

A study on the association between mindfulness, empathy and patient-centredness in Italian medical students

M. G. Strepparava*, S. Ardenghi, D. Corrias

Milano-Bicocca University, Health Sciences Department, School of Medicine, Milano, Italy

*mariagrazia.strepparava@unimib.it

EMPATHY AND PATIENT CENTREDNESS

A well known aspect of Medical Education is the change of medical students' empathy and caring attitude during internship experience (Williams et al., 2014; Mostafa et al, 2014) and gender differences, females being more empathetic than males (Chen et al., 2012; Hasan et al., 2013; Mostafa et al., 2014).

MINDFULNESS

Mindfulness – the **quality of being fully present and attentive in the moment** – facilitates a variety of well-being outcomes for healthcare professionals (Beckman et al., 2012).

Being Mindful for the medical students means to **understand the patients** not only as "objects of care" but as unique and fellow humans by the ongoing **awareness** of patients' and doctor's own emotions, intentions and reactions all over the clinical encounter and after (Krasner et al., 2009). Structured programs of mindfulness training seems to improve psychosocial orientation and empathy among medical students (Beach et al., 2013) but few is known about the **natural development of mindfulness during the medical education** and its link with the different facet of the medical attitude.

GOAL

The study was designed to evaluate in a sample of Italian students **(1)** the patient orientation baseline and empathy level at the beginning of the medical education; **(2)** the changes in empathy and patient-centeredness after the ward experience; **(3)** whether mindfulness baseline level is associated with the different dimensions of patient-centeredness and empathy.

PROCEDURE

(1) 403 students (2010-2015) School of Medicine of Milano-Bicocca University completed the Jefferson Scale of Physician Empathy – Student version (JSPE-S; Hojat et al., 2001), a measure of physician **empathy** in patient-care, and the Patient Practitioner Orientation Scale (PPOS; Krupat et al., 2000) which measures the **caring** attitude (quality of interaction) and the tendency to **shared** decision making.

(2) 130 students completed the JSPE-S and PPOS at two different times: at the beginning of second and fifth academic year (2010-2015) - **longitudinal study**.

(3) 273 students (female=151), beginners (2015) completed JSPE-S, PPOS and the **Five Facet Mindfulness Questionnaire** (FFMQ; Baer, 2008) which explore the five facets of Mindfulness:

- **Observing**: noticing or attending to internal and external experiences.
- **Describing**: labelling internal experiences with words.
- **Acting with Awareness**: attending to one's activities of the moment
- **Nonjudging of inner experience**: taking a nonevaluative stance toward thoughts and feelings
- **Nonreactivity to inner experience**: allowing thoughts and feelings to come and go, without getting caught up in or carried away by them

Statistical analysis

Through the use of predictive analytics software SPSS 22 it was performed the analysis of variance for repeated measures (GLM) to check whether there were statistically significant differences in mean scores on JSPE and PPOS scales by students in two different academic years. It was also conducted an analysis of variance (ANOVA) to test the statistical significance of the gender difference between the average scores obtained at JSPE and PPOS (Total score, Sharing and Caring). Finally regression analysis were performed to investigate the association between the five scales of FFMQ and JSPE and PPOS scales.

Take home message

Internship experience in the hospital wards seems to have a positive impact on empathy and attitudes towards patients. In line with literature, female students are more empathetic than male students and more patient-centered (sharing/caring attitude). Different dimensions of Mindfulness are related with some aspects of patients-centeredness and there are interesting not-so-obvious gender differences in Mindfulness facets.

Many open questions concern Mindfulness research on medical students: **(a)** the stability of the baseline mindfulness/patient-centeredness profile along the 6 years course; **(b)** the possible link with academic performance; **(c)** the connection with positive attitudes in the clinical practice (e.g. patient-doctor communication); **(d)** the role as a protective factor against burnout before and after the medical course.

The term "patient-centered care" refers to actions in service of patient-centeredness, including interpersonal behaviors, technical interventions and health systems innovations (Epstein et al., 2005).

Patient-centeredness describes a global attitude with three core values: **patients' needs, wants, perspectives**. Taking into account individual experiences guarantee the patients to participate in their care enhancing their partnership.

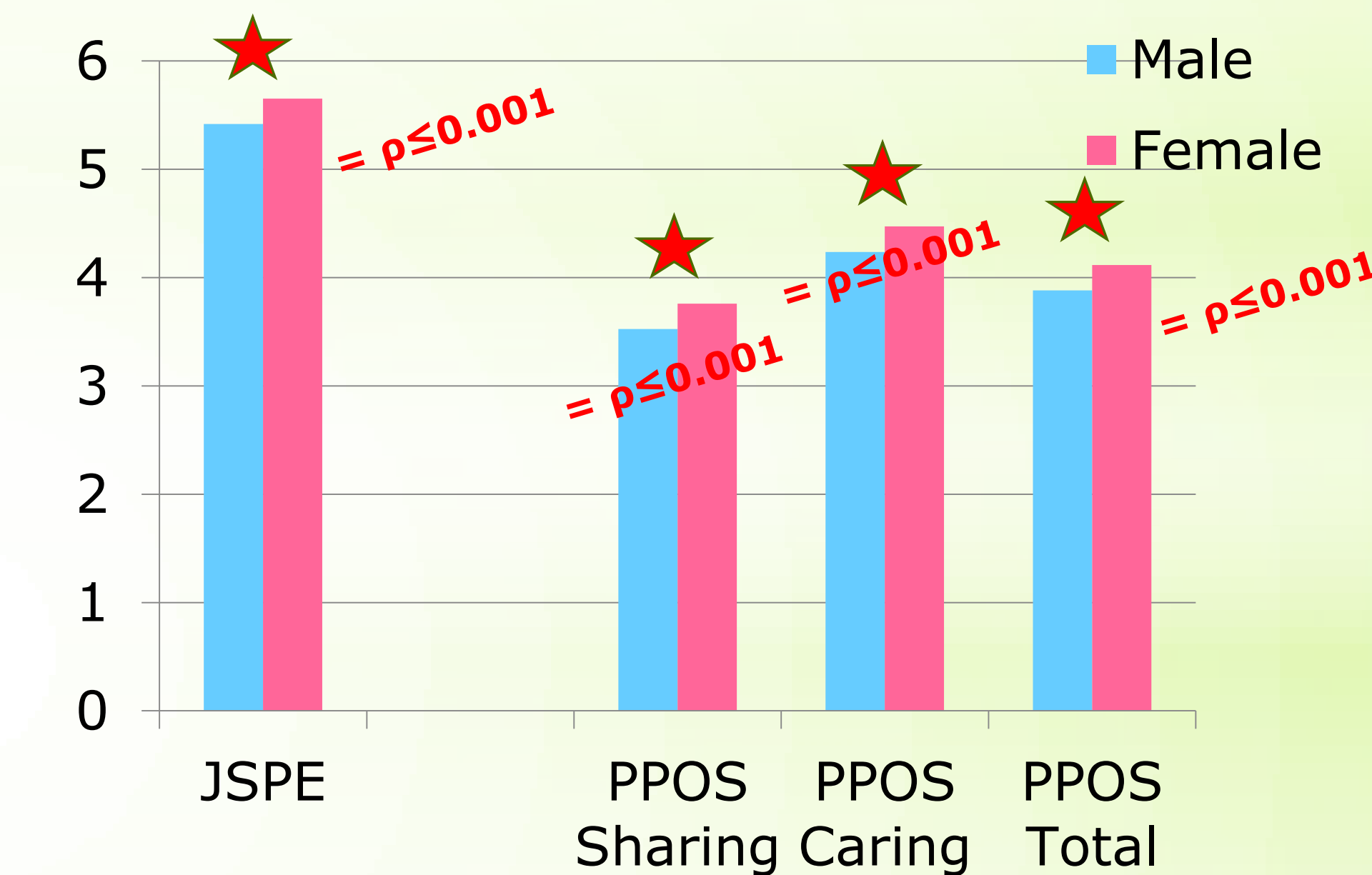
Patient-centeredness implies adequate levels of empathy, cognitive and affective (Hojat et al., 2002), non judging attitude, emotion regulation, the ability not to act impulsively and a general awareness of own and others emotions, motivations and concerns. Last but not least good communications skills are required.

Medical Education at Milano-Bicocca



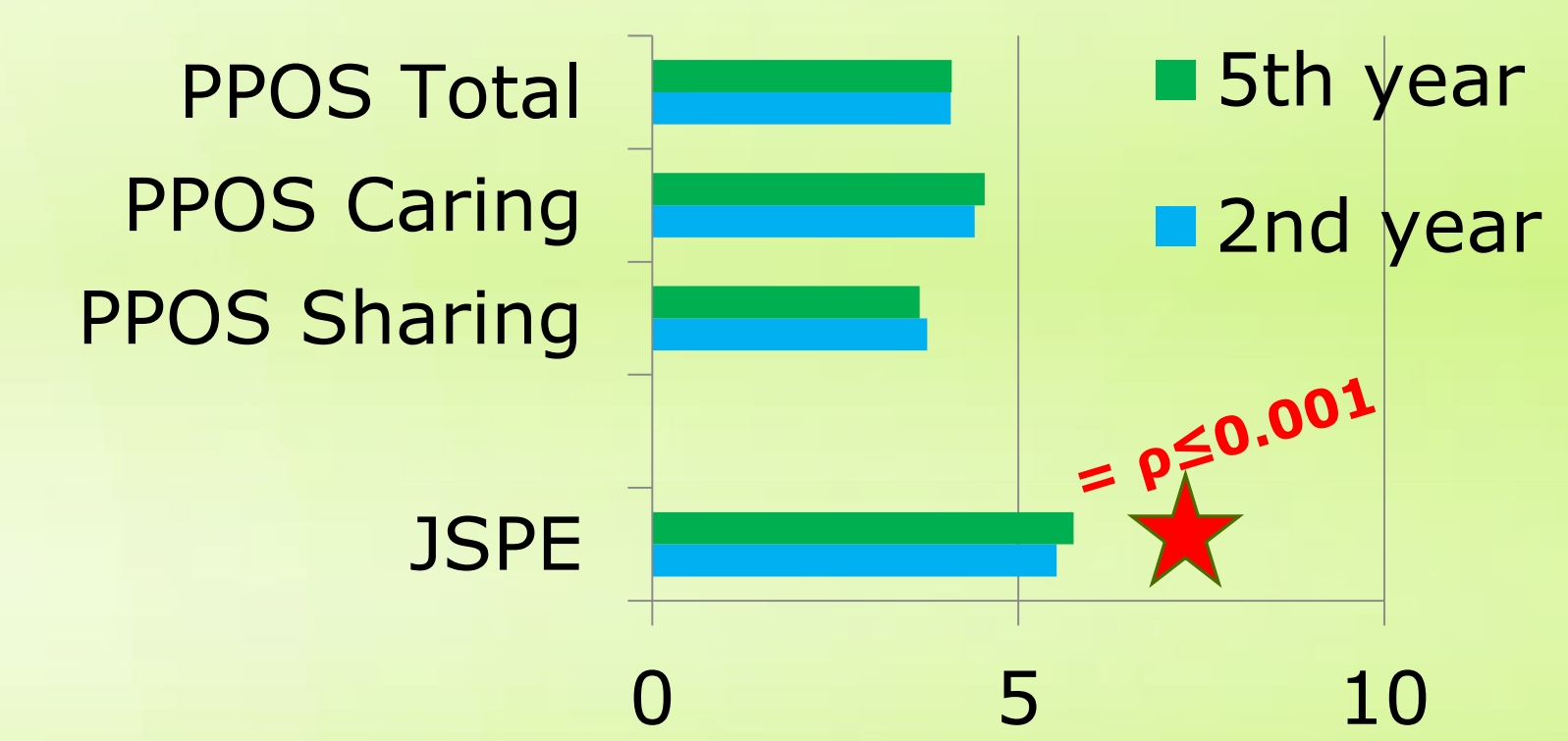
RESULTS

(1) Baseline



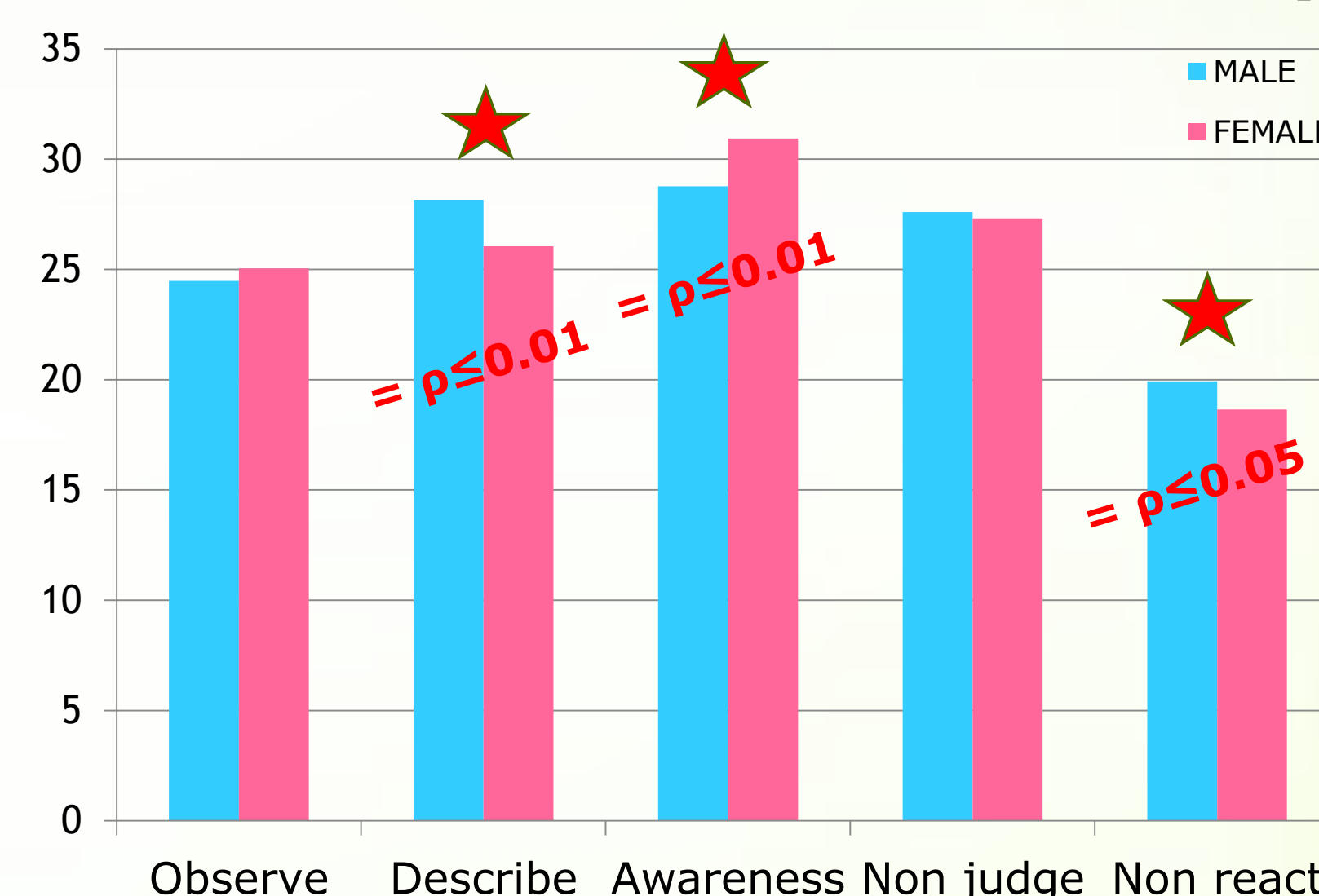
Female students are **more empathetic** than male

(2) Longitudinal



Positive change of medical students' **empathy** and patient-centeredness **during internship experience**

(3) Mindfulness



| | TOTAL | Min | Max | MALE | FEMALE |
|-----------|-----------------|-----|-----|-----------------|-----------------|
| Observe | 24.79 ±5.148 | 9 | 40 | 24.48 ±5.198 | 25.05 ±5.111 |
| Describe | 26.99 ±5.311 | 4 | 40 | 28.16 ±5.007 | 26.05 ±5.376 |
| Awareness | 29.98 ±5.279 | 9 | 40 | 28.77 ±5.065 | 30.94 ±5.266 |
| Non judge | 27.42 ±5.962 | 8 | 40 | 27.6 ±5.701 | 27.28 ±6.178 |
| Non react | 19.21 ±4.104 | 3 | 33 | 19.92 ±3.497 | 18.65 ±4.463 |

| | JSPE | | PPOS Total | | PPOS Caring | | PPOS Sharing | |
|-----------|---------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|
| | t | Sig. | t | Sig. | t | Sig. | t | Sig. |
| Observe | 3.384 | 0.001 | 1.533 | 0.127 | 1.927 | 0.055 | 0.658 | 0.511 |
| Describe | 4.041 | ≤0.001 | 1.402 | 0.162 | 1.339 | 0.182 | 0.959 | 0.338 |
| Awareness | 1.886 | 0.06 | 3.862 | ≤0.001 | 3.200 | 0.002 | 2.997 | 0.003 |
| Non judge | -0.967 | 0.334 | 1.888 | 0.06 | 0.174 | 0.862 | 2.668 | 0.008 |
| Non react | -1.995 | 0.047 | 0.101 | 0.920 | -0.387 | 0.699 | 0.482 | 0.630 |

Mindfulness facets are differently associated with medical students' **empathy** and **patient-centeredness**

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