Empathy perception and skills differ among medical students: Results from a cross-sectional comparative study

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Background

- Empathy is a key ability for medical practice
- Definition of empathy varies across literature, being considered a *cognitive* and/or an *affective* ability
- Relatively large choice of instruments to assess empathy and focusing on valuing empathy and personal empathy skills
- The relationship between valuing empathy and being empathic has not been investigated, nor has the influence of students' personal characteristics on empathy been fully determined.

Aims

- To compare instruments assessing the individuals' valuing of empathy and empathy skills among 1st year medical students.

- To investigate the relationship between students' personal characteristics and self-value of empathy, and empathy skills.

Method: Subjects and setting

- **<u>Subjects</u>**

  180 undergraduate 1st year medical students who completed the survey during the academic year of 2012-2013

- **<u>Setting</u>**

  University of Geneva Faculty of Medicine

  Selective year for medical studies

  Baseline survey of cohort study

Method: Instruments

○ ***Empathy questionnaires***

1) Jefferson scale of empathy[1] (JSE):

A 20-item instrument containing statements related to the valuing of empathy:

"Patients feel better when their physicians understand their feelings"

"I believe that empathy is an important therapeutic factor in medical treatment"

2) Empathy quotient[2] (EQ):

A 40-item instrument containing statements related to empathy skills:

"It's easy for me to put myself at other people's place"

"It's difficult for me to understand why certain things affect so much other people"

[1] Hojat M. Empathy in patient care: antecedents, development, measurement, and outcomes. New York, NY: Springer; 2007.

[2] Baron-Cohen S, Wheelwright S. The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences. J Autism Develop Dis, 2004;34:163-175.

Method: Instruments

○ **Personality:** NEO Five-Factor Inventor (NEO)

- 60-item questionnaire assessing personality features
- Results stratified in five main scales:
  Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness

○ **Coping:** Coping Inventory for Stressful Situations (CISS)

- 48-item questionnaire assessing individual's mechanism to cope with stress
- Results stratified in three main domains:
  Task, Emotion, Avoidance (subscales: Distraction and Social direction)

○ **Learning approaches:** Revised 2-factor Study Process Questionnaire (SPQ)

- 20-item questionnaire assessing the students' approaches to learning
- Results stratified in two main domains:
  Surface and Deep Learning

⟹ All instruments were applied using French validated versions.

Method: Statistical analysis

➢ Pearson's correlations: comparison between JSE and EQ

➢ Multivariate regression analyses:

      Outcome: JSE or EQ

      Covariates: NEO, SPQ and CISS

➢ Stratification by gender

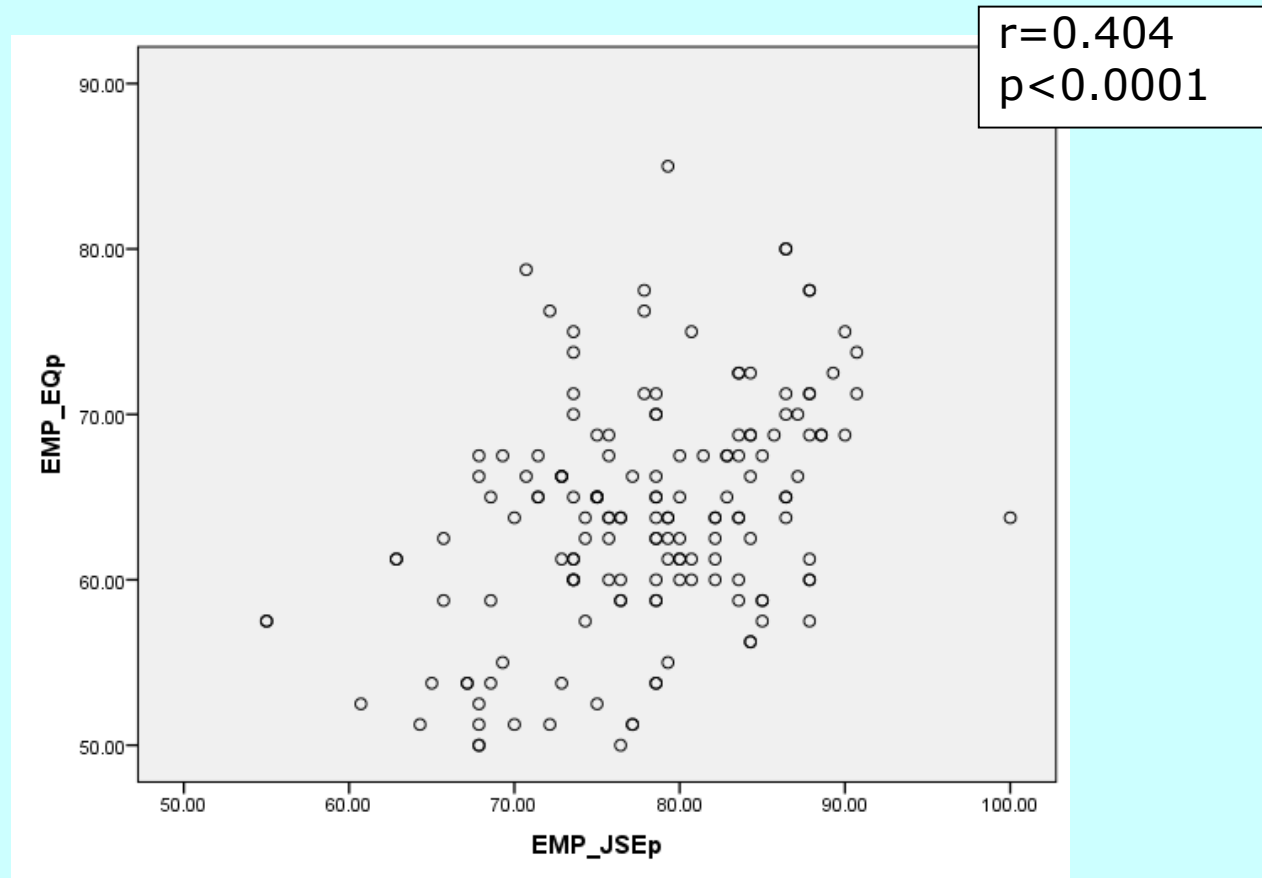# Results: Mean scores of students' valuing empathy (JSE) and empathy skills (EQ)

	Absolute scores	%
JSE	109.1±11.0 (max. = 120)	78.6±7.8
EQ	51.2±5.7 (max. = 80)	64.0±7.1

Results: Correlation between students' valuing of empathy (JSE) and empathy skills (EQ)

r=0.404
p<0.0001

Results: Students' valuing of empathy (JSE) and empathy skills (EQ) stratified by gender

	Male		Female	
	r	p-value	r	p-value
JSE x EQ	0.375	0.006	0.383	<0.0001

Results: Students' valuing of empathy (JSE) and empathy skills (EQ) stratified by gender

	Male		Female	
	r	p-value	r	p-value
JSE x EQ	0.375	0.006	0.383	<0.0001

	Male	Female	p-value
JSE	106.2±11.7 (76%)	110.6±10.4 (79%)	0.001
EQ	49.1±5.4 (61%)	52.2±5.6 (65%)	0.015

Results: Domains of students' personal characteristics related to valuing empathy (JSE)

		β	t	p-value
NEO Personality	Neuroticism	-0.363	-2.897	0.004
	Extraversion	-0.098	-1.148	0.253
	Openness	0.152	1.784	0.077
	Agreeableness	0.385	4.261	<0.0001
	Consciousness	0.065	0.673	0.502
CISS Coping	Task	0.080	0.793	0.429
	Emotional	0.305	2.485	0.014
	Avoidance	0.209	2.264	0.025
	distraction	-0.192	-2.111	0.036
	social direction	0.007	0.068	0.946
SPQ Learning approaches	Surface	-0.043	-0.533	0.595
	Deep	0.123	1.289	0.199

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Results: Domains of students' personal characteristics related to empathy skills (EQ)

		β	t	p-value
NEO Personality	Neuroticism	-0.288	-2.411	0.017
	Extraversion	0.094	1.152	0.251
	Openness	0.215	2.645	0.009
	Agreeableness	0.368	4.232	<0.0001
	Consciousness	0.227	2.486	0.014
CISS Coping	Task	0.021	0.222	0.825
	Emotion	0.060	0.505	0.614
	Avoidance	-0.069	-0.788	0.432
	distraction	0.010	0.122	0.903
	social direction	0.285	2.946	0.004
SPQ Learning approaches	Surface	-0.116	-1.512	0.133
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Results: Comparison between domains related to JSE or EQ
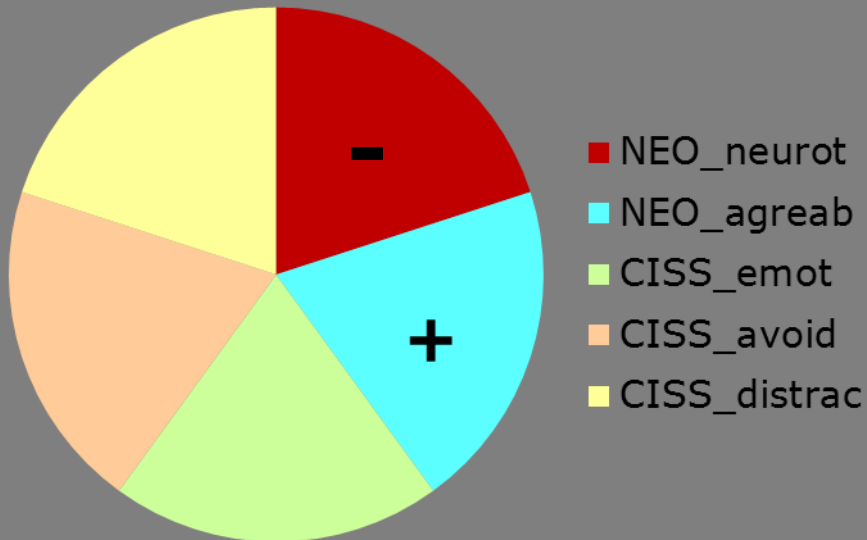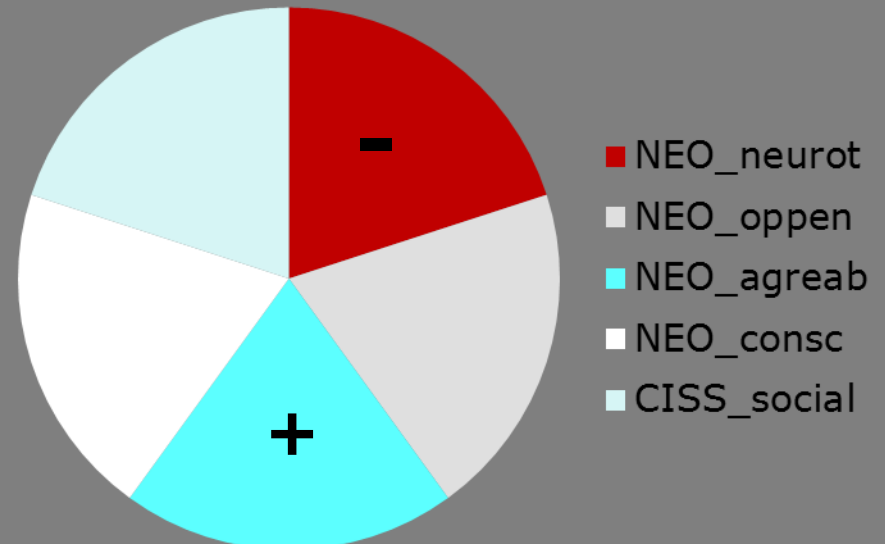
Summary

1. The overall correlation between valuing empathy (JSE) and empathy skills (EQ) was moderate.

2. Women scored significantly higher than men in JSE and EQ.

3. JSE and EQ featured different students' personal characteristics.

4. In general, valuing empathy (JSE) correlated more with domains of coping to deal with stressful situations, whereas empathy skills (EQ) with traits of personality.

5. JSE and EQ correlated negatively with the personality trait of neuroticism.

6. No significant correlation found between empathy and learning approaches.

Conclusion

- Results of this study highlighted substantial differences between the two validated instruments assessing empathy. These findings might justify a comprehensive approach combining the valuing of empathy and the empathy skills when assessing medical students' capacity of empathy.

- Considering the observed gender differences in empathy among 1st year medical candidates, opportunities to strengthen this ability, notably among male students, might be valuable.

Acknowledgement

Prof M. Hojat

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Thank you for your attention !

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