a fear of clinical neuroscience, and is known to affect both medical students and junior doctors alike. There is some evidence that it may affect the practice of GPs, who may not feel confident enough to give advice to neurological patients.

Context: I am a fourth year undergraduate at The University of Manchester, and have undertaken two four-week placements in neurology at the Greater

Manchester Neuroscience Centre in Salford. The first was a student-selected component in movement disorders, and the second was part of the standard undergraduate curriculum at the University.

Innovation: In this piece I relate my experience of clinical neuroscience training to the theory surrounding neurophobia. I aim to demonstrate how students and teachers can reduce the effect of the phenomenon through the use of good educational strategies. My experience is divided into indivi-

dual and group learning opportunities. Five points for teachers of clinical neuroscience are presented as possible ideas to help students venturing into clinical neurology for the first time.

Implications: The experience I had during my eight weeks in neurology suggests that neurophobia can be reduced. It is important that clinical teachers have an awareness of the implications of neurophobia in their students so they can both anticipate and counteract its effects.

Five points for teachers of clinical neuroscience are presented

In the Beginning: How Medical Students Choose (or Do Not Choose) Neurology

Kelley A. Humbert, BA and Bernard S. Chang, MD

Editor's Note: For every neurologist reading these words, there was a time when he or she made the choice to pursue our specialty for a career. This is really the defining moment of “NeuroGenesis,” the journal of the American Neurological Association. Yet, despite the future of our profession depending upon inducing the best and brightest graduates to choose neurology, there has been surprisingly little study of this process. The article is a collaboration between one student who recently made that choice and her mentor, exploring the process. — Editor-in-Chief

Box 1: One Student's Perspective.

I only recently made the decision to pursue a career in neurology. To some degree, all of the considerations in this article played a part in my ultimate choice. Whereas it may have been my right hemisphere giving me that “gestalt” feeling of this being the best field for me, my left hemisphere was working overtime to analyze and find justifications for what I should do and why. Without any relatives battling dementia, traumatic brain injury, or Parkinson disease, and having been fortunate enough to be in good health myself, I find that my inspiration to pursue this field largely stems from the patients I met during my neurology rotations and the unique relationship between them and their neurologists. Watching these interactions, I began hoping that one day I could provide such comfort and support to people whose lives have been forever changed by often stigmatizing neurologic disease and who are seeking a sense of normalcy and acceptance. This social component, combined with my inherent interest and fascination with the workings of the human brain as well as the ever-growing areas of research in neuroscience, led me to choose this field over all others. — K.A.H.

In the Beginning: How Medical Students Choose (or Do Not Choose) Neurology

Kelley A. Humbert, BA and Bernard S. Chang, MD

Editor's Note: For every neurologist reading these words, there was a time when he or she made the fateful decision to choose our specialty for a career. This is really the defining moment of “NeuroGenesis,” the process of becoming a neurologist. Yet, despite the future of our profession depending upon inducing the best and brightest medical school graduates to choose neurology, there has been surprisingly little study of this process. The article that follows is a collaboration between one student who recently made that choice and her mentor, exploring that decision.

— Editor-in-Chief

- 1- spécialité de cogitation : réunions, discussions, peu de procédures toutes faites
- 2- discipline d'un organe, d'un système, la neurologie est connectée à de nombreux autres organes
- 3- la neurologie est une discipline de suivi clinique longitudinal
- 4- la neurologie est un domaine naturel d'enseignement et de recherche

**Table 2**

Self-reported adequacy and effectiveness of college neuroscience courses, medical school neuroscience courses and clerkships in neurology, neurosurgery and psychiatry among respondents interested or not interested in careers in brain related specialties (BRS) ($N = 242$).

Factors		Interested in brain related specialties $N =$ 83	Not interested in brain related specialties $N =$ 159	p value
		Number (%)	Number (%)	
Neuroscience courses at college level (adequate)	Positive	44 (53.0)	55 (34.6)	0.003*
	Indifferent	5 (6.0)	29 (18.2)	
	Negative	34 (41.0)	75 (47.2)	
Neuroscience courses at college level (effective)	Positive	47 (56.6)	56 (35.2)	0.004*
	Indifferent	4 (4.8)	28 (17.6)	
	Negative	32 (38.6)	75 (47.2)	
Neuroscience course in 1st and 2nd years of medical school (adequate)	Positive	53 (64.0)	110 (69.2)	0.524
	Indifferent	3 (3.5)	8 (5.0)	
	Negative	27 (32.5)	41 (25.8)	
Neuroscience course in 1st and 2nd years of medical school (effective)	Positive	48 (57.8)	98 (61.6)	0.285
	Indifferent	6 (7.2)	19 (11.9)	
	Negative	29 (35.0)	42 (26.4)	
Neurology clerkship (adequate)	Positive	27 (32.5)	54 (34.0)	0.326
	Indifferent	2 (2.4)	11 (6.9)	
	Negative	54 (65.1)	94 (59.1)	
Neurology clerkship (effective)	Positive	25 (30.1)	52 (32.7)	0.582
	Indifferent	4 (4.8)	13 (8.2)	
	Negative	54 (65.1)	94 (59.1)	
Neurosurgery clerkship (adequate)	Positive	12 (14.5)	25 (15.7)	0.963
	Indifferent	4 (4.8)	7 (4.4)	
	Negative	67 (80.7)	127 (79.9)	
Neurosurgery clerkship (effective)	Positive	15 (18.2)	22 (13.8)	0.134
	Indifferent	3 (3.5)	17 (10.7)	
	Negative	65 (78.3)	120 (75.5)	
Psychiatry clerkship (adequate)	Positive	24 (28.9)	71 (44.7)	0.049*
	Indifferent	5 (6.0)	6 (3.8)	
	Negative	54 (65.1)	82 (51.5)	
Psychiatry clerkship (effective)	Positive	23 (27.7)	63 (39.6)	0.079
	Indifferent	6 (7.2)	13 (8.2)	
	Negative	54 (65.1)	83 (52.2)	

* Statistically significant differences between the two groups.

Impact d'une exposition précoce et positive aux neurosciences

Factors that impact medical student and house-staff career interest in brain related specialties☆

Abdulbaset H. Kamour DrPH^a, Dong Y. Han PsyD^{b,c,d}, David M. Mannino MD^a, Amy B. Hessler DO^b, Sachin Kedar MD^{e,f,*}

‘Neurophobia’ – attitudes of medical students and doctors in Ireland to neurological teaching

E. Flanagan^a, C. Walsh^b and N. Tubridy^c

^aDepartment of Medicine, Mater Hospital, Eccles St, Dublin, Ireland; ^bDepartment of Statistics and Epidemiology, Trinity College, Dublin, Ireland; and ^cDepartment of Neurology, St Vincent’s University Hospital, Elm Park, Dublin, Ireland

24 different ways teaching could be improved;

- increased tutorials (29%),
- greater exposure to neurology patients (11%),
- more lectures (10%)
- mandatory neurology rotation for all medical students (8%).
- neuroanatomy teaching
- greater simplicity in neurological teaching.
- greater emphasis on video teaching (2.5%)
- improved online resources (0.5%)

457-completed questionnaires: seven Medical Registrars, 29 Medical SHOs, four interns, 145 medical students year 6, 173 medical students year 5, 93 medical students year 4 and six participants who did not specify their position. This gave a total of 411 medical students, 40 junior doctors and six unspecified

Quelques remèdes à la neurophobie

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2. Vidéo
3. Simulation et mimes
4. Comprendre l'examen neurologique
5. Neurologie narrative
6. Rester logique, synthétique et conserver un esprit critique et une approche scientifique

Linking neuroscience theory to practice to help overcome student fear of neurology

J.N. HUDSON

University of Adelaide, Australia

Table 1. Summary of the CBT nervous system sessions.

Session	Practical–theory	Discussion
1	Sensory function: reflection on underlying neurological pathways	Interpreting the history findings
2	Motor function: the descending motor pathways and influences on them	Interpreting the sensory & motor examination findings
3	Cranial nerve function: linked to its scientific basis Interpreting radiological images	Interpreting the cranial nerve signs Radiological confirmation of diagnosis
4	Higher function: linked to its scientific basis	Presentation of patients with higher function deficit

Table 2. Mean and standard deviation (SD) of responses from 119 students regarding the case based teaching tutorials.

Statement	Mean	SD
The tutorials were relevant to the aims of the subject	6.2	0.8
The learning in the CBT tutorials helped me to integrate structure and function with clinical medicine	6.0	1.0
The practical part of the CBT tutorials was a valuable introduction to history-taking and clinical examination of the nervous system	6.1	0.9
I benefited more from the small-group style of teaching than I would have it were a lecture-based approach	6.0	1.0
The CBT tutorials provided me with a valuable learning experience in neuroscience	5.9	0.9

If the fear of neurology arises from a lack of basic science/clinical integration (Jozefowicz, 1994), students should be guided in the integrative process at the beginning of their neurology education.

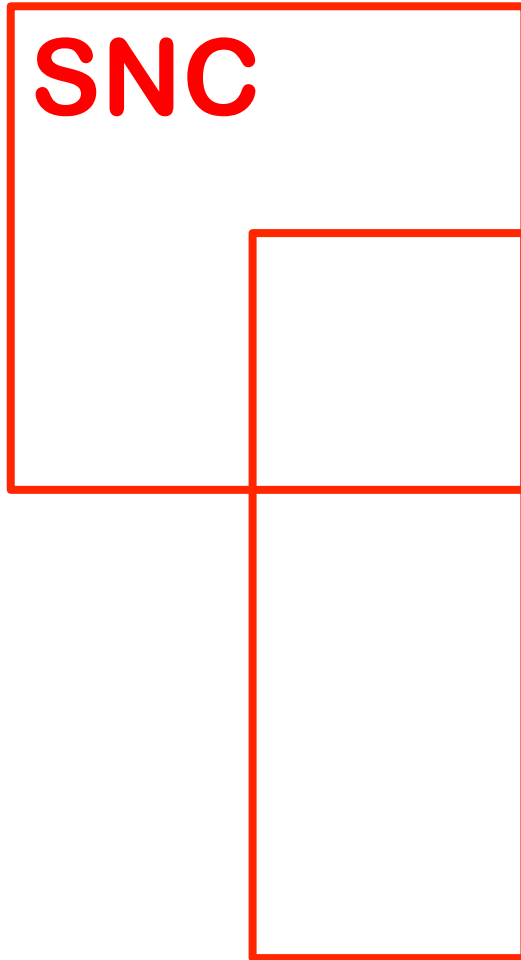
ILLUSTRATION

Neurologie centrale vs périphérique



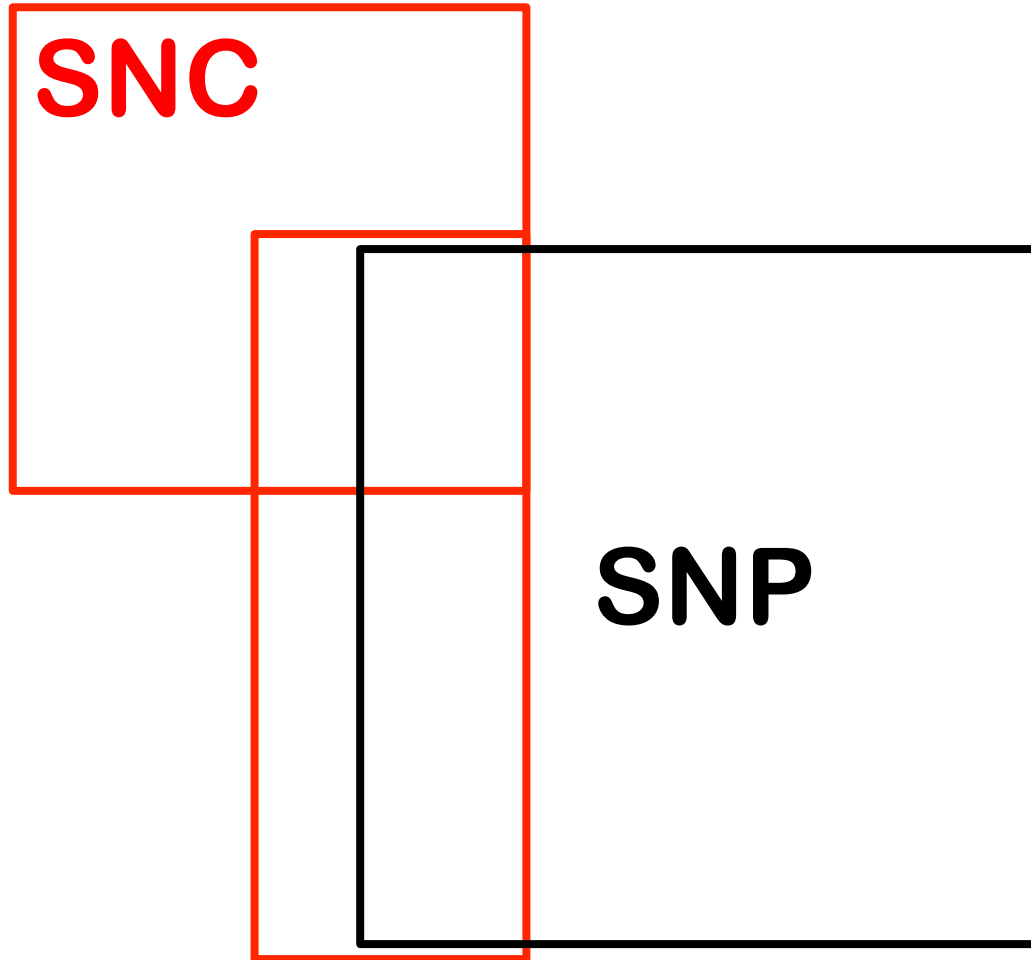
ILLUSTRATION

Neurologie centrale vs périphérique



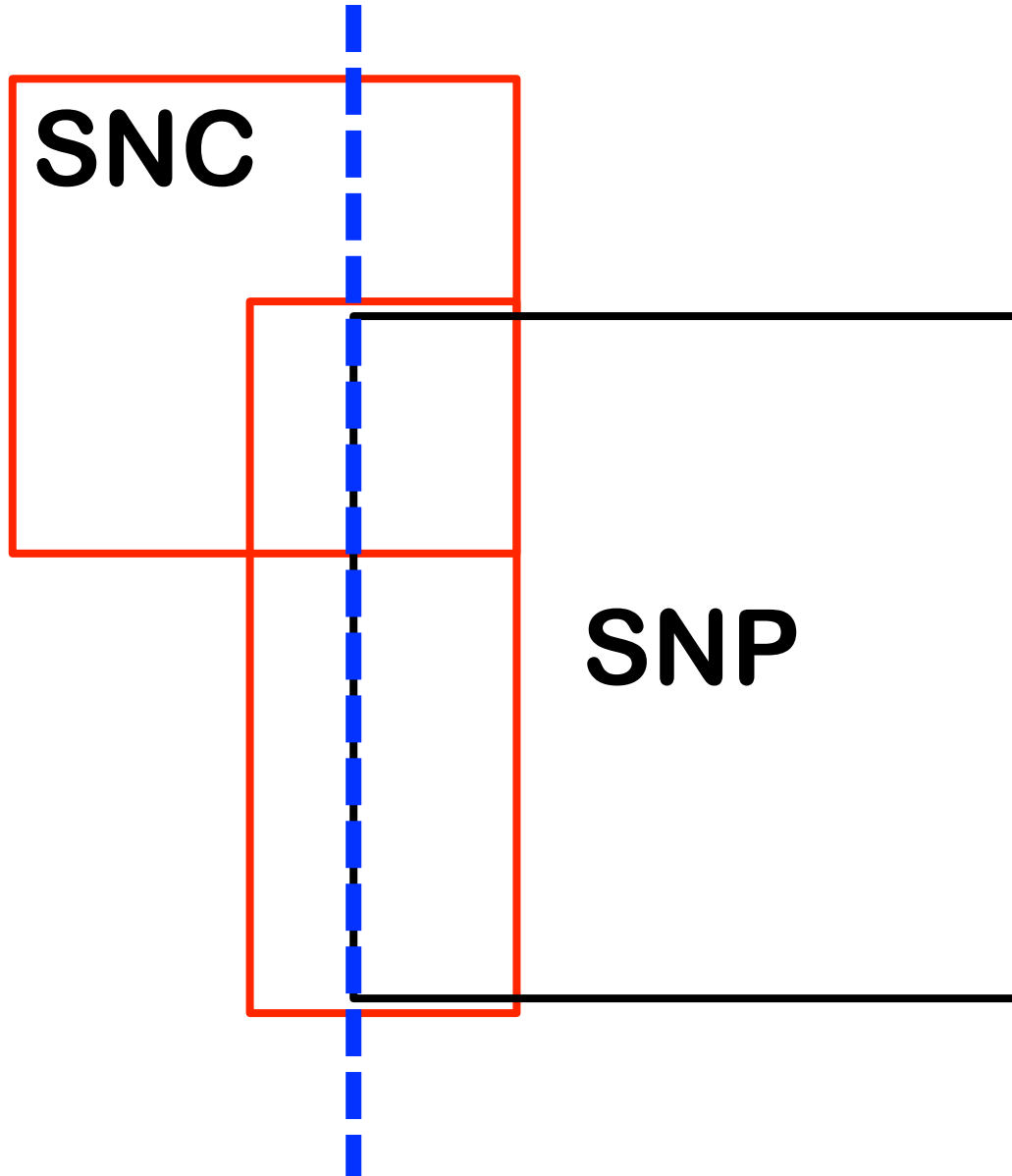
ILLUSTRATION

Neurologie centrale vs périphérique



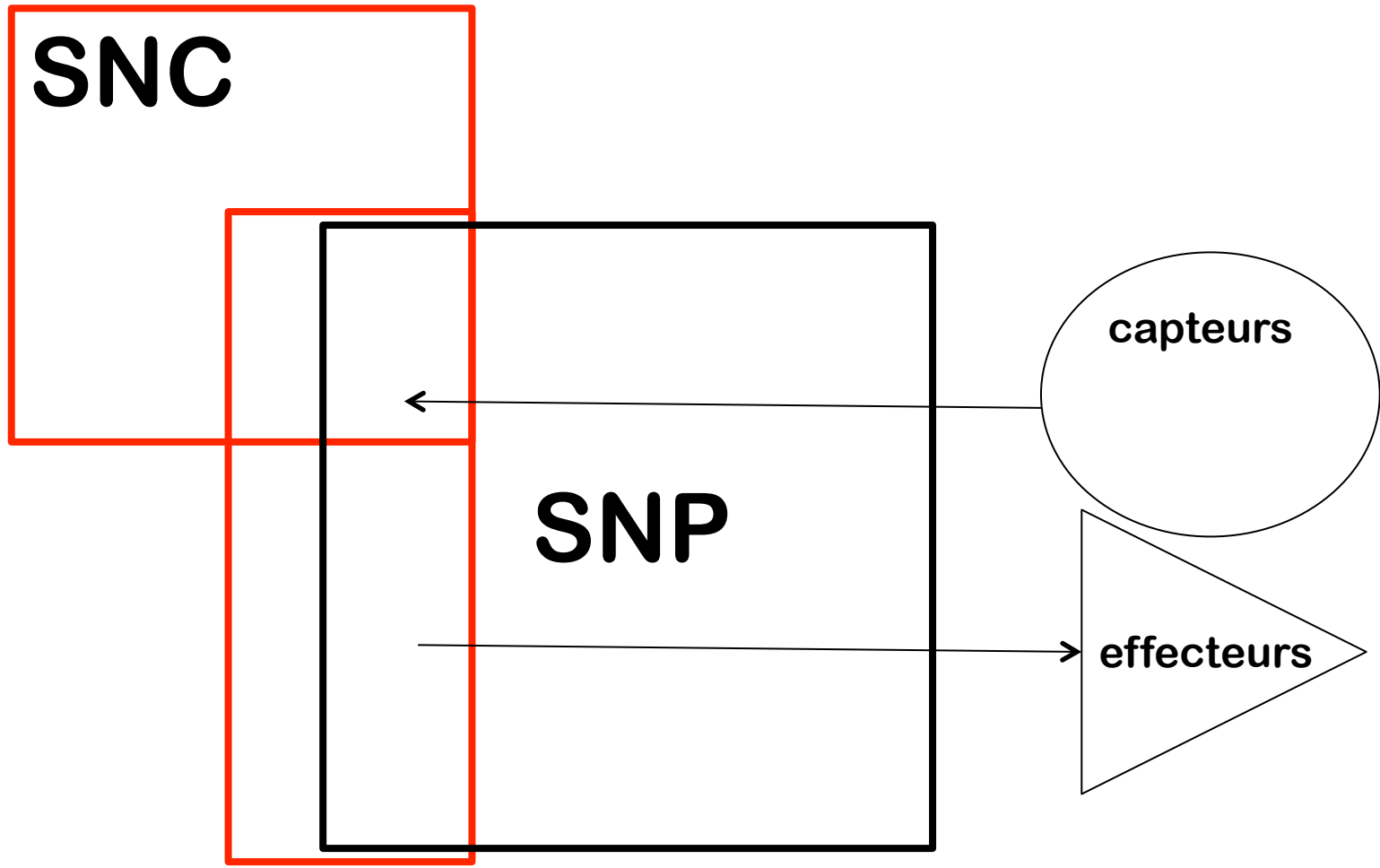
ILLUSTRATION

Neurologie centrale vs périphérique



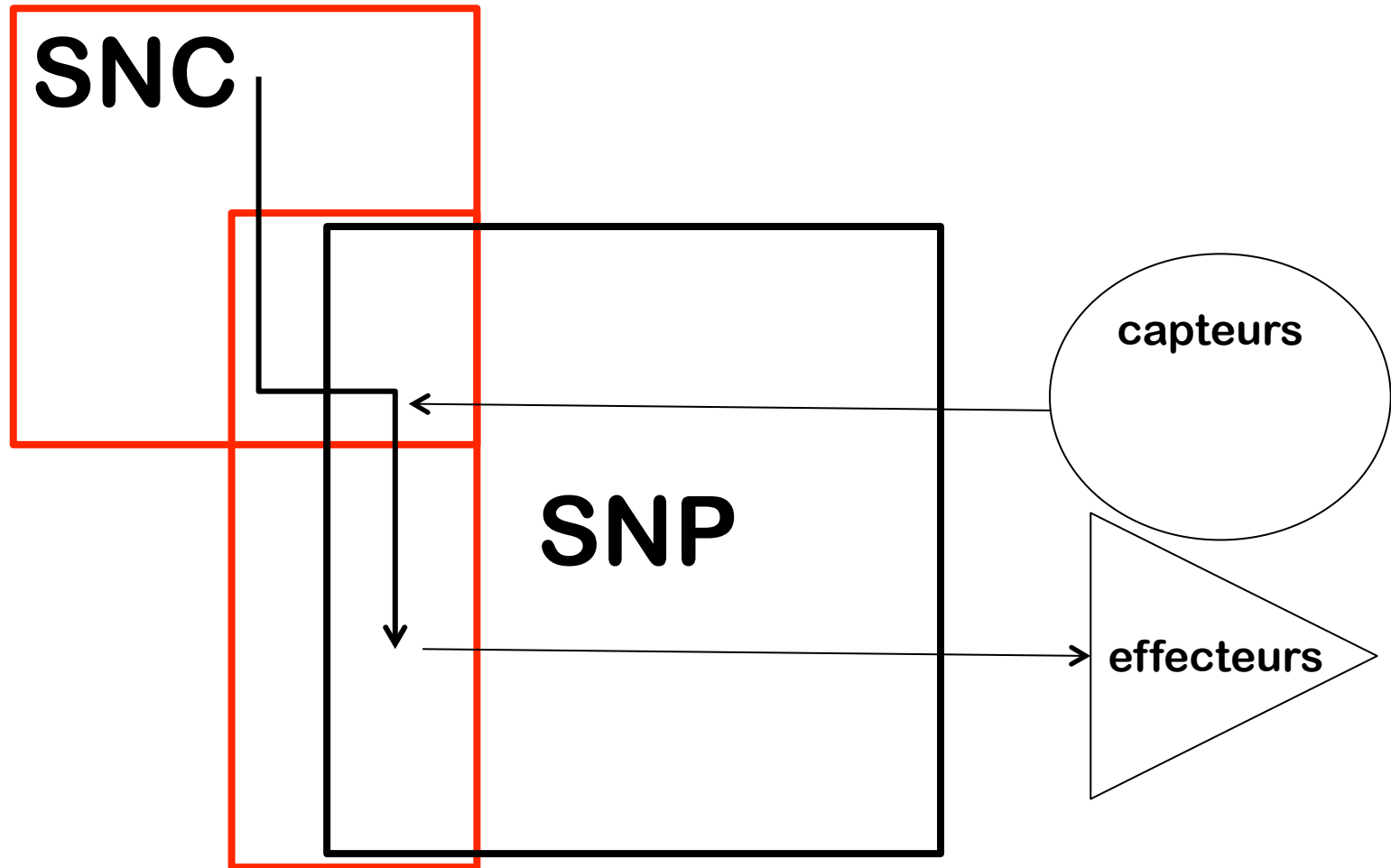
ILLUSTRATION

Neurologie centrale vs périphérique



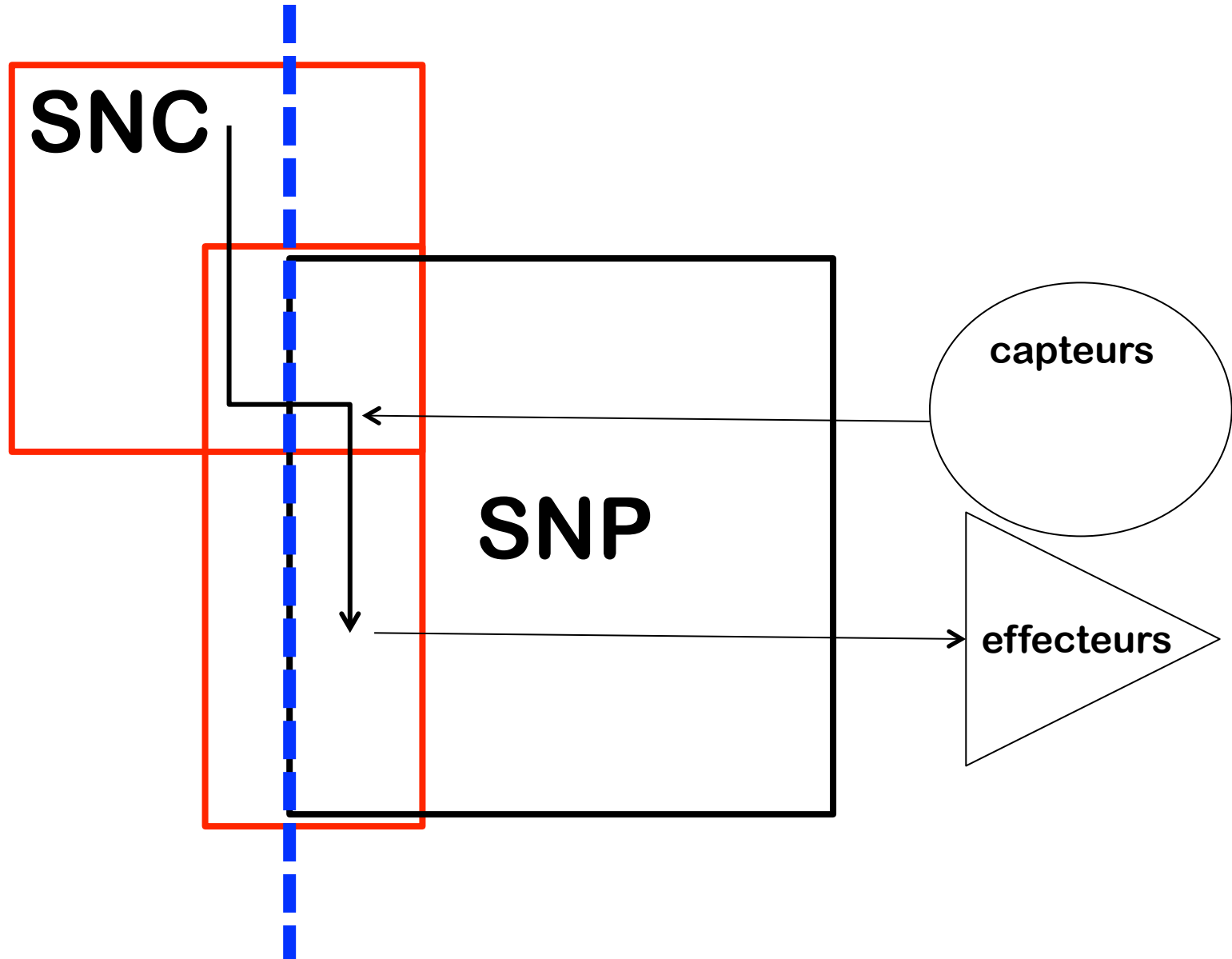
ILLUSTRATION

Neurologie centrale vs périphérique



ILLUSTRATION

Neurologie centrale vs périphérique



Le raisonnement en neurologie

1. Identification des signes cliniques/latéralisation
2. Identification des sites lésionnels (neuroanatomie) en tenant compte :

Structure	Latéralisation	Caractéristiques
SNP (extra/intra-axe)	Ipsilatéral aux signes	Systématisé
Voies de passage	Ipsi ou contro selon niveau site et faisceaux	Etendu/sous lésionnel
SNC sus-tentorial	Controlatéral aux signes	Spécifique

3. Identification du mécanisme lésionnel en tenant compte du contexte et des trois axes **prioritaires « FAIRE TOUJOURS GAFFE »**

Faire Toujours Gaffe

Prioriser les hypothèses diagnostiques en fonction de trois critères :

1. Une pathologie fréquente doit être évoquée (AVC, etc...)
2. Une pathologie traitable doit être évoquée (thrombolyse, et...)
3. Une pathologie grave doit être évoquée prioritairement

Il ne sera jamais reproché à un médecin de ne pas avoir évoqué le diagnostic d'une pathologie rare, incurable et bénigne...

quelques remèdes à la neurophobie

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La Neurologie : une discipline visuelle



- Neurologie : atteinte des fonctions de la vie de relation

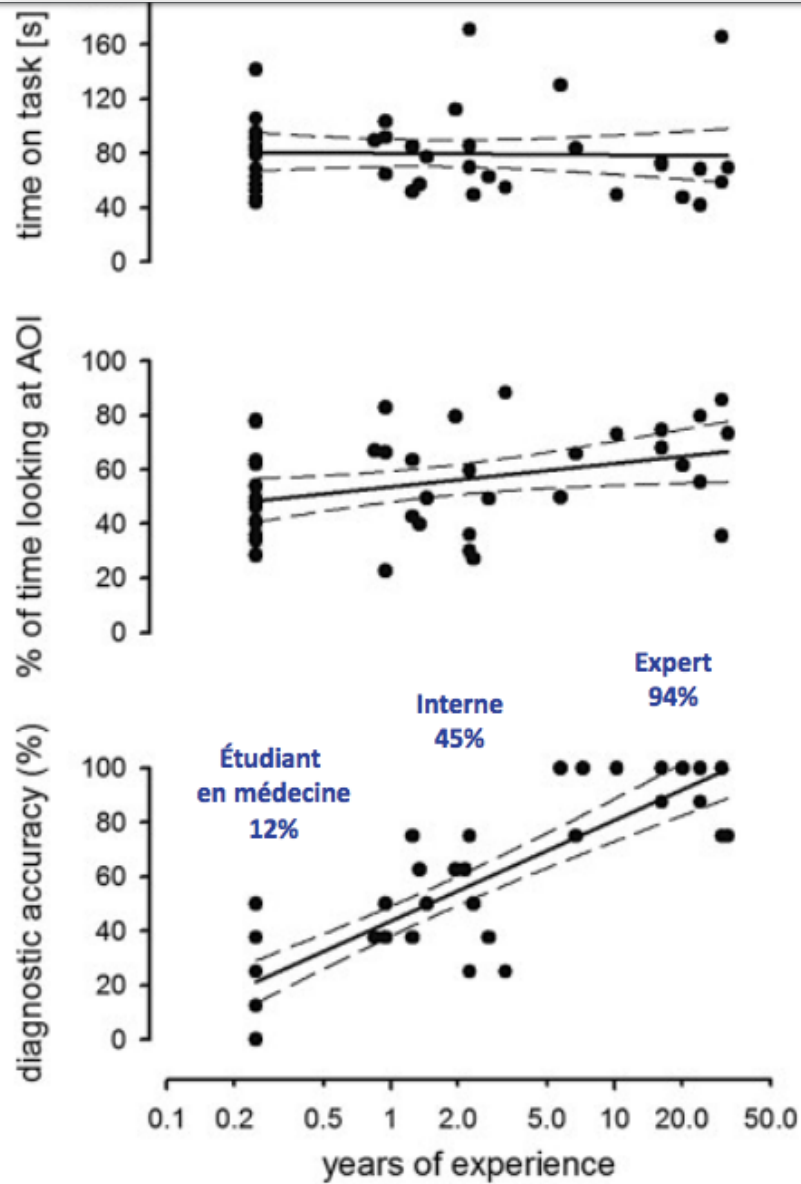
Altération permanente, durable ou transitoire

- Faculté de se comporter dans un environnement spécifique (cognitif/comportemental)
- Faculté de se déplacer dans un environnement (locomotion, motricité élémentaire)
- Maintien de la conscience

Diagnostic « de rue »

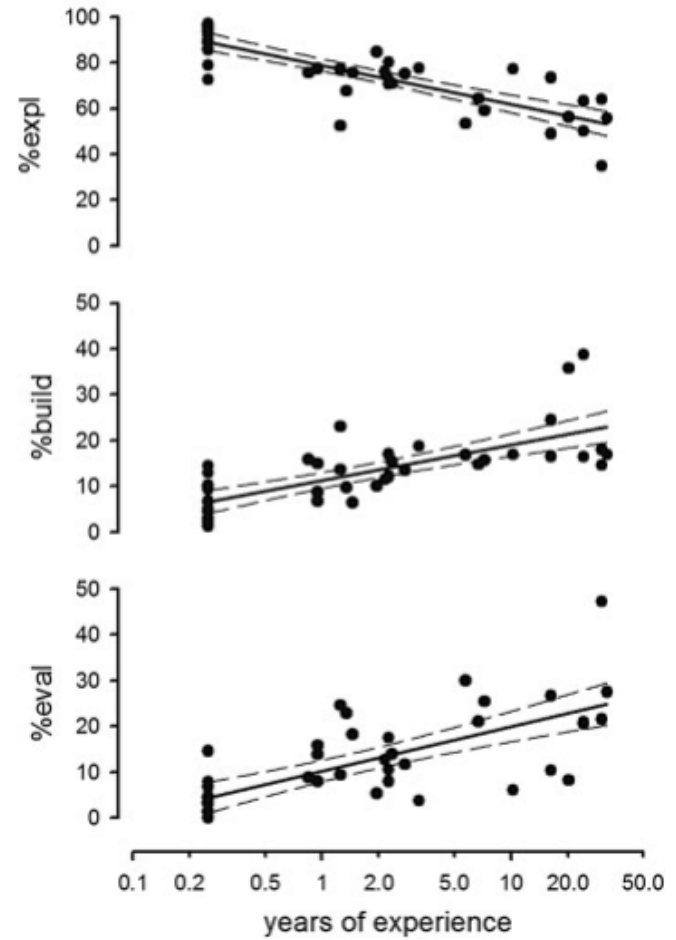
- Trouble du mouvement (maladie de Parkinson, tremblement, tics, chorée, dystonie...)
- Crises
- Altérations du comportement, trouble praxique, trouble du langage
- Déficit moteur (AVC, myopathie, PF, trouble oculomoteur...)
- Trouble de l'équilibre (ataxie cérébelleuse, trouble vestibulaire...)
- ...





transcripts. Representative examples taken from an expert are presented.

Level	Examples of utterances
Data exploration	"Ok, I am looking at the movements"
Theory building	"Oh, oh, oh, this looks like Blitz Nick Salaam convulsions"
Theory evaluation	"Yes, there it is again - it occurs in a series - it must be infantile spasms"

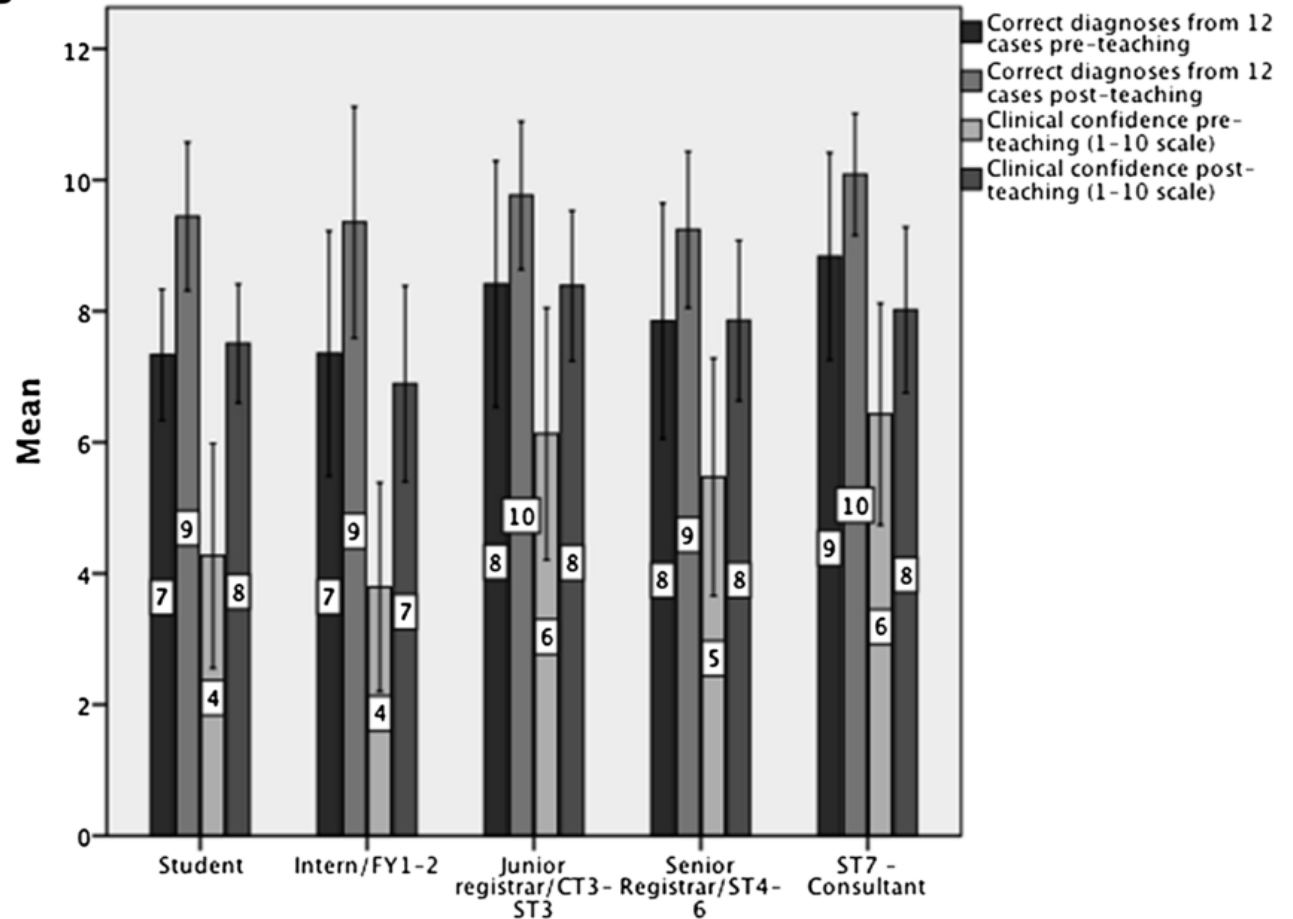


SHORT REPORT

Recognition of psychogenic non-epileptic seizures: a curable neurophobia?

Sean S O'Sullivan,^{1,2}
Suzanne O'Sullivan²

B



216 participants including medical students and doctors of all grades from a wide range of medical disciplines were shown video recordings of six patients with PNES and six other patients with convulsive epileptic seizures (ES). Participants were asked to choose between PNES and ES as a diagnosis and to rate their confidence in each diagnosis, both before and after a 15-minute teaching presentation on PNES and ES.

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Original article

‘The Move’, an innovative simulation-based medical education program using roleplay to teach neurological semiology: Students’ and teachers’ perceptions

E. Roze^{a,b,*}, C. Flamand-Roze^{c,d}, A. Méneret^{a,b}, M. Ruiz^b, H. Le Liepvre^{a,e}, A. Duguet^{a,f}, M.-C. Renaud^a, S. Alamowitch^{a,g}, O. Steichen^{a,h}



Le mime favorise la mémorisation

- Augmente attention et motivation
- Invoque des sensors multimodaux
- réduit la charge cognitive
- augmente l’encodage et la concrétisation des concepts
- favorise l’interaction et les émotions positives associées avec les apprentissage : curiosité, amusement, fierté de l’accomplissement, collégialité.

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LA NEUROLOGIE PAR LE MIME!



Original article

'The Move', an innovative simulation-based medical education program using roleplay to teach neurological semiology: Students' and teachers' perceptions

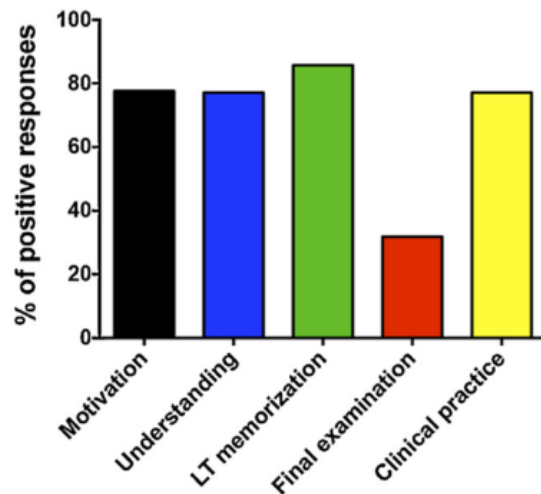
E. Roze^{a,b,*}, C. Flamand-Roze^{c,d}, A. Méneret^{a,b}, M. Ruiz^b, H. Le Liepvre^{a,e}, A. Duguet^{a,f}, M.-C. Renaud^a, S. Alamowitch^{a,g}, O. Steichen^{a,h}



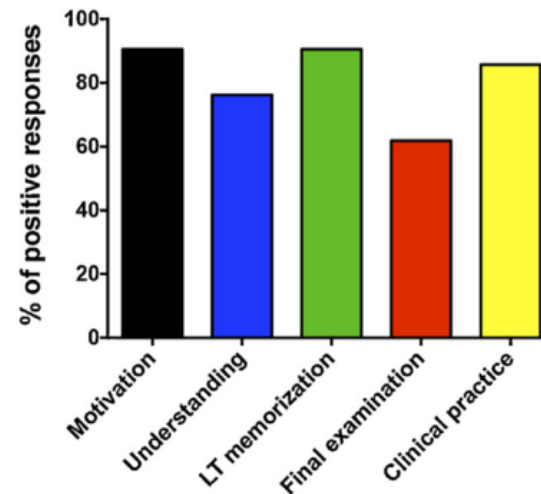
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A Students' evaluation



B Teachers' evaluation



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OPEN ACCESS

REVIEW

Clinical neurology: why this still matters in the 21st century

David J Nicholl, Jason P Appleton

Studies performed in the general medical outpatient setting in ambulatory patients noted that the history alone provided the diagnosis in 76–82% of cases

Hampton JR, Harrison MJ, Mitchell JR, et al. Relative contributions of history-taking, physical examination, and laboratory investigation to diagnosis and management of medical outpatients. *Br Med J* 1975;2:486–9.

Peterson MC, Holbrook JH, Von Hales D, et al. Contributions of this history, physical examination, and laboratory investigation in making medical diagnoses. *West J Med* 1992;156:163–5.

Paley L, Zornitzki T, Cohen J, et al. Utility of clinical examination in the diagnosis of emergency department patients admitted to the department of medicine of an academic hospital. *Arch Intern Med* 2011;171:1394–6.

HISTORY AND EXAMINATION BOTH MATTER, THOUGH THE FORMER TRUMPS THE LATTER (PROBABLY)

Different from all other medical specialties, save perhaps psychiatry, the neurologist is heavily dependent on listening to and interpreting what the patient tells us... If you don't know what is happening by the time you get to the feet you are in real trouble

Jerome M Posner, 2013⁴

We examine patients for different reasons, as set out by Wiles:

- ▶ to explain symptoms, assist localisation and diagnosis, and exclude abnormality
- ▶ to demonstrate understanding and relevance to the patient
- ▶ to evaluate function (eg, consciousness, swallowing, walking)
- ▶ to evaluate change (eg, Glasgow coma scale, strength)
- ▶ to seek avenues of treatment (eg, spasticity, weakness) Although



REVIEW

Clinical neurology: why this still matters in the 21st century

David J Nicholl, Jason P Appleton



Figure 1 Miller's pyramid for assessment of clinical competence.

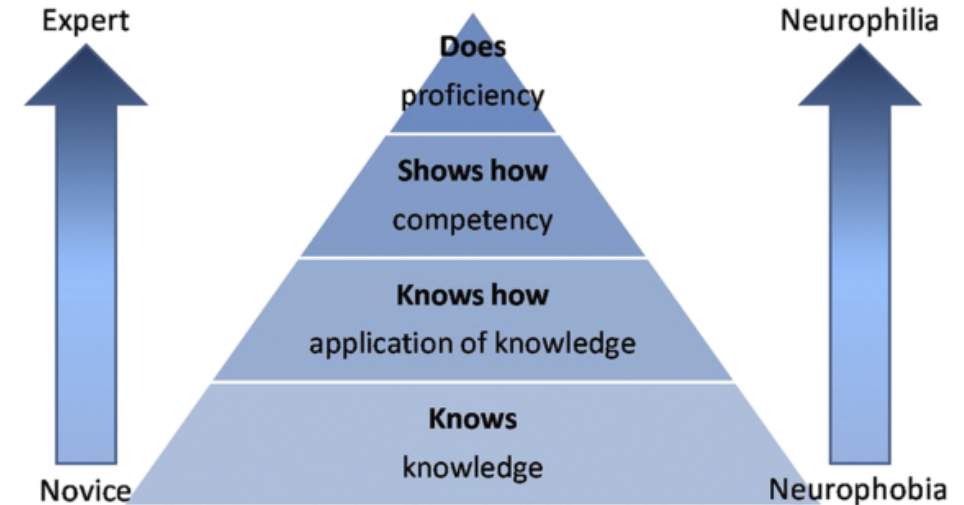


Figure 3 Progression through Miller's pyramid, with reduction of neurophobia with increasing expertise.

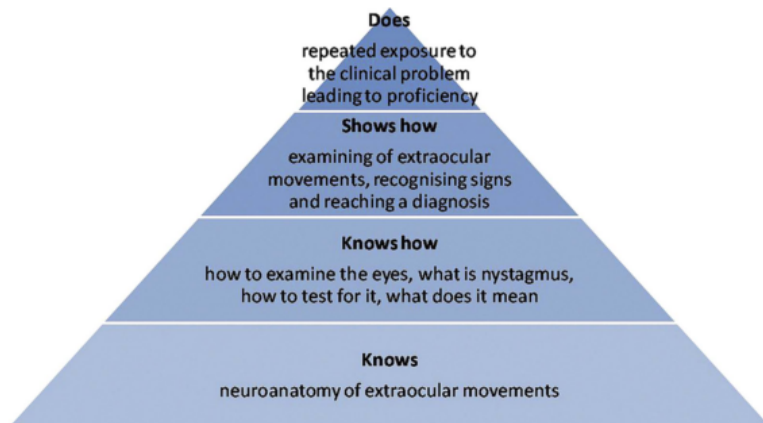


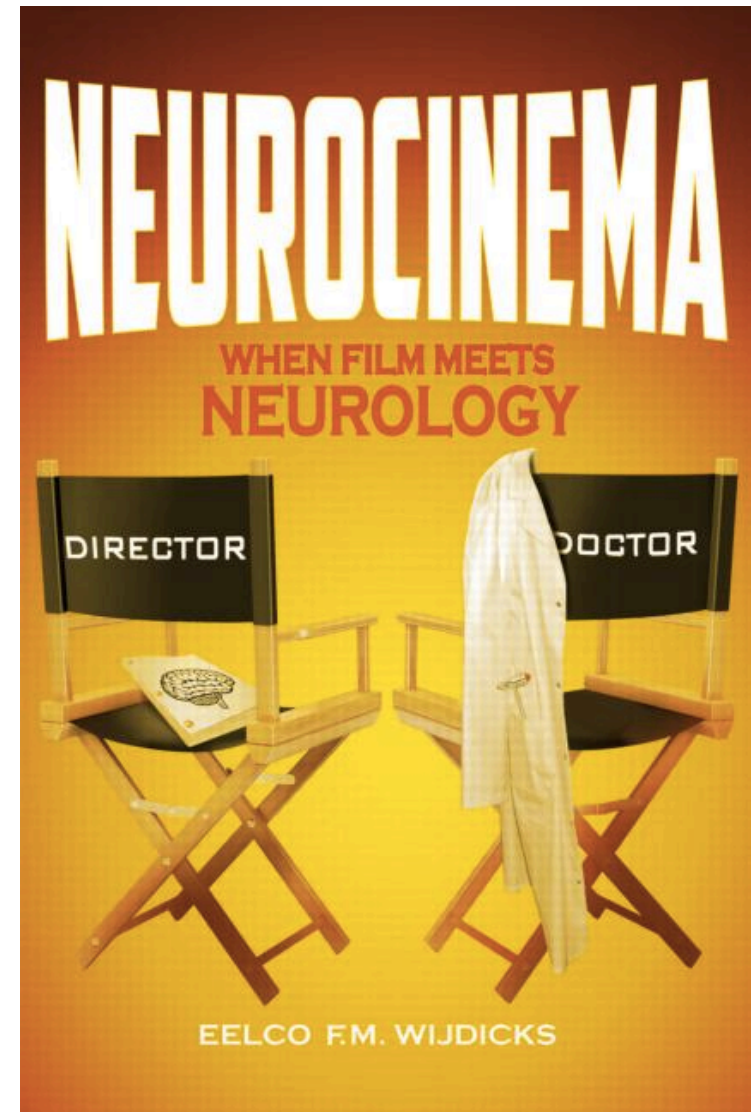
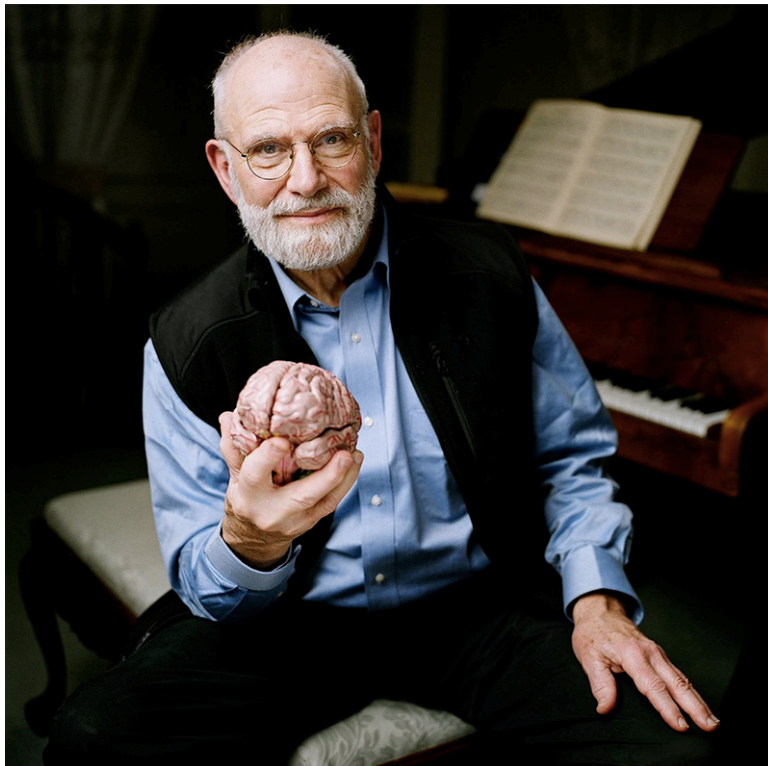
Figure 2 Use of Miller's pyramid with assessment of eye movements as an example.

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S'exposer à la neurologie narrative

Lire et aller au cinéma



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Columbia Pictures

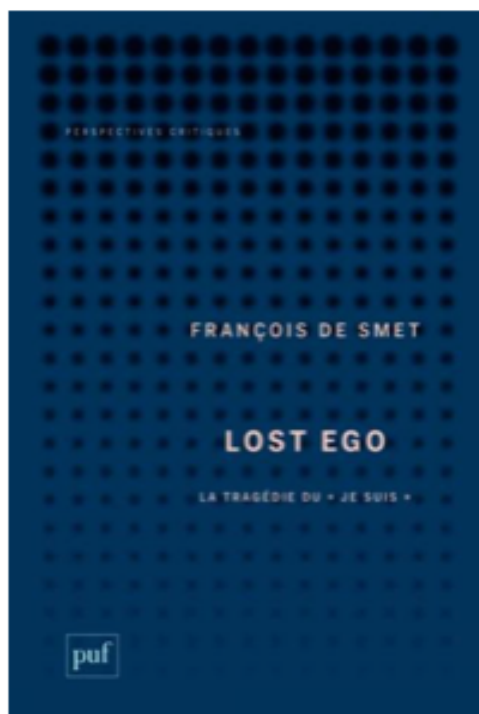
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Premier Grand Prix 2018 du Livre sur le Cerveau

Rédigé par HOFER Carole le lun, 16/04/2018 - 11:15



Jeudi 12 avril 2018, au cours des Journées de Neurologie de Langue Française qui se tenaient à Bordeaux, la Revue Neurologique, organe historique officiel de la Société Française de Neurologie, a remis le **premier Grand Prix 2018 du Livre sur le Cerveau** à François De Smet, pour « Lost Ego ».

La tragédie du « Je suis » éditée aux PUF. Le Prix récompense un ouvrage de langue française destiné au grand public, dont le sujet est le cerveau (ou le système nerveux), et que les qualités de rigueur scientifique, d'originalité et de style amènent un jury de 12 neurologues et neuroscientifiques à distinguer au sein de l'offre éditoriale devenue importante.

Dans son livre, François De Smet commente en philosophe ce que les dernières connaissances apportées par les neurosciences ont fait du « Je suis » cartésien.

C'est une réflexion portant sur l'identité et le sentiment de libre arbitre, nourrie des développements récents de l'actualité et de l'impact des réseaux sociaux sur internet. Les apports des neurosciences éclairent la tradition philosophique en lui donnant une dimension supplémentaire.

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Laurent Vercueil

Publié le 22 octobre 2016

ALIMENTATION



Le cerveau des gens qui mangent bio va-t-il si mal ? 👁️ 1124 👍 1

Comme nombre de mes contemporains, je fréquente des épiceries et chaînes « bio » qui proposent des aliments et produits issus de filières...



Laurent Vercueil

Publié le 15 octobre 2016

COMPORTEMENT



Depression : agir sur le comportement, les idées suivront 👁️ 1628 👍 1

Voilà une publication récente (1) dans la revue prestigieuse The Lancet qui remet la théorie des émotions de William James au premier plan. Et qui...



Laurent Vercueil

article publié le 05/01/2017 dans Atout Cerveau



Antoine Depaulis

Publié le 11 octobre 2016

EPILEPSIE



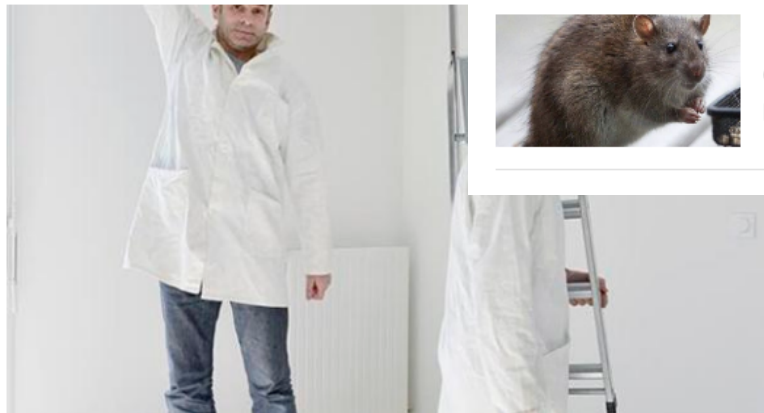
Des rats épileptiques dans nos égouts? 👁️ 532 👍 1

Certains rats et souris de laboratoire présentent des crises d'épilepsie ce qui permet une approche très pertinente pour l'étude de cette maladie....

erveau

CANNABINOIDE

CONSCIENCE



Accroche-toi à ta pensée, j'enlève le cerveau !

Il y a dans le dualisme quelque chose du réflexe de pensée. On se sent nécessairement obligé de parler du cerveau comme de quelque chose...



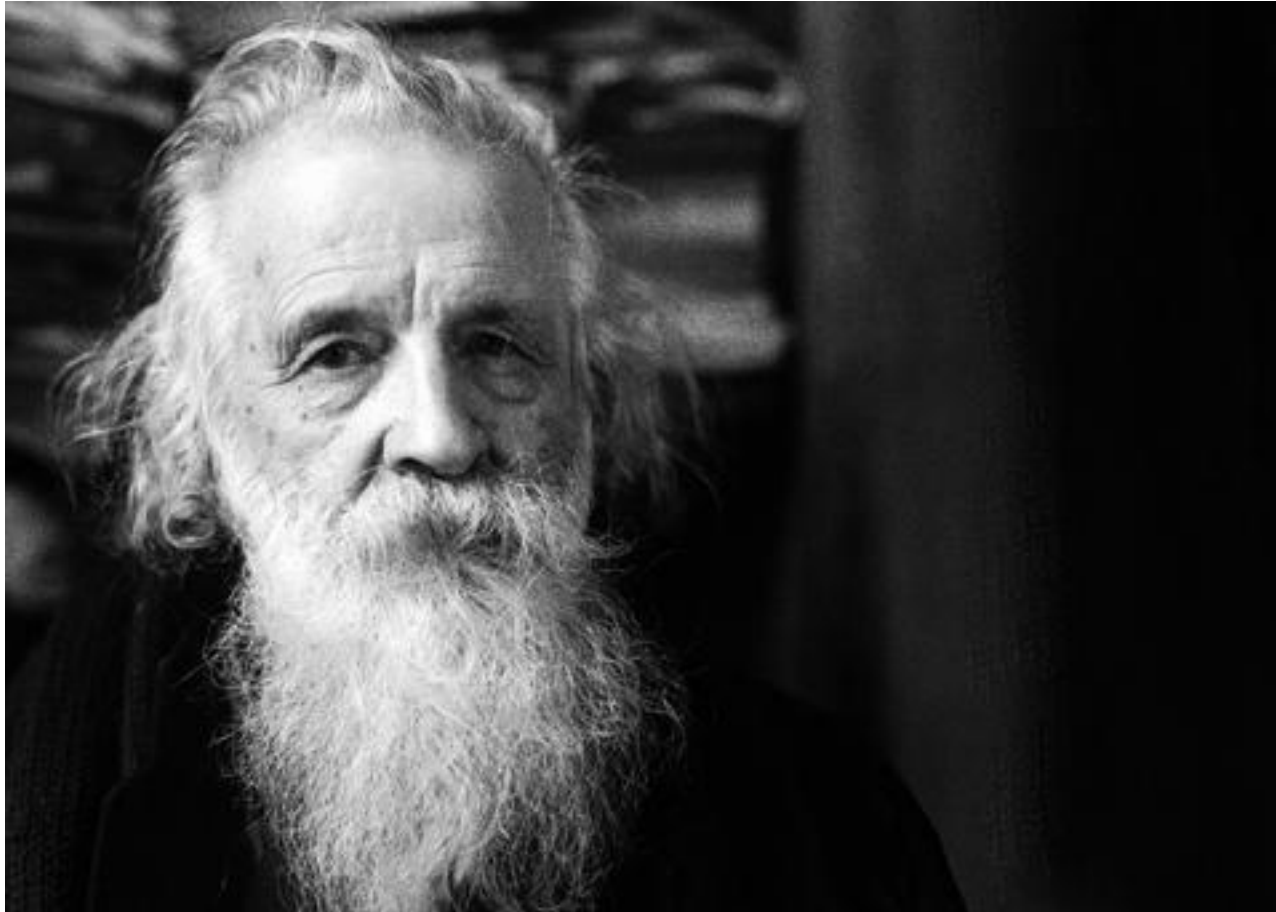
Qu'est-ce que ça fait d'être un zombie ? le cas de l'épidémie de zombies à New York en Juillet dernier

"What is it like to be a bat ?" (Qu'est-ce que ça fait d'être une chauve-souris ?) se demandait le philosophe Thomas Nagel dans un article célèbre...

Les remèdes à la neurophobie

1. Neuroanatomie intégrative
2. Vidéo
3. Simulation et mimes
4. Comprendre l'examen neurologique
5. Neurologie narrative
6. Rester logique, synthétique et conserver un esprit critique et une approche scientifique

Gaston Bachelard (1884-1962)



Penser, c'est dire « non »

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