

Longitudinal assessment of empathy by two different instruments and evolution of gender relationships in medical students

Margaret W. Gerbase, Giovanni Piumatti, Milena Abbiati, Anne Baroffio



FACULTÉ DE MÉDECINE



UNIVERSITÉ DE GENÈVE

Background

Empathy is a recognized key competence for medical practice. Numerous studies have assessed students' empathy during medical training showing gender differences with higher scores found in women. Evidence gathered from longitudinal assessments of empathy throughout medical studies has been found relatively inconsistent. However, most studies have assessed empathy using a single instrument. Comparison of empathy questionnaires and the longitudinal gender effects have not been sufficiently examined.

Summary of work

We analysed longitudinal changes in empathy scores by instrument and by gender in a sample of 189 undergraduate medical students from pre-clinical to clinical years using two widely adopted measures of this construct, namely the student's version of the Jefferson Scale of Empathy¹ (JSE-S; administered during the 1st, 4th and 5th academic years) and the Empathy Quotient² (EQ; administered during the 2nd, 4th and 5th academic years).

Summary of results

According to the growth curve modelling results, there was no significant change in empathy scores across time assessments for either JSE-S or EQ measurements. Women showed systematically higher empathy scores compared to men across assessments (p level set at $< .05$), given the exception of the JSE-S scores at the 4th academic year where scores were found similar between men and women. Examining gender differences across JSE-S sub-scales (i.e. CC-Compassionate Care, SPS-Standing into Patient's Shoes, and PT-Perspective Taking), women displayed significantly higher scores than men only for CC and these differences were consistent across time (Yr1: 69.2 ± 0.5 vs. 65.9 ± 0.8 , $p < 0.001$; Yr4: 70.3 ± 0.7 vs. 67.9 ± 0.8 , $p = 0.025$; Yr5: 69.3 ± 0.7 vs. 65.8 ± 0.9 , respectively for women and men; $p = 0.04$). By contrast, SPS and PT scores weren't statistically different comparing men and women.

Table 1. Gender differences in empathy scores using the Jefferson Scale of Empathy for Students (JSE-S) and the Empathy Quotient (EQ) questionnaires

Variables	All (N = 189)	Men (n = 83)	Women (n = 106)	p-value
Age	20.91 (.16)	20.89 (.18)	20.93 (.24)	.889
Jefferson Scale of Empathy (JSE-S)				
Year 1	112.72 (.74)	110.00 (1.22)	115.02 (.81)	<.001
Year 4	114.81 (.85)	113.26 (1.39)	115.91 (1.05)	.123
Year 5	111.67 (1.02)	109.10 (1.56)	113.78 (1.29)	.021
JSE-S: Compassionate Care				
Year 1	67.74 (.47)	65.85 (.76)	69.24 (.54)	<.001
Year 4	69.27 (.51)	67.94 (.77)	70.25 (.66)	.025
Year 5	67.77 (.60)	65.83 (.93)	69.30 (.74)	.004
JSE-S: Standing into Patient's Shoes				
Year 1	7.74 (.18)	7.71 (.27)	7.76 (.25)	.892
Year 4	8.37 (.21)	8.24 (.30)	8.46 (.29)	.594
Year 5	8.78 (.21)	8.37 (.32)	9.10 (.27)	.077
JSE-S: Perspective Taking				
Year 1	37.08 (.29)	36.63 (.47)	37.46 (.35)	.152
Year 4	37.09 (.33)	36.98 (.56)	37.17 (.41)	.784
Year 5	35.32 (.40)	35.09 (.60)	35.52 (.53)	.592
Empathy Quotient (EQ)				
Year 2	41.00 (.89)	38.83 (1.40)	42.91 (1.09)	.021
Year 4	43.11 (.86)	39.85 (1.37)	45.36 (1.04)	.001
Year 5	42.92 (.96)	39.85 (1.62)	45.35 (1.06)	.004

Figure 1. Longitudinal empathy scores of the Jefferson Scale of Empathy for Students (A) and the Empathy Quotient (B) questionnaires

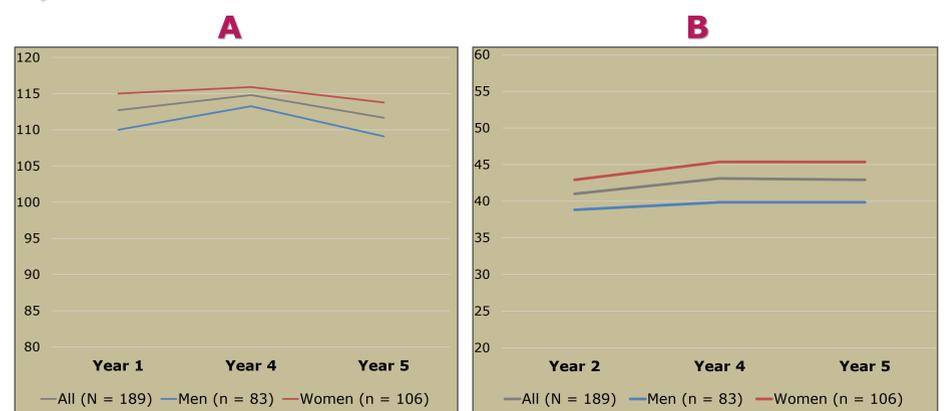
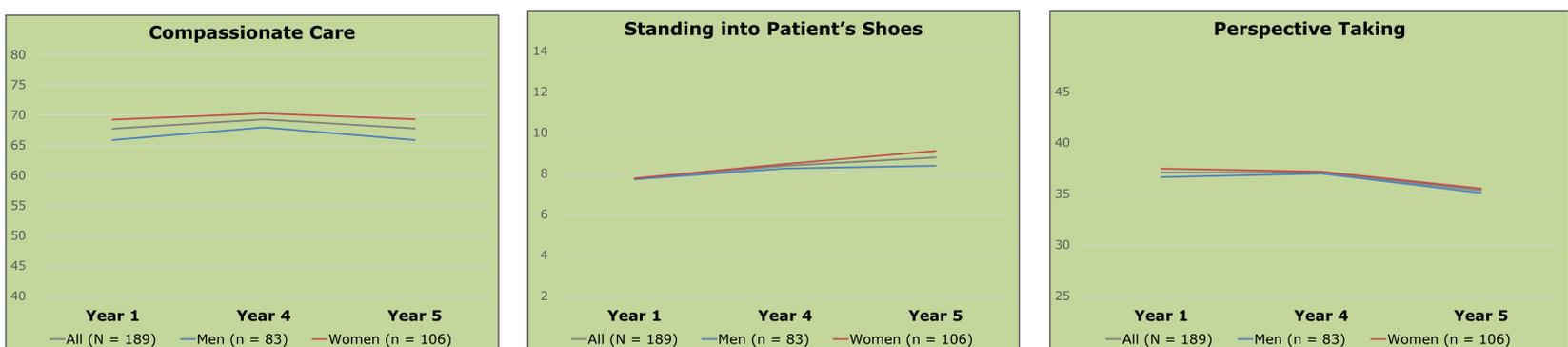


Figure 2. Longitudinal scores of the Jefferson Scale of Empathy for Students shown by its respective domains



Discussion and conclusion

Empathy scores remained relatively stable overtime irrespective of the instrument used for its assessment. Gender stratification confirmed trends for differences shown in the literature, but statistical significance between men and women was domain-dependent and restricted to the Compassionate Care sub-scale of the JSE-S.

Take home message

Findings of this study show an overall longitudinal stability of empathy scores across medical studies, irrespective of the instrument applied for its assessment. In addition, results indicate that the observed gender differences might be limited to a specific construct of the JSE-S, namely Compassionate Care.

¹Hojat et al. *Educ Psychol Meas* 2001;61(2):349-65 and *Med Educ* 2002;36:522-7
²Lawrence EJ et al. *Psychol Med* 2004;34:911-24