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Personal values among first-year medical and nursing students: A cross-sectional comparative study

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ABSTRACT

Background: Collaboration in healthcare is essential but differences in personal values can be a potential source of disagreements between physicians and nurses.
Objectives: The purpose of this study was to verify if and to what extent there were divergences in the personal values profile between medical and nursing students at the beginning of their education and training. A second aim was to explore gender differences in personal values.
Design: This is an observational cross-sectional study.
Settings: This study was conducted at one University in northern Italy.
Participants: We compared the personal values of 393 first-year medical students with those of 403 first-year nursing students.
Methods: The Portrait Values Questionnaire-40 was administered and analyses of variance were performed to assess degree group and gender differences in terms of personal values.
Results: Medical students scored significantly higher than nursing ones on values related to dominance over others and personal success. Female students significantly outscored males on personal values that reflect other-oriented and social focus, whereas male students obtained higher scores than females on personal values related to personal and selfish orientation.
Conclusions: Schwartz's Theory of Basic Human Values may be a valuable theoretical framework for interprofessional education to promote a common reflection on personal values held by medical and nursing students since the early years of study.

1. Introduction

Personal values are basic convictions of what individuals consider good, desirable, moral, right or not and they inform behaviours, choices, needs, interests and goals (Rokeach 1973; Schwartz 1994). Schwartz's Basic Human Values model (Schwartz 1994, 2012) reports that individuals differently prioritize 10 basic values organized in five higher-level dimensions: Self-Transcendence (*Benevolence* and *Universalism*), Self-Enhancement (*Power* and *Achievement*), Openness to Change (*Self-Direction* and *Stimulation*), Hedonism, and Conservation (*Conformity*, *Tradition*, and *Security*). The Self-Transcendence and Conservation dimensions generally underline emphasis on *social* aims, whereas Self-Enhancement, Openness to Change, and Hedonism dimensions are typically related to a *personal* focus (Schwartz and Rubel 2005). According to Schwartz's theory, values are gender-dependent with women considering more important values of Benevolence, Universalism, and Security and men prioritizing values of Power, Achievement, Self-Direction, Stimulation, and Hedonism (Dirilen-Gumus and Buyuksahin-Sunal 2012; Schwartz and Rubel 2005).

In the healthcare context, during the process of professional socialization, personal values influence and shape the development of professional values which influence the quality of care (Kaya and Boz 2019; Rose et al. 2018). Both personal and professional values of healthcare professionals are associated with patient satisfaction, retention and their abilities of communication, critical thinking and decision on patient care (Kantek and Kaya 2017; Kaya and Boz 2019; Moyo et al. 2019; Ravari

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et al. 2013). Given that, research on healthcare professionals' values is growing during recent years (Jasemi et al. 2020; Ogunyemi 2020; Perkins et al. 2008; Skrzypek et al. 2020). However, because the modern healthcare system is based on a range of different professions, it is important to study values by adopting an interprofessional perspective bringing together the different disciplines within the medical context (Clark 1997; Merriman et al. 2020; Pomare et al. 2020). Different healthcare professions largely share common ethical principles and goals focused on improving the general health, putting the patients' interests above selfish ones, and promoting an unbiased access to healthcare (Ashcroft et al. 2007; Parsell et al. 1998; Seedhouse 2002).

2. Background

Historically, physicians and nurses have been described having to face disagreements because of their divergences in attitudes to patient care (Elder et al. 2003). It seemed that physicians tended to prefer individualistic values and to control the work of other healthcare professionals, while nurses tended to generally prioritize social values of collaboration and team-working recognizing the ownership of the work organization to healthcare system (Bates 1970; Bucknall and Thomas 1997; Degeling et al. 2000, 2002, 2003; Willis 1994). This lack of a common values framework frequently resulted in communication misunderstanding (Grundstem-Amado 1992), issues in decision-making within multidisciplinary teams, and therefore it decreased the quality of patient care (Berwick et al. 1997; Glen 1999; McNair 2005). The literature about the physicians and nurses' values differences is inconsistent and quite old (Grundstem-Amado 1992; Holm et al. 1996; Mechanic and Aiken 1982; Norberg and Udén 1995; Prescott and Bowen 1985; Rickard et al. 1996). Hence, it would be important to understand whether these studies' findings stood the test of time and are coherent with the evolution of the nursing profession.

Furthermore, personal values are generally considered stable but prolonged educational or social processes could slightly modify them (Bergman 1998). For example, progressing through the years of medical school, students tend to value more self-enhancement values considering less important values of benevolence, idealism and humanity (Becker and Geer 1958; Borges and Hartung 2010; Eron 1955; Pawelczyk et al. 2012). Nursing students' preference for social values changed across the years of nursing education decreasing between the second and third year (Kaya et al. 2017). Hence, it is not yet clear if these values disagreements between physicians and nurses exist since the beginning of the educational process or emerge during the professional socialization. Having this information will help medical and nursing educators to provide ethics education and may bridge the ethics gap between medical and nursing students since the early years of study.

Therefore, the aims of this study were 1) to investigate the medical and nursing students' personal values profile at the beginning of their education and 2) to verify if and to what extent there were divergences in personal values between students differentiated by degree and gender. We hypothesized that 1) both medical and nursing students would start their training prioritizing other- and social-oriented values, and that 2) value scores would differ by both degree groups and gender. Specifically, we posited that 2a) medical students would rate as more important Self-Enhancement values than nursing colleagues, whereas 2b) both medical and nursing female students would exhibit higher levels of self-transcending values than males.

3. Methods

3.1. Study design

A cross-sectional study design was employed. Since in the University where the study took place the enrolled first-year nursing students are considerably more than those enrolled in the first year of the medical course, we decided to invite in this study one cohort of first-year nursing students and three consecutive cohorts of first-year medical students. The latter were treated and analyzed as cross-sectional. This methodological choice balanced the two student groups in terms of numerosity. This study was conducted at one University in northern Italy and the whole population of first-year medical and nursing students available at the time of data collection was recruited. No exclusion criterions were applied. Students were approached after a mandatory class scheduled in the first semester of the academic year and completed a set of paper-and-pencil questionnaires. Data were collected over the course of one week and the completion of the survey took about 30 min.

3.2. Ethical consideration

The participation was on a voluntary basis and the responses to the self-reported questionnaires were anonymous. Students signed a consent form before starting the self-report assessment. A researcher with no teaching connection with the study participants explained the aims and the characteristics of the study. In order to avoid students felt a sense of obligation to participate in the study, the teachers left the classroom during the presentation of the study and the questionnaire administration. No credit or monetary reward was given to students at the end of the assessment. Permission for this research was obtained from the University Institutional Review Boards of the two participating degrees. This type of authorizations does not require the assignment of a protocol number.

3.3. Measure

The Italian validated version (Capanna et al. 2005) of the Portrait Values Questionnaire-40 (PVQ-40) (Schwartz et al. 2001) was used to assess 10 basic human values (Benevolence, Universalism, Power, Achievement, Self-Direction, Stimulation, Hedonism, Conformity, Tradition, and Security) of the study participants. This 40-item self-report questionnaire measures personal values by asking respondents to compare themselves to each of the forty descriptions, indicating how much each portrait characterizes them on a 6-point Likert scale, from 1 ("not like me at all") to 6 ("very much like me"). The total score of each subscale is computed by calculating the mean of the items that refer to each personal value. Previous research has examined the cross-cultural validity of the ten-factor structure of the PVQ-40 (Burr et al. 2014; Castro Solano and Nader 2006; Hofstede 2001; Steinmetz et al. 2009). In this study, the PVQ-40 ten factors demonstrated good reliability with Cronbach's alpha values ranging from 0.67 for Tradition to 0.83 for Achievement. In addition to the responses to the PVQ-40 items, a socio-demographic questionnaire was administered in order to collect information about gender, age, nationality, marital and parental status.

3.4. Statistical analysis

Before performing statistical analyses, we calculated centered scores for each PVQ-40 value. According to Schwartz's recommendations (Schwartz 2003), we applied the following mathematical formula to correct each value raw score for individual differences in responding style: individual's mean score across all 40 items was subtracted from each value raw score. The higher the centered score the higher the priority assigned to that value by the respondent.

Next, we tested for normality each continuous study variable (PVQ-40 subscales). Furthermore, Pearson's chi-square test of independence was performed comparing the frequency of males and females in medical and nursing groups. Since medical and nursing groups significantly and markedly differed in gender distribution, degree groups comparisons were calculated using analyses of variance (ANOVA) controlling for the confounding effect of gender, whereas gender comparisons for each PVQ-40 value were computed using ANOVA controlling for the confounding effect of degree. Outcomes were considered significant at $p < .01$ and effect sizes estimates were computed as partial eta squared (η_p^2).

All statistical analyses were run with the IBM SPSS statistical software version 24 for Mac.

4. Results

A total of 796 students participated in this study and completed the questionnaire. The response rates of the medical and the nursing groups were 87.3% and 90.3%, respectively. All participants were young (aged between 19 and 25 years), Italian, unmarried, and without children. Table 1 reports degree and gender distributions among study sample. A statistically significant association between degree groups and gender [$\chi 2(1) = 51.13$, $p < .001$] was found and a high preponderance of females in the nursing student group was observed.

The overall study sample valued as more important Benevolence, Universalism, and Self-Direction values, whereas Hedonism, Tradition, and Power were rated as less important. Beyond the effect of gender, medical students scored significantly higher than nursing students on Self-Enhancement values (Power and Achievement) (Table 2). The two degree groups slightly differed in prioritizing personal values. In both the groups Benevolence, Universalism and Self-Direction took the first three positions, whereas Power took the lowest rank.

With regard to gender differences controlled for the degree variable, male students showed higher levels of Power, Achievement, and Hedonism values than females, while female students outscored their male colleagues on Benevolence, Conformity and Tradition (Table 3). Both male and female students ranked in the top three Benevolence, Universalism and Self-Direction. On the other hand, Power value took the lowest ranking position for both male and female participants.

5. Discussion

In this study, we investigated and compared medical and nursing students' personal values at the beginning of their course of study. To the best of our knowledge this is one of the few studies describing and comparing personal values among medical and nursing students, particularly in the recent literature. Our results confirmed our study hypotheses and showed that both medical and nursing students begin their training prioritizing other- and social-oriented values and that there are differences between medical and nursing students and between male and female students.

Taken together, first-year medical and nursing students prioritized Self-Transcendence and Self-Direction values. Coherently with our hypotheses, students who chose to became future health professionals share values based on the concern for the preservation and care of other people and their community (e.g. Benevolence and Universalism) (Schwartz 2012). These other-oriented personal values have been also associated with professional values of altruism and equality that are prominent among helping professionals (Moyo et al. 2016). Moreover, medical and nursing students considered important the Self-Direction value which, according to the Schwartz's theory, underline the personal motivation to pursue independent thought, action choosing and exploration (Schwartz 2012). Self-Direction value has been linked also to the professional value of critical thinking (Moyo et al. 2016). It should not surprise that people that held high levels of Self-Direction choose professions that require the professional capability to take moral and practical decisions in a wide variety of clinical situations.

Although we found a similar values profile between first-year medical and nursing students, there were significant differences between the two student groups with medical students more focused on Power and Achievement (Self-Enhancement values) than their nursing counterpart. Our findings are consistent with the literature that highlights that physicians tend to prefer individualistic values and to control the work of other health professionals (Bates 1970; Degeling et al. 2000, 2002, 2003; Grundstem-Amado 1992; May and Fleming 1997). These results suggest that, since the beginning of the educational process it can be observed those values differences that may create communication gaps, issues in collaboration, and disagreements between physicians and nurses during the interprofessional clinical work (Grundstem-Amado 1992). Our findings are consistent with the traditional hierarchical physicians-nurses relationship which is characterized by physicians' dominance and nurses' subordination (Salvage and Smith 2000). It can also be argued that Medicine holds a higher social status and prestige than Nursing (Lipworth et al. 2013; Wilson 2012) and so, the former could be chosen by individuals who value more personal values focused on reaching social status and prestige, such as Power and Achievement.

In our findings, gender differences were statistically significant with female students that considered more important other-oriented values (e.g. Benevolence, Conformity, and Tradition), and less important Self-Enhancement (e.g. Power and Achievement) and Hedonism values than their male counterparts. These findings confirm previous research reporting that undergraduate female students had higher levels of Universalism, Benevolence, and Security (Dirilen-Gumus and Buyuksahin-Sunal 2012; Moyo et al. 2019; Schwartz et al. 2001), and lower levels of Power, Stimulation, Hedonism, Achievement, and Self-Direction compared to male students. Since we found the differences emerged before the beginning of the professional socialization, we can explain these results in terms of stereotypical gender-role socialization (Dietz et al. 2002; Luciani et al. 2020).

5.1. Strengths and limitations

Some limitations of this study should be noticed. This study was conducted at a single large, public university in northern Italy, which may be attended by a non-representative student sample of the whole Italian medical and nursing student population. Therefore, our results should be generalized with caution. Moreover, this study employed only self-reported measures. Despite these limitations, the primary strength of this study is the adoption of a theoretical framework (the Schwartz's theory of Basic Human Values) that has been extensively applied in several cultural contexts and that may permit cross-cultural and cross-national comparisons. Another strength of this study is related to the large sample of students that participated in this research.

6. Conclusions

Our findings are relevant for practice because knowing that there are similarities and differences between medical and nursing students' personal values since the beginning of their studies will assist administrators and educators in organizing and providing early common ethics education. Since personal values are not innate qualities, interprofessional and multidisciplinary education in ethics and professionalism during the early years of study could bridge the gap between value profiles of medical and nursing students and therefore promote communication, teamwork, and collaboration. Moreover, conjoint teaching not only could help nursing and medical students to close the gap between professional attitudes but also to appreciate and respect each other's professional points of view. Schwartz's theory of Basic Human Values may be a valuable theoretical framework for medical and nursing educators who want to promote awareness and reflection on personal values held by their students. Furthermore, educators should introduce interprofessional dialogue about power and use and abuse of power in health professions, such as Yale's Power Day (Angoff et al. 2016).

Table 1
Gender and degree distribution in the medical and nursing student samples.

	Medical students		Nursing students		Total sample	
	n	%	n	%	n	%
Male	188	23.6	95	11.9	283	35.6
Female	205	25.8	308	38.7	513	64.4
Total	393	49.4	403	50.6	796	100

Table 2
Medical and nursing students' differences and rank for personal values.

	Total sample			Medical students			Nursing students			F	p	η_p^2
	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank			
Benevolence	0.68	0.59	1	0.61	0.59	1	0.75	0.59	1	3.619	0.057	–
Universalism	0.50	0.61	2	0.48	0.64	3	0.52	0.58	2	1.319	0.251	–
Power	−1.28	0.95	10	−1.07	0.95	10	−1.48	0.94	10	13.245	<0.001	0.02
Achievement	−0.20	0.87	7	−0.06	0.91	6	−0.34	0.83	8	9.888	0.002	0.01
Self-Direction	0.49	0.57	3	0.52	0.58	2	0.47	0.56	3	2.905	0.089	–
Stimulation	−0.01	0.81	5	−0.04	0.83	5	0.03	0.79	5	1.655	0.199	–
Hedonism	−0.31	0.94	8	−0.35	0.92	8	−0.26	0.95	7	4.516	0.034	–
Conformity	0.04	0.67	4	0.03	0.68	4	0.05	0.66	4	0.019	0.890	–
Tradition	−0.67	0.77	9	−0.69	0.82	9	−0.64	0.72	9	0.000	0.991	–
Security	−0.15	0.61	6	−0.17	0.61	7	−0.12	0.61	6	0.049	0.824	–

Notes. F F-statistic, *p* *p*-value, η_p^2 partial eta squared.

Table 3
Gender differences and rank for personal values.

	Male			Female			F	p	η_p^2
	Mean	SD	Rank	Mean	SD	Rank			
Benevolence	0.49	0.62	1	0.78	0.56	1	33.110	<0.001	0.04
Universalism	0.42	0.67	3	0.55	0.57	2	5.084	0.024	–
Power	−0.90	0.97	10	−1.49	0.89	10	54.515	<0.001	0.06
Achievement	0.05	0.85	5	−0.34	0.87	7	26.362	<0.001	0.03
Self-direction	0.48	0.57	2	0.49	0.57	3	1.139	0.286	–
Stimulation	0.06	0.83	4	−0.04	0.79	5	3.279	0.071	–
Hedonism	−0.08	0.95	7	−0.43	0.89	8	28.818	<0.001	0.04
Conformity	−0.07	0.67	6	0.09	0.66	4	9.783	0.002	0.01
Tradition	−0.82	0.77	9	−0.58	0.76	9	16.709	<0.001	0.02
Security	−0.17	0.64	8	−0.13	0.59	6	0.690	0.406	–

Notes. F F-statistic, *p* p-value, η_p^2 partial eta squared.

Our findings have also important implications for research. Future research should use a longitudinal approach to verify if differences in personal values persist over time. Future studies should also include a measurement of professional values to verify the association between these and personal values. Furthermore, they should verify whether personal values can be predictors of empathy and well-being (Persson and Kajonius 2016) among medical and nursing students, similarly to other psycho-attitudinal trait variables, such as attachment styles (Ardenghi et al. 2020), dispositional mindfulness (Ardenghi et al., 2020), and emotion regulation (Salvarani et al. 2020). Moreover, a deeper investigation of the association between socio-demographic characteristics and personal values would be valuable for our study.

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CRediT authorship contribution statement

SA: Conceptualization, Data curation, Formal analysis, Methodology, Writing - original draft, Writing - review & editing. **ML**: Conceptualization, Methodology, Investigation, Writing - original draft, Writing - review & editing. **GR**: Visualization, Writing - review & editing. **DA**: Writing - review & editing. MB: Writing - review & editing. **SDM**: Conceptualization, Project administration, Supervision, Writing - review & editing. **MGS**: Conceptualization, Project administration, Supervision, Writing - review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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