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Peace Test: Is War Sometimes a Better Solution? Survey of Students of Zagreb and Mostar Schools of Medicine

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Aim. To investigate the differences among medical students from two medical schools, one in Zagreb, Croatia, and the other in Mostar, Bosnia and Herzegovina, in their affinity towards peaceful vs violent way of solving conflicts.

Methods. A total of 733 students from the Zagreb and 102 medical students from the Mostar University School of Medicine filled out an anonymous questionnaire during their enrollment into the next academic year. The questionnaire consisted of 10 Likert-type questions with 1-5 answer scale, which were designed to give an illustration of students' attitude towards war. The test score was calculated as the sum of all answers x 2 + 20. The total score ranged from minimum 40 to maximum 120 points, with a higher score indicating stronger inclination toward peaceful way of solving conflicts.

Results. There was no difference between the mean total scores of Zagreb and Mostar students (66 ± 17 and 67 ± 18, respectively; $p = 0.744$). The mean score of female students was higher than that of male students (71 ± 19 vs 63 ± 16; $p < 0.001$) for the whole sample as well as for Zagreb and Mostar samples separately ($p < 0.001$ for both). The average score of 2.3 ± 0.9 per question indicated that the students' choice was mostly undecided on war-prone activities. Younger students were more war-prone than older ones ($p = 0.008$ for age, and $p = 0.024$ and 0.013 for comparisons between students in earlier and later academic years). Students from cities that were affected by war but not severely damaged seemed less war-prone than students from cities that were either seriously damaged or not directly affected by war ($p = 0.032$).

Conclusion. Women, older students, and students from cities that were under war threat but not seriously damaged showed to be more morally engaged towards peace.

Key words: *attitude; Bosnia and Herzegovina; Croatia; data collection; peace; students, medical; war*

The last decade brought war destruction and civilian suffering to Croatia (1-3) and Bosnia and Herzegovina (4-6). The war also affected medical students and their studies (7-10). Motivated by a peace test posted on the web site of the International Federation of Medical Students Associations (IFMSA) (11), we surveyed the population of medical students about their affinity towards peaceful vs violent ways of solving conflicts. The "Peacetest" measures moral disengagement, which occurs when people begin to tell themselves that the use of violent force is excusable (11,12). We compared two student populations: one studying in the city of Zagreb in Croatia, which was under war threat and suffered a few brief attacks but was not damaged (13), and the other studying in the city of Mostar in Bosnia and Herzegovina, which was severely destroyed (14,15). We hypothesized that several factors would influence moral disengagement: age, sex, place of high school graduation, academic year, and academic performance expressed as grade point average or flunking an academic year. Sex differences were expected (16-20). We also expected that older, more mature students would resist "war fever". Students from the places ruined by war were expected to discard war as a way to solution of conflict, because they still feel the consequences of the war. Successful students were also expected to be more aggressive, whereas students with poor academic success were presumed to be more passive and less competitive.

Subjects and Methods

Subjects

We surveyed 998 students (response rate 84%) at the Zagreb University School of Medicine. The students filled out an anonymous questionnaire while submitting their application for the enrollment to the next academic year. We excluded 265 partially completed (at least one question not completed) questionnaires and those that did not provide enough information for analysis, which left 733 valid questionnaires. Out of those, 270 (36.8%) were filled by women and 463 (63.2%) by men.

The same survey was carried out among 102 students at the Mostar University School of Medicine, Mostar, Bosnia and Herzegovina.

Demographic Data

The general part of the survey provided data on age, sex, place of high school graduation, academic year, grade point average, and flunking an academic year. These data could not be collected for the Mostar School of Medicine because of technical difficulties.

Students were divided by age into three subgroups – students younger than 21 years (n = 245, 33.4%), students aged 21-22 years (n = 268, 36.6%), and students aged 23 and older (n = 220, 30%). The mean age of students was 21.7 ± 2.3 years.

The students were divided by place of their high school graduation into three subgroups: the first subgroup graduated in places not directly involved in the 1991-1995 war (n = 505 students, 69%), the second subgroup graduated in places under constant war threat and partial war involvement (n = 158 students, 21.6%), and the third subgroup (n = 70 students, 9.5%) graduated in places that had suffered major casualties, great material damage, and were under enemy siege for a considerable period of time.

According to the year of study, three subgroups of students were formed, each comprising students from two academic years: first- and second-year students (n = 185, 25.2%), third- and fourth-year students (n = 289, 39.4%), and fifth- and sixth-year students (n = 259, 35.3%). The majority of the students were enrolled in the second year of study (171 students, 23.5%), and the number of first-year students was very small (n = 14, 2%) because most of them had enrolled in the School before the time of our survey. Other academic years of study were roughly equally represented.

According to the grade point average, students with grade point average < 3.0 (n = 91; 12.4%) formed the first group; the second group included students with grade point average between 3.1 and 4.0 (n = 433 students; 59.1%); and the third group (n = 209; 28.5%) included students with grade point average above 4.0 (maximum score is 5.0).

The category of failing an academic year served only to establish whether or not the student had failed any academic year, regardless of how many times this might have occurred (n = 246; 33.5%).

Peace Test

The second part of the questionnaire consisted of 10 questions, which aimed at assessing the students' likelihood of resisting arguments that justify war. The answers were of closed type (Likert scale from 1 to 5: 1 – strongly agree, 2 – somewhat agree, 3 – not sure, 4 – somewhat disagree, and 5 – strongly disagree; see Table 1). All questions were created to estimate the ability to resist the arguments that could be used to justify acts of war. If one should agree with any of them, than that would indicate certain level of moral disengagement in support for war action. The test was the translation of the test developed by Dr. Alfred McAlister (11,12) and posted on the website: *www.peacetest.org*.

The purpose behind each question was unclear (Table 1) to reflect as objectively as possible the general psychological background of the student. The first question was composed to induce a justification of war necessity, and the answer revealed the capacity to decide for oneself whether or not the war was necessary. Can violence be justified when its effects are minimized sets the ground for the next two questions, which describe inclination to distort consequences. In reality, there are no "precise missile attacks" because every war action, even a minor one, bears a great risk for even greater casualties. To attack another nation because it might endanger "us" or start a war because economic conflicts could endanger "our" internal politics reveal using a *force majeure* to justify a war. In other words, people with "higher moral standards" approve this argument as an ultimate cause to start a war. A person who is not morally disengaged will never choose a war as a solution to any kind of threat or economic endangerment. All this lies behind fourth and fifth questions (11).

Diffusion of responsibility is common in everyday life – we feel relieved when we do not have to carry the entire burden. On the other hand, we might not diffuse, but rather displace responsibility to someone else to justify our means, including the means of war. This is the explanation of sixth and seventh question (11,12).

Sometimes acts of violence are thought to be more effective than peaceful actions or would do considerably less harm if no action was taken at all. War is not a "preventive measure" to relieve further sufferings and one can never be absolutely certain that the long-term effects of war will match the initial idea of its beneficence. Therefore, peaceful means are always the first and the last line of action in solving conflict. War is always unpredictable, even if someone finds eight and ninth question as affirmative (11,12).

When people are attacked by heavy artillery, it is natural for them to perceive their enemy as inhuman, especially if there is a difference in skin color, language, or religion. When the enemy is "not human", it is easier to retaliate and inflict suffering upon him. This model of dehumanization lies beneath the tenth question. Someone who is not morally disengaged will never choose violence, even if the enemy deserves no compassion at all (11,12).

Prospective Score

To evaluate the general students' attitude, a prospective score was created (11,12). The score was calculated as (sum of all answer scores x 2) + 20. The maximum score was 120 and minimum 40. Lower scores indicated more willingness to support acts of war.

Statistics

The data were analyzed with the chi-square test to evaluate statistically significant difference in answers between groups of students defined by personal data categories. Testing of confi-

Table 1. Attitudes of the students at the Zagreb University School of Medicine towards peaceful vs violent solving of conflict

No.	Question	No. (%) of students who agreed*	undecided†	disagreed‡	Mean ± SD§
1	Some people say, "War is necessary to settle conflicts between nations."	631 (86)	51 (7)	51 (7)	1.5 ± 1.0
	National leaders may decide that specific military actions are necessary. Why or when would you accept the use of your nation's armed forces (army, navy or air force)?				
2	...because precision missile attacks and surgical bombings rarely harm civilians.	590 (80)	78 (11)	65 (9)	1.7 ± 1.1
3	...when there is not much risk for our soldiers.	499 (68)	98 (13)	136 (19)	2.1 ± 1.3
4	...when we might be attacked by another nation if we don't attack them first.	300 (41)	147 (20)	286 (39)	2.9 ± 1.5
5	...because foreign conflicts may endanger our economic security.	433 (59)	171 (23)	129 (18)	2.2 ± 1.3
6	...when a friendly nation asks to be defended from attack.	344 (47)	198 (27)	191 (26)	2.6 ± 1.3
7	...when we join other nations to fight against a common threat.	357 (49)	176 (24)	200 (27)	2.6 ± 1.3
8	...when peaceful means may not effectively resolve a conflict.	373 (51)	176 (24)	184 (25)	2.5 ± 1.3
9	...because the use of force may prevent more suffering than it causes.	307 (42)	194 (26)	232 (32)	2.7 ± 1.4
10	...because some nations' leaders and their followers are no better than animals.	459 (63)	149 (20)	125 (17)	2.2 ± 1.4

*"Strongly agree" and "somewhat agree."
†"Not sure."
‡"Somewhat disagree" and "disagree."
§Average answer per question (between 1-5, where 1 "strongly agree" and 5 "strongly disagree" with war-related action).

dence interval for two proportions served to investigate statistically significant difference between different subgroups under one personal data category. ANOVA was used to describe statistical significance of average value of a statement between compared subgroups. Student's t-test for independent samples was used to determine the difference in scores between the two Universities, as well as between men and women in these two samples (Zagreb vs Mostar). The α-level was set at 0.05.

Results

Although Mostar was much more affected by the 1991-1995 war than Zagreb, attitudes to war and peace between students from the two medical schools did not differ significantly. Actually, they were almost identical: 66 ± 17 for Zagreb and 67 ± 18 for Mostar. The scores were lower than the neutral score (80 points), but this was not statistically significant.

In Zagreb, women's average test score was 71 ± 19 vs men's average of 63 ± 16 ($p < 0.001$). Among the students at the University of Mostar, the average score for women was 75 ± 18, and 59 ± 14 for men ($p < 0.001$). Men and women significantly differed in their answers to all questions but the fourth ("…in case we might be attacked by another nation if we don't attack them first", $p = 0.236$). Women more often chose "strongly disagree" answer to all questions in which they significantly differed from men. Unlike women, men mostly (8 of 9 questions) chose the "strongly agree" answer to the question whether or not to use military power. Interestingly, women, in contrast to men ($p = 0.008$) chose "somewhat agree" answer to the last question ("…because leaders of some nations and their followers are no better than animals.") more than to any other question.

The analysis of the demographic data for Zagreb School of Medicine showed that the youngest and the oldest students differed in test scores, with older students being more peace-prone (Table 2). Students' age reflected on their opinion on the fifth and seventh question. Older students (> 22 years of age) chose more "strongly disagree" and "somewhat disagree" answers than their younger colleagues when answering the fifth question ("…because foreign conflicts may endanger our economic security.", $p = 0.010$) and the seventh question ("…to join other nations to fight against a common threat.", $p = 0.005$). On the other hand, younger students (18-22 years of age) answered "strongly agree" and "somewhat agree" more often (p 0.006). Again, by choosing "strongly disagree" answer to the seventh question more often, students aged 21-22 years supported peaceful arguments significantly more than the younger ones ($p = 0.012$).

The total test scores of students from the places under a war threat but not severely damaged (subgroup two) were significantly higher than that of students from places that were either not affected or were greatly damaged by war (Table 2).

Students at first two years of medical studies seemed significantly more war-prone than the two groups of older students (third and fourth year, $p = 0.024$; and fifth and sixth year, $p = 0.013$, Table 2). In the fifth question ("…because foreign conflicts may endanger our economic security." $p = 0.003$), students from senior years "strongly disagreed" with justifying a war in such a case.

Grade point average was not associated with total attitude score to war and peace (Table 2). How-

Table 2. Overall answers and answers to the specific questions (1-10) on the peace test of Zagreb University School of Medicine grouped by age, sex, place of high school graduation, academic year, grade point average and flunking of an academic year

	Average answer to question No.*											
Independent variable	1	2	3	4	5	6	7	8	9	10	Mean ± SD	Total score (mean ± SD)†
Age (years):												
<21	1.4	1.6	1.9	2.7	2.2	2.5	2.3	2.4	2.7	2.1	2.2 ± 0.8	64 ± 16
22-23	1.5	1.7	2.1	3.1‡	2.2	2.6	2.7‡	2.5	2.7	2.1	2.3 ± 0.8	66 ± 17
>23	1.6‡	1.8‡	2.3‡	3.0‡	2.4§	2.6	2.7	2.6	2.8	2.2	2.4 ± 1.0‡	68 ± 19‡
Sex:												
men	1.3	1.5	1.8	2.8	2.1	2.4	2.5	2.4	2.6	2.1	2.5 ± 0.9	63 ± 16
women	1.8‡	2.1‡	2.5‡	3.1‡	2.4‡	2.8‡	2.7‡	2.7‡	2.9‡	2.2	2.2 ± 0.8‡	71 ± 19‡
Place of high school graduation:												
unaffected	1.5	1.7	2.1	2.8	2.2	2.5	2.6	2.5	2.7	2.1	2.3 ± 0.9	65 ± 17
moderately affected	1.7	1.7	2.4	3.0	2.6‡	3.0‡	2.7	2.8	2.9	2.2	2.5 ± 0.7‡	70 ± 15‡
heavily affected	1.5	1.7	2.1	3.1	2.4‡	2.6§	2.5	2.5	2.7	2.3	2.3 ± 0.9	67 ± 18
Academic year:												
1st and 2nd	1.4	1.6	1.9	2.6	2.2	2.4	2.3	2.4	2.6	2.2	2.2 ± 0.8	63 ± 16
3rd and 4th	1.5	1.6	2.1‡	3.1‡	2.2	2.6	2.7‡	2.6	2.8	2.1	2.3 ± 0.8‡	67 ± 16‡
5th and 6th	1.6	1.8‡§	2.2‡	3.0‡	2.4‡§	2.6	2.6‡	2.6	2.7	2.2	2.4 ± 1.0‡	67 ± 19‡
Grade point:												
3.0	1.6	1.8	2.2	3.1	2.3	2.7	2.7	2.8	3.1	2.2	2.4 ± 0.9	69 ± 17
3.01-4.0	1.5	1.7	2.1	3.0	2.2	2.6	2.6	2.5‡	2.7‡	2.2	2.3 ± 0.9	66 ± 17
>4.0	1.5	1.7	2.0	2.8‡	2.3	2.5	2.5	2.5	2.7‡	2.1	2.3 ± 0.9	65 ± 18
Failing the year:												
yes	1.5	1.7	2.1	3.1	2.2	2.5	2.6	2.5	2.8	2.1	2.3 ± 0.9	66 ± 17
no	1.5	1.7	2.1	2.8	2.3	2.6	2.5	2.5	2.7	2.2	2.3 ± 0.9	66 ± 18
Total (mean ± SD)	1.5 ± 1.0	1.7 ± 1.1	2.1 ± 1.3	2.9 ± 1.5	2.2 ± 1.3	2.6 ± 1.3	2.6 ± 1.3	2.5 ± 1.3	2.7 ± 1.4	2.2 ± 1.4	2.3 ± 0.9	66 ± 17

*See question in Table 1. Average answers are means of scores on the 1-5 scale.
†Score of all answers x 2 + 20.
‡$p < 0.05$ vs the first subgroup, ANOVA and Tukey HSD post hoc test, except for the variable "sex" (Student's t-test).
§$p < 0.05$ vs the second subgroup, ANOVA and Tukey HSD post hoc test.

ever, in the answer to the ninth question ("...because the use of force may prevent more suffering than it causes."), students with lower grade point average mostly answered "strongly disagree" and "not sure" compared with students with higher grade point average who mostly "strongly agreed" and "somewhat agreed" ($p = 0.003$ and $p = 0.001$, respectively).

Failing to pass the academic years had no effect on students' answers (Table 2).

The average answer of 2.3 ± 0.87 per question indicates that the students' choice was mostly between second (somewhat agree) and third (not sure) answer.

Discussion

The peace test score for the two medical schools (66 points, for both Schools) was lower than that of medical students filling out the test on the website (average score of 85, $n = 214$ medical students from 48 countries). However, it is difficult to make such comparison for a number of reasons. Most importantly, the students filling out the test on the website were not representative of the student populations from the country they registered at the site – out of 48 countries, the median number of students was 1 and the range was 1 to 83. Also, the students who took the time to find out the test on the web and fill it out were most probably already morally engaged and interested in peace issues.

Lower score on the peace test indicates more willingness to support a war action. Zagreb and Mostar students had similar total scores, which indicated that there were similar factors influencing the development of attitudes towards war actions, regardless of the intensity of war in these two cities.

In Zagreb, the older students appeared more peace-prone than the younger ones. It is possible that older students were more responsible and resisted to morally justify the act of war, whereas younger students still needed the adequate maturity level to realize all the consequences of war action (21).

The interesting finding of our study was that significantly more positive attitude towards peace was reported by students coming from areas directly affected by war but not greatly damaged, in comparison with two extremes of war damage: areas not directly affected by war and areas heavily damaged in war. It is possible that students from areas affected but not destroyed by war were able to assess peace issues most objectively. They were aware of the war dangers and experienced them for along time, in contrast to the students from "safe" areas, but the war did not cause them great personal loss (destruction of home, loss of family members, or refuge) as it did to most students from areas directly affected by war.

Women definitely proved more peace-prone than men, which was expected (16-20). Student sex seemed to affect the answers to almost all questions, except the fourth one. It has been shown that men tend to displace and diffuse their responsibility, distort the consequences, and show more affinity to disadvantageous comparison, which all serves to justify war acceptance (11,12). They also dehumanize their enemies and morally justify their acts, so that they could accept violence as a solution (11,12). However, our study showed that women can also easily approve war arguments if they dehumanize their enemies.

In conclusion, medical students were mostly undecided about peaceful or war solutions to conflicts. Women, older students, students from cities that were under a partial war threat and those with lower grade point average chose peaceful arguments more often. Including peace issues into medical curriculum may contribute to the development of moral engagement of medical students, especially in regions of conflict.

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