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Differences in Ethical Viewpoints among Civilian–Military Populations: A Survey among Practitioners in Two European Countries, Based on a Systematic Literature Review

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Abstract: Civilian–military collaboration in humanitarian crises has been encouraged globally; however, little is known about their diverse ethical viewpoints towards challenging and critical situations, which may cause difficulties in the partnership, and influence the outcomes of their mutual activities. The aim of this study was to identify the diversity of viewpoints and ethical decision-making during exceptional circumstances among civilian and military populations from two different countries, each with diverse background and healthcare organization structures. Possible scenarios, based on a systematic review of the literature, were introduced to Swedish and Polish civilian and military healthcare providers. Variations in the participants' viewpoints and approaches to ethical decision-making were analyzed according to their characteristics, organizational belonging, and nationality. There were differences between both populations but also within the military and civilian groups, respectively. One significant factor influencing ethical viewpoints was participants' nationality. Differences in ethical viewpoints between multiagency organizations should be considered in planning and implementation of future transdisciplinary and international collaboration in disaster and emergency management. Further studies and renewed educational initiatives are necessary to validate these differences and to navigate civilian–military as well as other multinational partnerships.

Keywords: armed conflict; civilian; decision-making; disasters; ethical; military

1. Introduction

A discussion on the impact of diverse ethical viewpoints on collaborations' outcomes is highly relevant since people live as groups in vertical and horizontal governing structures with diverse conditions. Therefore, the aim of this study was to identify the diversity of viewpoints and ethical decision-making during exceptional circumstances between

two different populations from two diverse countries, each with diverse background and healthcare organization structures.

While the vertical governing structure advocates rules and regulations and offers limited personal independence, the horizontal structure allows more space for personal judgment and interpretations (military vs. civilian organization) [1,2]. Nevertheless, both structures confront critical situations in need of vital and ethically justifiable decision-making. Ethical perspectives aim to justify an action, when general principles or rules, together with the relevant facts related to the situation, support a corrective intervention or a justified judgment [3–5]. An ethical evaluation is based on well-founded standards of right and wrong that prescribe what humans ought to do, usually in terms of rights, obligations, benefits to society, fairness, or specific virtues, i.e., behavior showing high moral standards [1].

While recognizing the significance and the need for continuous appraisal of the ethical perspectives in life, it is equally critical to realize that people do not necessarily interpret or recognize ethical judgments in the same way, nor do they follow the same moral doctrine. Most people favor utilitarian moral doctrines to achieve a greater good for all. However, if threatened, they may undertake actions that might be right or wrong under a series of rules, rather than the consequences of the actions, i.e., deontological moral doctrine, or employ a combination of the two. Consequently, divergence will exist amongst a population regarding what might be the ‘right’ judgment in any given situation [1,2,6–12].

In the management of disasters and public health emergencies, civilian–military healthcare collaboration (CMC) has emerged as one of the most reliable interagency collaborations, due to the similarity in skills and assets, to address all necessary elements of surge capacity, i.e., staff, stuff, structure (space), and systems [13,14]. Therefore, recognizing any conflict in ethical viewpoints between these two organizations necessitates a careful synchronization in values and moral perceptions since individuals in each organization will inevitably confront situations where there are competing obligations, tempting them to forsake moral and ethical analysis to escape from conflicting ethical tension [15–17].

2. Background

Personal, cultural, and environmental factors can influence the moral doctrine and the ethical decision-making process [1,11,12]. O’Fallon and Butterfield found in their review of civilian populations and organizations that gender, education, and employment factors, moral philosophy, and value orientation represented the most common factors influencing ethical decision-making, followed by nationality, cognitive moral development or ethical judgment, age, locus of control, religion, and other individual effects like competition, attitude, and self-efficiency [18]. In another review, Craft evaluated the association between individual and organizational factors and some dependent values like awareness, judgment, intent, and behavior [19]. The most prominent individual factors were personality, gender, cultural values and nationality, philosophy and value orientation, education, employment, experience, and age. The two most significant organizational factors were ethical culture and rewards/sanctions.

From a military perspective, ethics incorporate concerns about the conduct of war, decisions on how and when to engage in military operations, and issues relating to the moral psychology and care of those who serve and of veterans of military service. These interface with values and virtues [20,21]. Values pertain to important goals or duties, often based on ideas of what is good and evil. Virtues, on the other hand, refer to several characteristics that help the soldiers to act in a technically and morally appropriate way. According to de Vries, there are seven virtues of character in military praxis, which create an internal good, resulting in virtues [21]. Tasks provide satisfaction and result in responsibility. Arms give pride and are the core competency a soldier possesses. Cooperation means belonging to a group and results in comradeship and respect. The enemy gives an opposing goal to conquer and gratification. The danger is a thrill and needs courage. Undetermined time and place offer adventure and result in resilience. Finally, rules are stable and create

discipline. All these virtues of character result in a formidable feeling of “can do” and practical wisdom, which leads to actions that enable the military to overcome ethically sensitive situations with proper ethical decision-making.

Although these factors, affecting civilian and military populations, may provide necessary background and knowledge in each group to confront and handle various ethical issues, they may influence the outcome of collaboration at both the individual and the organizational levels in peace and during armed conflicts due to the lack of similarity in perception and interpretation. Armed conflict, as well as disasters, represent chaotic events characterized by limited resources, the continuous need to choose between difficult options, and multiagency involvement [17,18,22–25]. In these situations, characteristics like responsibility and accountability are exercised under unpredictable circumstances, affecting the balance between anonymity and accountability [15–19,21–26].

Consequently, they create ethical dilemmas and situations that can be handled differently, jeopardizing the outcomes of the entire mission [13,26–31]. However, although there are publications dealing with ethical viewpoints of both populations, there is a lack of direct comparison between military and civilian healthcare providers. Hypothetically, recent armed conflicts using new technologies (e.g., drones), public health emergencies, and the way affected populations may behave both in nature, medically and politically, can influence the significance of civilian military collaboration and any multiagency assistance, particularly within the healthcare systems [14,32–37].

Therefore, we found it instructive to investigate the diversity of viewpoints and ethical decision-making during exceptional circumstances between the civilian and the military populations from two different countries with two diverse organizational structures and background: one with separate military healthcare (Poland) and the other without (Sweden). Poland and Sweden have long enjoyed a very close relationship and once belonged to the same Kingdom. However, they have had divergent historical paths, oriented to the eastern and western political and military block, respectively [38]. The subsequent sections present this study’s methods and outcomes, and analyze and discuss the findings to achieve the aims of the study.

3. Materials and Methods

A systematic review of the literature revealed the disparities and concerns to create a survey, while military and civilian staffs’ responses to the online survey uncovered practitioners’ approaches to ethical decision-making [39–42].

3.1. Design and Development of the Survey Tool

The aim of this study was to develop and use a scenario-based survey questionnaire, employing the Vignette technique, originally developed by Finch in 1987 [39]. Reflecting on the difficulties of studying values in a convincing way, Finch developed the survey technique for the study of normative material. Interviewees are invited to respond to short stories about hypothetical characters in specified circumstances. The technique allows respondents to make normative statements about these social situations instead of expressing their own beliefs and values, acknowledging that meanings are social and morality may well be situationally specific. Finch also discussed and presented the option of offering open-ended question to respondents to compare to a fixed set of choices, none of which might be applicable, allowing respondents to define the meaning of the situation for themselves. The method has further been explained in experimental contexts, showing that experimental strategies preserve a meaningful interpretation of main and important interaction effects [40]. Recently, the method has been used by Antes et al. [41] in development of a new measure in professional decision-making in medicine.

Initially, the contents necessary for scenarios were identified through a systematic literature review. Secondly, the comprehensiveness of the identified content and potential scenarios were discussed with both experts and practitioners. Thirdly, scenarios were written and revised in a team-led process. Finally, scenarios were tested with a group

of practitioners to ensure the scenarios, items, and possible response options were clear and plausible (Figure 1). Since ethical viewpoints may differ by definition, participants were invited to select their responses according to what they might do in the situation to examine behavioral intentions, rather than just cognition [39]. Lastly, due to the variation in responses, which were given in free text, content analysis was conducted to sort and categorize responses into subgroups, when presenting the results [43].

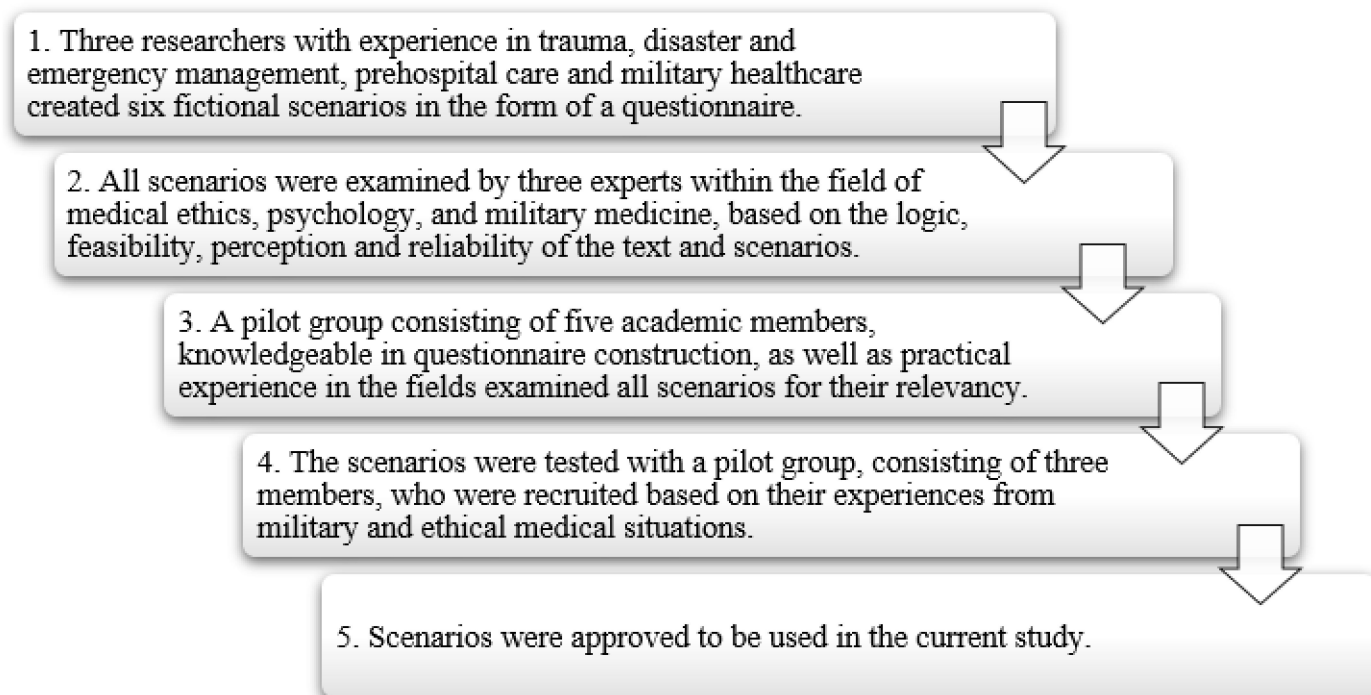


Figure 1. Development of scenarios.

3.2. Identifying the Contents Necessary for Scenarios through a Systematic Literature Review

The research group conducted a review by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, using Science Direct, Scopus, PubMed, and Gothenburg University's search engines [44].

Inclusion criteria: Original studies dealing with ethical viewpoints and concerns in civilian and military populations, alone, or as CMC, published in English.

Exclusion criteria: Conference papers, abstracts, reports, non-scientific publications, and publications, which might mention ethics but did not discuss their impacts on chosen populations.

The Health Evidence Quality Assessment Tool (Appendix A) was used to assess each article's quality as Strong, Medium, and Weak [45]. The research group performed the initial screening of all abstracts and titles independently, using the tool provided by Rayyan [46]. During the abstract and title screening phase, a level of agreement on inclusion and exclusion was achieved among the authors. The third author reconciled disagreements (if any) between the first two authors to achieve a mutual consensus before moving to the full-text review. The key terms used were as follows: Armed conflict; Civilian; Collaboration; Dilemma; Disaster; Ethic; Military; Staff.

3.3. Identifying the Key Topics and Subjects for Each Scenario

To identify related topics/subjects, keywords representative of the multifaceted nature of CMC, described in each article, were identified (Appendix B) and compared with earlier publications [39–41,47]. These keywords were transferred to a Microsoft Excel spreadsheet, where through content analysis, 28 potential topics/subjects were subsequently narrowed into six to be used in scenarios (Appendix C).

3.4. Validating the Comprehensiveness of the Identified Content/Potential Scenarios

The items and developed subjects for scenarios were discussed in a group of three academic researchers, using the Nominal Group Technique (NGT) [48]. These academics had a minimum of 20 years of experience in trauma, disaster and emergency management, prehospital care, and military healthcare. Two of the members had experience from international missions within the military and disaster medicine and trauma. The third member had experience in survey development and prehospital care. This combination allowed for consideration of perceived ethical dilemmas from both civilian and military perspectives and according to each participants' knowledge and experience.

3.5. Face Validity of the Scenarios

In the next step, to support the content and face validity of items, three experts within the field of medical ethics, psychology, and military medicine, with over 20 years of experience and knowledge in their specialist fields, were interviewed, using a semi-structured approach. The interviewees were asked about ethical challenges that could influence CMC and discuss the item collected from the literature review. The results of interviews were registered, and the subjects and items were revised if necessary.

3.6. Writing and Revising Scenarios

Scenarios were created using the selected subjects (items), based on the logic, feasibility, perception, and reliability (Appendix C). The writing team included expertise in medicine, health care ethics, psychology, survey design, evaluation, and validation. They drafted initial scenarios, using the collected material. The scenarios addressed complicated situations, realistic to the challenges encountered by the healthcare providers, featuring situations when making a choice might require handling competing concerns, such as what is in the best interest of one person versus the entire population. There were multiple meetings to revise scenarios if needed. Finally, six fictional scenarios (Appendix C), inspired by real-life experiences and exercises from war and disaster settings, were created. The questions included the alternatives of acting where the extremes were based on orthodox utilitarian versus deontological standpoints [11].

3.7. Scenarios

Scenario 1: You are responsible for a casualty collecting area during an armed conflict. You receive two injured soldiers; one is from your own forces with severe injuries and poor prognosis, while the other is an enemy soldier, also severely injured, but with a better prognosis. You can only transport one to definitive care. Whom do you choose? Why do you choose that person? Other comments?

Scenario 2: You are working at an intensive care unit and receive information that all units in your hospital should be evacuated due to a possible bomb explosion. There are 10 patients in your unit, five of whom can be evacuated by three staff at your unit. Three of the remaining five patients need one staff each. The remaining two patients need two staff each. You have seven staff and need to triage. Whom do you choose? Why do you choose those patients? Other comments?

Scenario 3: You are in the hot zone of an armed conflict and are responsible for casualty collection area. You have 10 injured and none of them can move without help. You have two staff. You receive the order to retreat. What do you do? Why do you do that? Other comments?

Scenario 4: You are assigned to conduct a drone attack. The target is a group of enemies, of whom one is a key person. They are in an area with tens of civilians, many of whom will definitely die under the attack. What do you do? Why do you do that? Other comments?

Scenario 5: You are a pilot and your mission is to pick up (repatriate) infected citizens out of another country in a closed zone. You can only transport 80 people. That is the exact number of your citizens. However, after landing you notice that there are also non-citizens

waiting for you. Five out of these 10 people are children. All insist to be evacuated. What do you do and whom do you choose? Why do you do that? Other comments?

Scenario 6: You are driving your car together with a colleague. Suddenly, you find a tanker truck carrying an unknown substance, overturned on the road. Another private car has already arrived on the scene and four persons are investigating the tank at a very close distance. One of them comes close to you and asks for help. He seems to have breathing difficulties, and has red and teary eyes. What do you do? Why do you do that? Other comments?

3.8. Testing Scenarios before the Main Study

To ensure the scenarios, items, and possible response options were clear and plausible, the final scenarios were tested before distributing the survey among a pilot group consisting of eight volunteers, five academic members with experiences in the field, and development of surveys (more than 10 years), and three practitioners with experiences in military and ethical medical situations. These individuals were not included in the main study. Each participant indicated the relevance of each scenario between 0–100 percent. The relevancy of the scenarios to the pilot participants measured at this phase varied (scenario one: 80%, scenario two: 72%, scenario three: 70%, scenario four: 68%, scenario five: 67%, and scenario six: 79%).

3.9. Sample Population and Location

The survey questionnaire targeted Swedish and Polish participants. Sweden has no military hospitals and health care professionals are full-time military or civilians employed by the military, who also work at civilian hospitals. In Poland, health care professionals are employed solely by the military in military hospitals but can have civilian status. All hospitals involved were emergency/trauma hospitals according to international criteria.

3.10. Questionnaire Distribution

The online questionnaire link was distributed among two Swedish civilian hospitals' emergency departments and intensive care units, and military staff, working at the center for defense medicine ($n = 250$), and among civilian and military staff working at two Polish military hospitals ($n = 250$). The questionnaire was presented in a Google format in both countries in their native language. For the Polish population, the Swedish form was first translated into English, and then into Polish, using reverse translation to guarantee the compatibility and accuracy of the text. Accumulated data were transferred to Excel files and were analyzed, using descriptive statistics. Participants were asked to review each scenario and reply to questions for each scenario.

3.11. Study Ethics

All participants freely volunteered to take part in this study and could withdraw without penalty. All participants received information including the study's purpose, the voluntary nature of participation, absolute confidentiality, anonymity, and secure data storage. Verbal and written consent was obtained from participants. The study was compiled with the ethical guidelines and principles stipulated by Swedish and Polish laws and was exempted from ethics approval requirements in both countries.

Polish: According to the Polish Law and the Act of 5 December 1996, the professions of the doctor and dentist, there is no need for approval from the IRB if the study is not a medical experiment and legally does not require the opinion of the Bioethics Committee within the meaning of Polish Law and the aforementioned Act [49].

Swedish: In Sweden, ethical approval is mandatory if the research includes sensitive data on the participants such as race, ethnical heritage, political views, religion, sexual habits, and health or physical interventions or employs a method that aims to affect the person physically or psychologically [50,51].

3.12. Statistical Analysis

The simplest statistical test of significance (z-test) between diverse variables in entire military and civilian groups was performed (significance $p < 0.05$, confidence interval 95%). This test assumes the numbers of events in each group are Poisson variables. Under the null hypothesis, this means that the proportion of the total events in one group represents a binomial random variable with probability 1/2 [52]. Descriptive analysis was presented due to the limited study population and the ordinal character of the data. Answers that are not equidistant to the linear numeric response format indicate trends in the result with limited possibility to study co-variation.

4. Results

4.1. Summary of the Literature Review and the Core Findings

Of 170 included papers in the initial stage, 71 papers were excluded due to valid reasons or duplication. The remaining 99 papers were added to the Rayyan tool for review. Fourteen papers qualified directly, while there was a conflict concerning 40 publications, which was resolved by the third author to include 28 papers in the final list. Figure 2 demonstrates the outcome of the literature search in selected search engines. Appendix B shows information regarding the included studies and a short description of the scope, the quality of the paper, and the papers' origin.

The review indicates the limited research and lack of direct comparison between military and civilian healthcare providers. However, it also emphasizes the significance of multiagency assistance, particularly within the healthcare systems, and according to the existing international laws. Furthermore, it shows a change in the response of combatants in recent armed conflicts and the behavior of civilians during disasters, both natural and political [14,32]. Additionally, the COVID-19 pandemic has necessitated a shift in crisis standards of care from an individual to a population-based strategy [33]. Such a change is very natural in resource and time-consuming events, indicating that both military and civilian healthcare confront the same dynamic of ethics and moralities in wars and disasters. On one side, they experience moralities of obligation and aspiration, and on the other side moral motivation, influenced by how they follow the rules, and both identify and confer their role. In an extreme and austere environment, there might be difficulties in practicing what theoretically is ethical [34,35]. Consequently, healthcare providers need education and training in medical and ethical decision-making, especially when working with other agencies.

The use of new technology, such as drones, with both civilian and military implications [32], also adds a new perspective to the four existing bioethics principles (beneficence, non-maleficence, autonomy, and justice), namely, artificial intelligence ethics, and highlights the way military and civilian ethics overlap through medicine. This calls for evaluation of the crisis standards of care within the concept of CMC, which should focus on ethical justification in triage, preparation, responsibilities, resources, and social utilities, and may encompass ethical issues, such as forced participation, triage by 'gross' criteria, assumed consent, assumed contamination, forced decontamination, undermining dignity, competing for ambition, and full disclosure [36,37].

4.2. Online Survey—Summary of Findings—Main Results

One hundred and one Swedish participant (101/250 = 40%) and 98 Polish participants (98/250 = 39%) responded to our questionnaire. The participants were divided into several groups for detailed analysis, according to their position, organizational belonging, gender, and nationality (Appendix D), having the focus on differences in ethical viewpoints between civilian and military groups within each and between included nations. Table 1 demonstrates general information regarding included groups, participants' gender, and age.

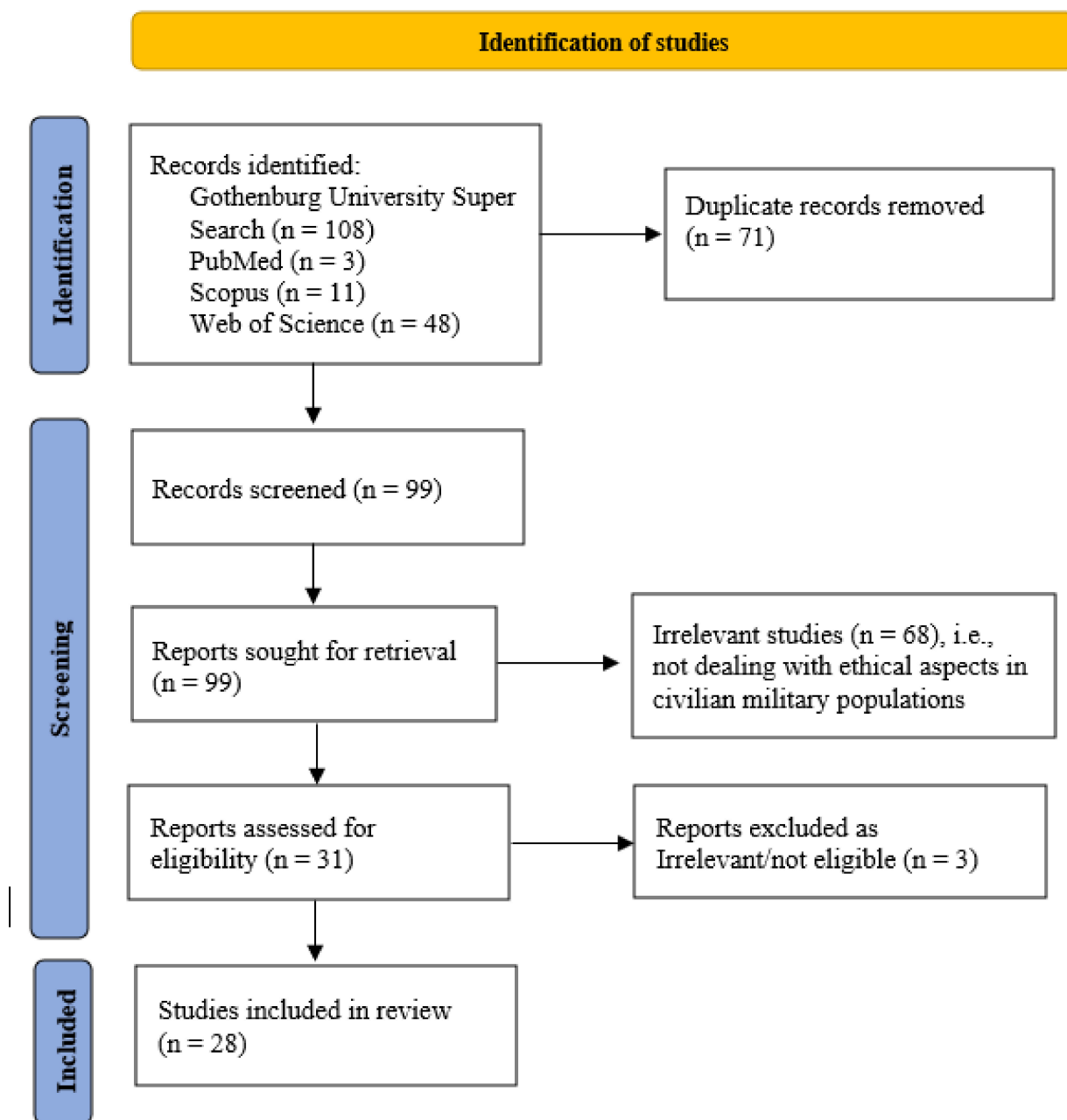


Figure 2. PRISMA 2020 flow diagram for new systematic reviews, which included searches of databases and registers only (Page et al., 2021).

In both groups, the dominant age group was 34 years and under (35% and 29% in Polish and Swedish group, respectively). In the Polish group, the majority of those aged 34 years and under were paramedics (47%), while the Swedish group in the same age group category mostly consisted of nurses (52%). Most of the physicians in both groups were aged 45 years and over (43% and 27% in Polish and Swedish group, respectively). Two Polish and six Swedish participants did not declare their age group. The Polish respondents comprised 90% male and 10% female. In the Swedish cohort, 51% were male and 49% female. Sweden had more civilian physicians and nurses, while the number of strict military staff and paramedics was larger in the Polish group. The participants could be divided into subgroups: strictly military (no health care tasks), military physicians, military nurses, or strictly civilian physicians, civilian nurses, and others, consisting of students, paramedics, and administrators. Both countries had mixed civilian and military

staff, some with conflict experience or international humanitarian missions and others without any such experience. Table A2, Appendix D demonstrates the details regarding the distribution of groups according to position, gender, and age.

Table 1. Age distribution among all groups in both countries. Others: administrators and paramedics.

	Poland				Sweden			
	<34 Years	35–44 Years	45–54 Years	>55 Years	<34 Years	35–44 Years	45–54 Years	>55 Years
Military	9	4	6	0	1	0	0	0
Military Physician	1	5	20	7	2	6	5	9
Civilian Physician	4	6	1	3	7	8	10	10
Military Nurse	0	0	1	0	1	0	0	1
Civilian Nurse	4	2	1	2	14	7	7	5
Others	16	1	2	1	2	0	0	0
Total	34	18	31	13	27	21	22	25
Female		10				49		
Male		88				52		

4.3. Scenarios

All responses to the scenarios in each group category are demonstrated in Tables 2 and 3. Appendix D displays the details for each group category (Tables A3–A8).

In scenario 1, the participants were asked to choose between their own and an enemy soldier, when preparing transport to a medical facility. Having a better prognosis, 73% of the military staff and 70% of the civilians chose to save the enemy soldiers with a better medical prognosis. There was no statistically significant difference between the civilian and military cohorts in entire population. However, the differences between civilian and military populations in each nation were statistically significant (Table 2). Furthermore, there was a statistically significant difference between two nations' civilians' viewpoint in this scenario (Table 2). There were, in addition, statistically significant differences among females and males in the entire study sample, as well as in Polish group, while no statistically significant difference was noted in the Swedish population (Table 3). Divided into the subgroups, 39 out of 53 civilian physicians (73%) and 46 out of 53 military physicians (87%), 29 out of 45 civilian nurses (64%), and all military nurses chose to save the enemy soldier. More than half of Swedish males in both civilian and military participants and most of the Swedish civilian male nurses selected their citizen (Table A3, Appendix D).

In scenario 2, the participants were asked to triage (reverse) patients in an intensive care unit, threatened by an immediate explosion. Although both civilian and military populations left someone behind, i.e., use triage to evacuate patients, there was a statistically significant difference between civilian and military populations in entire study sample (Table 2), and both nations (Table 2). The result was more prominent in the Swedish cohort because a limited number of both physicians and nurses, females and males, tried hard to get all patients out. The differences between females and males in entire study sample was statistically significant but more prominent for the Polish side (Table 3). Altogether, 88% of the military staff and 80% of the civilians chose to assign someone behind. Divided into the subgroups, 64 out of 67 civilian physicians (95%) and 31 out of 37 military physicians (84%), 37 out of 42 civilian nurses (88%), and one out 2 military nurses (50%) choose to leave some patients behind. Two Polish participants did not return the questionnaire. Four Polish and five Swedish participants did not reply to all questions (Table A4, Appendix D).

Table 2. Summary of statistical variables determining differences between civilian and military populations in Poland and Sweden (A) and between two nations, Poland and Sweden (B).

Scenarios/Groups	Groups	P	Groups	P	Groups	P	Groups	P	Groups	P	Groups	P
	A. Military vs. Civilian						B. Swedish vs. Polish					
	a. Swedish		b. Polish		c. All		a. Civilians		b. Military		c. All	
<i>One:</i> You are responsible for a casualty collecting area during an armed conflict. You receive two injured soldiers; one is from your own forces with severe injuries and poor prognosis, while the other is an enemy soldier, also severely injured, but with a better prognosis. You can only transport one to definitive care. Whom to choose and why?	9/25 Military and 24/76 civilian choose own soldier	0.008	17/71 Military and 6/25 civilian choose own soldier	0.02	26/96 military and 30/101 civilians choose own soldier	0.59	24/76 Swedish and 6/25 Polish civilians choose own soldier	<0.0001	9/25 Swedish and 17/71 Polish military choose own soldier	0.11	33/101 military and 23/96 civilians choose own soldier	0.17
<i>Two:</i> You are working at an intensive care unit and receive information that all units in your hospital should be evacuated due to a possible bomb explosion. There are 10 patients in your unit, five of whom can be evacuated by three staff at your unit. Three of remaining five patients need one staff each. The remaining two patients need two staff each. You have seven staff and need to triage. Whom do and why?	18/25 Military and 63/71 civilian leave someone behind	<0.00001	50/52 Military and 40/42 civilian leave someone behind	0.29	68/77 military and 103/113 civilians leave someone behind	0.007	63/71 Swedish and 40/42 Polish civilians leave someone behind	<0.0001	18/25 Swedish and 50/52 Polish military leave someone behind	0.0001	81/96 military and 90/94 civilians leave someone behind	0.49
<i>Scenario 3:</i> You are in the hot zone of an armed conflict and are responsible for casualty collection area. You have 10 injured and none of them can move without help. You have two staff. You receive the order to retreat. What do you do and why?	5/24 Military and 19/70 civilian follow order to retreat	<0.00001	43/72 Military and 11/23 civilian follow order to retreat	0.0001	48/96 military and 30/93 civilians follow the order to retreat	0.04	19/70 Swedish and 11/23 Polish civilians follow order to retreat	<0.0001	5/24 Swedish and 43/72 Polish military follow order to retreat	<0.0001	24/94 military and 54/95 civilians follow the order to retreat	0.0006

Table 2. Cont.

Scenarios/Groups	Groups	P	Groups	P	Groups	P	Groups	P	Groups	P	Groups	P
	A. Military vs. Civilian						B. Swedish vs. Polish					
	a. Swedish		b. Polish		c. All		a. Civilians		b. Military		c. All	
<p><i>Scenario 4:</i> You are assigned to conduct a drone attack. The target is a group of enemy, of whom one is a key person. They are in an area with tens of civilians, many of whom will definitely die under the attack. What do you do and why?</p>	4/22 Military and 15/59 civilian follow order to fire drones	<0.00001	17/51 Military and 8/18 civilian follow order to fire drones	0.07	21/73 military and 23/77 civilians follow order to fire drones	0.76	15/59 Swedish and 8/18 Polish civilians follow order to fire drones	<0.0001	4/22 Swedish and 17/51 Polish military follow order to fire drones	0.004	19/81 military and 25/69 civilians follow order to fire drones	0.36
<p><i>Scenario 5:</i> You are a pilot and your mission is to pick up (repatriate) infected citizens out of another country in a closed zone. You can only transport 80 people. That is the exact number of your citizens. However, after landing you notice that there are also non-citizens waiting for you. Five out of these 10 people are children. All insist to be evacuated. What do you do and whom do you choose? Why do you do that? Other comments?</p>	15/24 Military and 35/68 civilians choose to evacuate as ordered	<0.00001	11/70 Military and 7/29 civilian choose to evacuate as ordered	0.34	26/94 military and 42/97 civilians choose to evacuate as ordered	0.052	35/68 Swedish and 7/29 Polish civilians choose to evacuate as ordered	<0.0001	15/24 Swedish and 11/70 Polish military choose to evacuate as ordered	0.005	50/92 military and 18/99 civilians choose to evacuate as ordered	0.0001
<p><i>Scenario 6:</i> You are driving your car together with a colleague. Suddenly, you find a tanker truck carrying an unknown substance, overturned on the road. Another private car has already arrived on the scene and four persons are investigating the tank at a very close distance. One of them comes close to you and asks for help. He seems to have breathing difficulties, and has red and teary eyes. What do you do? Why do you do that? Other comments?</p>	8/27 Military and 39/69 civilian chose to alert responsible civil agency	<0.00001	13/72 Military and 6/25 civilians chose to alert responsible civil agency	0.10	51/99 military and 33/94 civilians chose to alert responsible civil agency	0.049	39/69 Swedish and 6/25 Polish civilians chose to alert responsible civil agency	<0.0001	8/27 Swedish and 13/72 Polish military chose to alert responsible civil agency	0.27	47/96 military and 19/99 civilians chose to alert responsible civil agency	0.0001

Table 3. Summary of statistical variables determining differences between females and males in Poland and Sweden.

Scenarios	Groups	<i>p</i>
a. Swedish Male vs. Swedish Female		
1	22/52 male and 11/49 female	0.056
2	41/50 male and 40/46 female	0.27
3	12/50 male and 12/44 female	1.0
4	14/45 male and 5/36 female	<0.039
5	31/48 male and 19/44 female	0.09
6	19/53 male and 28/45 female	0.19
b. Polish Male vs. Polish Females		
1	21/86 male and female 2/10 females	<0.0001
2	82/85 male and female 8/9	<0.0001
3	52/86 male and female 2/9	<0.0001
4	22/60 male and female 3/9	<0.0001
5	16/89 male and female 2/10	<0.0009
6	16/87 male and female 3/10	<0.002
c. All Females vs. Males		
1	13/59 females and 43/138 choose own soldier	<0.0001
2	48/55 females and 123/134 civilians leave someone behind	<0.0001
3	14/53 females and 64/136 males follow the order to retreat	<0.0001
4	8/42 females and 36/100 males follow order to fire drones	<0.0001
5	21/54 females and 47/137 males choose to evacuate as ordered	<0.0016
6	31/55 females and 35/148 males chose to alert responsible civil agency	0.62

Scenario 3 illustrated differences in viewpoints (Table A5, Appendix D) on how to manage victims in a casualty collection area after receiving order to retreat due to intensive enemy fire. Although most of the participants in both groups either retreat directly or try to abandon some people to care for the victims, 57% of Polish staff would retreat with no question, but only 25% of the Swedish staff would obey the order. The differences in civilian and military populations for the entire study sample (Table 2) as well as each nation were statistically significant (Table 2). Furthermore, statistically significant differences were observed among females and males, most prominent in the Polish population (Table 3). The Swedish staff seemed to be more aware of alternative evacuations plan, like the use of MEDEVAC. Altogether, 47% of the military staff and 32% of the civilians preferred to retreat, while the remaining staff in both groups chose other alternatives. Divided into the subgroups, 19 out of 47 civilian physicians (40%) and 26 out of 52 military physicians (50%), 10 out of 43 civilian nurses (23%), and none of 2 military nurses (0%) chose to retreat according to the rules of engagement. Three Polish and seven Swedish participants did not reply.

In scenario 4, the participants are asked to conduct a drone attack and eliminate a key enemy officer. The act could be decisive for the battle but was associated with civilian deaths. Sixty-nine (70%) of the Polish respondents and 81 (80%) of Swedish respondents replied to the questions (Table A6, Appendix D). The mutual choice for both sides was the number of staff who would not obey the mission. Around 63% of the Polish and 76% of the Swedish population did not perform the task. These differences were not statistically significant, except for the Swedish civilian and military population (Table 2). Furthermore, there were statistically significant differences between two nations in both civilian and

military populations (Table 2), as well as between females and males in entire study sample (Table 3). Among the Polish group, male physicians and among the Swedish group female nurses were dominantly against the mission. Altogether, 28% of the military staff and 30% of the civilians chose to fire, while the remaining staff in both groups chose other alternatives. Divided into the subgroups, 22 out of 36 civilian physicians (61%) and 27 out of 39 military physicians (69%), 24 out of 34 civilian nurses (70%), and one of 2 military nurses (50%) chose to defy the direct order of conducting a drone attack.

Scenario 5 dealt with repatriation of staff from a pandemic area. Both staff and native civilians were in the collection area. All Polish respondents and a majority ($n = 92$) of Swedish participants answered the questions in this scenario (Table A7, Appendix D). Most of the Polish staff did not choose to follow the order and tried to find ways not only to evacuate their citizens but also some or all foreign citizens (81%). In the Swedish population, the number of Swedish staff not willing to follow the order was 45%. The most prominent result was from Swedish civilian female nurses. The number of those not obeying the order was twice higher than those who performed the mission as planned. There were statistically significant differences between the Swedish military and civilian (Table 2), between two nations (Table 2), and between females and males (except the Swedish population) (Table 3). Altogether, 41% of the military staff and 43% of the civilians chose to evacuate their citizens, while the remaining staff in both groups chose other alternatives. Divided into the subgroups, 23 out of 52 civilian physicians (44%) and 15 out of 54 military physicians (28%), 17 out of 42 civilian nurses (40%), and one of 2 military nurses (50%) chose to follow the given order and only evacuate their citizens.

Scenario 6 (Table A8, Appendix D) demonstrated a relatively common incident in civilian life that requires real-time considerations. An incident with the risk for contamination needs to be managed by staff with specific knowledge in chemical, biological, radiological, and nuclear hazards. The obvious difference in this scenario is the number of Polish staff choosing to help or instruct how to handle the situation. Conversely, almost half of the Swedish staff chose to alert the emergency dispatch center to initiate the routine preparedness chain. There were statistically significant differences between the civilian and military populations (except in Polish group) (Table 2), nations (except between the Swedish and Polish military population) (Table 2), and the Polish female and male population (Table 3). Altogether, 51% of the military staff and 35% of the civilians chose to help victims, while the remaining staff in both groups chose other alternatives. Divided into the subgroups 23 out of 51 civilian physicians (45%) and 33 out of 57 military physicians (57%), 9 out of 42 civilian nurses (21%) chose to help affected victims despite the risk for chemical contamination.

5. Discussion

Despite limited comparison between civilian and military populations in the literature, the results of this study indicate that both populations confront and resolve ethical and moral challenges differently. There is a difference in ethical decision-making within each population, which may influence the collaboration between the two populations in peacetime as well as during armed conflicts and humanitarian assistance in disasters.

Previous studies have indicated that personal, cultural, and environmental factors like gender, education, value orientation, nationality, age, etc., can influence moral doctrine and ethical decision-making [1,11,12,18,19]. With an increasing number of armed conflicts and public health emergencies, there have been changes in the response of combatants, and the behavior of civilian population, which together with the shift in crisis standards of care seen and experienced during pandemics, e.g., COVID-19, cause ethically sensitive situations [32]. In these situations, which mandate a multiagency collaboration, staff in various agencies may experience moralities of obligation and aspiration differently versus moral motivation, influenced by rules, identity, virtues, and the diverse roles they play [21,34]. This is likely one reason why the results of this study, although not statistically significant in all investigated areas, still show a trend in diverse ethical viewpoints between the two populations. These results may offer further opportunities and increased awareness

for inquiry to conduct renewed studies targeting multiagency and multinational collaboration. Nationality was singled out as a major factor in ethical decision-making in this study as well as in other studies and publications [25,31,53–56], while other factors, such as organizational belonging and gender/sex were equally significant [18,57]. The differences found in nationality between the two investigated countries may refer to historical reasons. Poland and Sweden have once belonged to a mutual kingdom and have enjoyed a very close relationship in the past. However, they have experienced different organizational structures and divergent historical and political paths. Poland has a separate military healthcare, developed during the eastern political and military block, while Sweden, being a neutral country, has no military healthcare and has been influenced by western political and military block [38].

Healthcare professionals must deliver care and services consistent with ethical standards in all routine scenarios [30,37,55,56,58–63]. However, during a disaster or war, ethical dilemmas can intensify further under crisis standards of care when complex decisions must be executed to use and allocate resources and to “do best for the most” [56,60,64]. From a medical planning perspective, consistency, fairness, effectiveness, and transparency should be achieved by consensus between all involved organizations, taking existing values, norms, and moral traditions of a community into special consideration [65–67]. Such consensus is probably not feasible in armed conflicts unless better anticipation and improved prevention are in place to reduce the risk of deliberate or unintentional breaches of the human rights to directly and indirectly affect disaster and war victims. Human rights violations may simply be associated with forced participation, triage by ‘gross’ criteria, assumed consent, assumed contamination, forced decontamination, undermining dignity, competing for ambition, and full disclosure [36,37,68,69]

Although, in contrast to wars, disasters might be unexpected, the chaos and disorganization caused by both in the society result in a grave violation of the entire range of human rights and, during the event, have the potential to influence all beings. In such a situation, the diversity in ethical viewpoints among healthcare providers may cause a considerably vaster issue [30,37,55,68–70]. Since CMC remains an alternative for subsequent management of crises, a consistent and successful civilian–military collaboration can only be achieved if there is compatibility between organizations in both medical and non-medical aspects [13,31,71,72]. One crucial element of such compatibility remains the ethical and moral standings of the staff. The virtues in military populations and factors influencing the ethical decision-making in civilians might be interpreted and influence the other population differently. Therefore, the exposure of both the civilian and the military staff to fictitious but possible scenarios in this study, and the uncovered similarities and differences in perception and approaches of each cohort, may be used to resolve conflicts [19,21].

The statistically significant differences in scenario one concerning both two organizations and nations and the way females and males may influence ethical decision-making may reflect the cultural and traditional differences between the two nations. The more horizontal and transparent organizational structure in Sweden as well as the fact that Sweden has been at peace for over 100 years may play a crucial role [2,6,73].

In the second scenario, the differences in organizational belonging as well as the national background are illustrative. These differences are equally prominent between Polish females and males. Such diversity may be due to the consensus culture and the horizontal organizational structure as well as gender equality in Sweden [2,11,73,74]. Scenario 3 aimed at testing the line of order and the fact that decisions should be made for the best of the most. The differences between the two nations are statistically significant with the Swedish cohort not following the order. While differences between civilian and military organizations could be expected, there were equally evident differences between Polish females and males [70,73–75]. A vertical organization would likely find it easier to implement the orders [2], while a horizontal structure requires more reasoning and discussion.

Although controversial, scenario four was included because drone attacks endure and will be part of impending wars and armed conflicts [14,32]. This scenario increases the

awareness of the military staff of the challenges they may face as well as the knowledge of civilians about military ethical challenges. Additionally, it emphasizes the need for an ethical framework protecting those impacted while completely recognizing the benefits the technology offers by considering the bioethics principles [76]. A considerable number of participants in both countries denied the order in this scenario. Almost no Polish military physicians performed the task, which represents a pertinent observation since the Polish group seemed to follow the vertical organizational structure in other scenarios, while the Swedish populations seemed to be more willing to accomplish the mission.

Despite the risks involved, most of the participants in the Polish group and almost half of the Swedish cohort chose to deny the order and tried to evacuate all victims in scenario five. Such a decision may not only endanger evacuation safety but also increases the theoretical risk of infection in the native population [77,78]. Almost all Polish military participants and most of the female Swedish civilian nurses chose to alter their plan, indicating a variation of the professional, national, and gender differences.

Finally, scenario number six demonstrates an ordinary incident in civilian life, but also a situation familiar to the military staff [78]. It was surprising that over 50% of the Polish population chose to reach out and assist the victims. It is, however, unclear whether it was because of self-confidence or moral responsibility. In the Swedish population, most participants use the routine alerting system and appeal for help. Yet around 30% try to help directly, which comprises a considerable number.

In both armed conflicts and disasters, good governance requires the participation of both civilian and military populations in the planning and decision-making processes [20,35,79–93]. It is also crucial everyone recognize the significance of accountability for their actions in all levels of management to facilitate the human rights of communities and local populations, their customs, and cultures [6,12,35,53,84–86,92–97]. Nevertheless, both disasters and wars cause situations that may overwhelm personal perceptions, feelings, and viewpoints. These situations demand quick and proper decision-making to save lives and leave no space for deontological thinking. It is, however, unclear whether human beings, irrespective of their background, education, and knowledge, can make ethical decisions without being exposed to ethically sensitive situations repeatedly [31,55,59–61]. Considerable variations between the two groups, the comparison between civilian and military staff as well as different countries in this study, may result in important considerations for upcoming civilian–military, as well as other multiagency and multinational collaboration. Neither civilian nor military organizations can be certain about the willingness of their employees to implement tasks and orders [98]. There seem to be differences in ethical decision-making among various age groups, nations, and organizations, indicating a need for new discussions about the importance and implications of International Law and the Geneva Convention in disasters and wars [34,99].

According to Shanks [93], civilian–military relations may confront five different options, all of which result in diverse outcomes. To begin with, they can have shared values but conflicting interpretations of a situation. Next, they may also have shared values but conflicting priorities. Thirdly, there may be no shared values but a shared process. Fourthly, they may have no shared substantive or procedural values, and finally, they might experience an amoral principle towards what may result from the actions they face. Since the continuous globalization and upcoming multinational collaboration rely on a homogeneous and synchronized relationship as well as mutual ethical considerations, the goal in a collaboration should be having shared values and shared interpretation.

5.1. Theoretical and Practical Implication of the Study

Theoretical: Responding options may differ between populations, according to their orthodox versus deontological standpoints and due to historical factors. In military operations, the spectrum of relations between the military sector and the civilian authorities, population, organizations, and agencies is wide. The nature of these relationships will vary depending on the type of activity carried out, indicating that the civilian–military partner-

ship is interdependent and indispensable. However, such partnership needs to be clearly defined as coordinating, cooperative, or collaborative. The latter needs a mutual and long-term goal, shared value, and a supportive environment through further dialogue, research, and mutual education. Research and theoretical frameworks are needed to recognize the conditions for civilian–military health systems' collaboration, and the most efficient ways they can complement each other in emergency and non-emergency situations. It equally offers the potential to provide information about the previous experiences in evaluating choices for civilian–military partnership as part of a national resilience program to mitigate future health crises. These elements should be considered in theoretical planning for any partnership and included in future scenario-based exercises to boost interagency response to emergencies.

Practical: The diversity in ethical viewpoints among healthcare providers may cause a considerable issue. Staff in various agencies may experience moralities of obligation and aspiration differently versus moral motivation, influenced by rules, identity, virtues, and the diverse roles they play. The results of this study may offer further opportunities and increased awareness for inquiry to conduct renewed studies targeting multiagency and multinational collaboration. This article revealed the gaps and the need for training and education to improve future civilian–military collaboration in crises. It also opens up a discussion on this subject and the perspective of broader research in this area. The experience gained from this study will constitute the basis for planned subsequent research. Simultaneously, it serves a wider standardization of the research tool used. Finally, this study indicated a need for practical engagement of all agencies in ethically sensitive issues. All agencies not only need to discuss their resource and skills capacities and limitations, but also what ethically may cause them to perform differently or insufficiently during disasters and emergencies.

5.2. Limitations

The tentative results of the online survey were obtained from civilian and military staff with specific knowledge and background, which consequently limited the number of respondents. Although the participants may not represent conflict healthcare, they do represent military and civilian healthcare from two European countries with different socio-political and military healthcare structures, therefore fulfilling the purpose of this study. However, the transferability of the results of this study needs to be tested in other countries' military and civilian populations. A larger sample size can be achieved by incorporating various national and international military and civilian healthcare organizations. Such involvement might be needed to increase the willingness of various groups to participate. The use of qualitative interviews, or mixed methods, may also help to increase the number of participants.

Furthermore, the participants in this study came from diverse culture and professional background and consequently may have diverse understanding of ethics. This may have influenced the outcome of the study.

Finally, using only publications in English may have limited the search for data, resulting in missing information in other languages. The criteria used to narrow the selection of included publications enabled the authors to access eligible data and a feasible number of publications to handle the content analysis and to perform the review. However, these criteria may have been too selective. These limitations can be addressed in future research.

This is one of the first studies on the subject in Europe and one of the few studies, globally, which provides new information on civilian–military collaboration. Therefore, it may have limited transferability, but offers new insights to be included in subsequent comprehensive research.

6. Conclusions

The discrepancy in ethical and moral positions among civilian and military populations may be due to several factors, of which nationality was found to represent a significant

factor in this study. This finding is particularly important to harmonize upcoming collaborations in disasters and armed conflicts, since both events involve multiagency and multinational participants, influence the well-being of a society, and are associated with grave violations of human rights. While there is a need for multicenter studies to test the transferability of the results of this study, the current paper may offer further opportunities and increased awareness for inquiry to conduct renewed investigations in other countries. It may also indicate that the current educational alternatives, decision-making abilities, and operational capabilities are insufficient and demand an alternative approach to develop a health-crisis management framework, which may oversee the phase-related strategic and operational requirements and challenges in major global crises. Within such a framework, ethical consequences of decision-making in emergencies and wars could be discussed to uncover the dual loyalties perceived by civilian and military staff, and to include a minimum set of ethical standards for involved agencies.

Author Contributions: A.K.-M. provided the main framework, identified primary materials, and was a major contributor in writing the manuscript. K.G., P.P. and A.S. were involved in data analysis and interpretation of the results. A.K.-M., K.G., P.P., L.G., E.C., A.S., A.J.H. and F.M.B. collaborated on the writing and editing of the manuscript. All authors have read and agreed to the published version of the manuscript.

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Appendix A

Appendix 1: Health Evidence Quality Assessment Tool

Health EvidenceTM
 Helping public health use best evidence in practice since 2005

Quality Assessment Tool – Review Articles

Instructions for completion:

Please refer to the attached dictionary for definition of terms and instructions for completing each section. For each criteria, score by placing a check mark in the appropriate box.

First Author: _____
 Year: _____
 Journal: _____
 Reviewer: _____

CRITERIA	YES	NO
Q1. Did the authors have a clearly focused question [population, intervention (strategy), and outcome(s)]?		
Q2. Were appropriate inclusion criteria used to select primary studies?		
Q3. Did the authors describe a search strategy that was comprehensive? <i>Circle all strategies used:</i> <ul style="list-style-type: none"> <input type="checkbox"/> health databases <input type="checkbox"/> psychological databases <input type="checkbox"/> social science databases <input type="checkbox"/> educational databases <input type="checkbox"/> other <input type="checkbox"/> handsearching <input type="checkbox"/> key informants <input type="checkbox"/> reference lists <input type="checkbox"/> unpublished 		
Q4. Did search strategy cover an adequate number of years?		
Q5. Did the authors describe the level of evidence in the primary studies included in the review? <ul style="list-style-type: none"> <input type="checkbox"/> Level I <input type="checkbox"/> RCTs only <input type="checkbox"/> Level II <input type="checkbox"/> non-randomized, cohort, case-control <input type="checkbox"/> Level III <input type="checkbox"/> uncontrolled studies 		
Q6. Did the review assess the methodological quality of the primary studies, including: <i>(Minimum requirement: 4/7 of the following)</i> <ul style="list-style-type: none"> <input type="checkbox"/> Research design <input type="checkbox"/> Study sample <input type="checkbox"/> Participation rates <input type="checkbox"/> Sources of bias (confounders, respondent bias) <input type="checkbox"/> Data collection (measurement of independent/dependent variables) <input type="checkbox"/> Follow-up/attrition rates <input type="checkbox"/> Data analysis 		
Q7. Are the results of the review transparent?		
Q8. Was it appropriate to combine the findings of results across studies?		
Q9. Were appropriate methods used for combining or comparing results across studies?		
Q10. Do the data support the author's interpretation?		
TOTAL SCORE:		

Quality Assessment
 Rating:

Strong
 (total score 8 – 10)

Moderate
 (total score 5 – 7)

Weak
 (total score 4 or less)

Figure A1. Development of scenarios.

Appendix B

Table A1. The results of the literature review, including topic (CE = civilian ethic, ME = military ethic, CME = civilian–military ethic, CM = civilian–military aspects), health quality evidence (QE), main author (MA), article information, main scope, and items obtained.

No.	QE	MA/Year/Country	Journal	Title	Topic/Main Scope	Items
1	S	O'Fallon, M.J., et al., 2005, USA	J Bus Ethics	A Review of the Empirical Ethical Decision-Making Literature: 1996–2003	CE/A review summarizing the research on ethical decision-making from 1996–2003. Findings are summarized to high lighten the impact of dependent variable: awareness, intent, judgment, and behavior in ethical decision-making.	Awareness, intent, judgment, and behavior
2	M	Simonds, A.K., 2009, UK	Eur Resp J	Lives on the line. Ethics and practicalities of duty of care in pandemics and disasters.	CE/Highlighting the pandemic situation, focusing on health care duties' ethical aspects and the roles of workforces and their safety.	Duty, Role Responsibility
3	M	Wiist, W.H., 2009, Canada	Am J Public Health	The role of public health in the prevention of war: rationale and competencies.	CM/The study described public health perspectives during war in support of public health.	Role
4	M	Jennings, P.L., 2011, USA	Mil Psychol	The Moralities of Obligation and Aspiration: Towards a Concept of Exemplary Military Ethics and Leadership	ME/The dynamics of military ethics based on two contrasting but complementary moralities—moralities of obligation and aspiration—and the two types of moral motivation, i.e., rule following and identity conferring.	Obligation Aspiration Roles, Motivation
5	S	Sousa, C., 2011, USA	Global public health	Conflict, health care and professional perseverance: A qualitative study in the West Bank	CME/How military considerably affects civilians' access to both urgent and preventive care by exposing healthcare providers to harassment and violence.	Exposure Management
6	W	Zehfuss, M., 2011, UK	Eur J Int Relation	Targeting: Precision and the production of ethics	CME/Praise for precision in producing Western warfare also reproduces a particular kind of ethics, based on the notion of non-combatant protection.	New weapon New ethical situations
7	M	Geale, S.K., 2012, Saudi Arabia	Disaster Prev manag	The ethics of disaster management.	CE/Emphasis on ethical management in disaster and emergencies and the need for disaster management system (communication, education and training, etc.).	Requirements for ethical assessment
8	S	Craft, J.L., 2013, USA	J Bus Ethics	A Review of the Empirical Ethical Decision-Making Literature: 2004–2011	CE/A review summarizing the research on ethical decision-making from 2004 to 2011. Rest's four-step model for ethical decision-making is used to summarize findings by dependent variable—awareness, intent, judgment, and behavior. A discussion of findings in each category is provided in order to uncover trends in the ethical decision-making literature.	Ethical decision-making, Awareness, Intent, Judgement, and Behavior

Table A1. Cont.

No.	QE	MA/Year/Country	Journal	Title	Topic/Main Scope	Items
9	M	Hunt, M.R., 2014, Canada	Dev world bioethics	The Ethics of Engaged Presence: A Framework for Health Professionals in Humanitarian Assistance and Development Work.	CE/Health care professionals whose understanding and actions are consistent with the ethics of engaged presence develop, sustain and promote collaborative partnerships.	Ethics Collaboration
10	M	Rebera, A.P., 2014, Italy	Sci engin ethics	On the Spot Ethical Decision-Making in CBRN Response: Approaches to on the Spot Ethical Decision-Making for First Responders to Large-Scale Chemical Incidents	CE/The ethical issues in long-term CBRN experiences were noted as forced participation, forces restraint, triage by 'gross' criteria, assumed consent, forced decontamination, undermining dignity, assumed contamination, competing ambition, and full disclosure.	Forced management Ethical issues
11	W	Baker, G.H., et al., 2015, USA	Joint Force Quarter	Vertical and horizontal respect: a two-dimensional framework for ethical decision making	ME/Vertical respect (hierarchical line) and horizontal respect (human relationships), can together represent a practical framework in ethical decision-making.	Respect vs. Ethics
12	M	Lazar, S., 2015, USA	Ethics	Risky Killing and the Ethics of War	CME/The moral distinction of killing between civilian and soldier in wars.	Moral in action
13	M	Mileham, P., 2016, USA	Defense Scur analysis	Human conflict and universal ethics (part 2)	CME/Focus on the difficulties of conceiving what is good theoretically, and doing what is right practically in armed conflicts.	Doing right the bad ethics
14	M	Weiss, T.G., 2016, USA	Glob Policy	Ethical Quandaries in War Zones, When Mass Atrocity Prevention Fails	CME/Focus on moving away from input and output-based decisions towards outcomes.	Changing paradigm
15	S	Young, S.S., 2016, USA	Glob Qual Nurs Res	Conflict and Care: Israeli Healthcare Providers and Syrian Patients and Caregivers in Israel.	CE/Supportive and hindering systemic elements contributing to the healthcare provider-patient-caregiver relationship.	Facilitators & constrainers of ethics
16	M	Rochon, C., 2016, Canada	J Law Med Ethics	Are Military and Medical Ethics Necessarily Incompatible? A Canadian Case Study.	CME/Focus on the overlap of the military and medical ethics in terms of integrity and values. Physicians' autonomy and soldiers' hierarchal line.	Value, Integrity Autonomy Hierarchy
17	W	Bywater, M., 2017, UK	J Int Human Legal Stud	Classical and Political Humanitarianisms in an Era of Military Interventionism and the War on Terror	ME/The changes in belligerents' response to armed conflicts and how the intention, documentation, and reporting of violence will bolster military intervention.	Intention Aversion Ethics

Table A1. Cont.

No.	QE	MA/Year/Country	Journal	Title	Topic/Main Scope	Items
18	S	Leider, J.P., 2017, USA	Am J Public Health	Ethical guidance for disaster response, specifically around crisis standards of care: a systematic review.	CE/The crisis standard of cares in disaster focused on ethical justification in triage, preparation responsibilities, resources, and social utilities.	Justification Resource Responsibility
19	S	Burkle, F.M., 2019, USA	Disaster Med Public Health Prep	Health Care Providers in War and Armed Conflict: Operational and Educational Challenges in International Humanitarian Law and the Geneva Conventions, Part II. Educational and Training Initiatives	CME/Utilizing a historical framework addressing the transformation of the education and training of humanitarian health professionals from the Cold War to today and future recommendations.	Education Ethics
20	W	Schussler, L., 2019, USA	JAMA surgery	Protecting surgeons and patients during wars and armed conflicts: importance of predeployment training on the Geneva conventions and International Humanitarian Law	CE/Surgeons must join the effort to ensure that their training and that of other health care personnel, in their rights and obligations under the Geneva Conventions and International Humanitarian Law are fundamental to ensure effective humanitarian aid and its advocacy.	Rights Obligations Laws Humanitarian
21	M	Zarka, S., 2019, Israel	Bioethics	Humanitarian medical aid to the Syrian people: Ethical implications and dilemmas.	CE/Challenges in medical care for civilians: ethical principles implementation and new ethical dilemmas, e.g., standard of treatment, cultural differences, etc.	Ethical principles & Treatment
22	M	Lundberg, K., 2019, Sweden	Nursing Ethics	Dual loyalties: Everyday ethical problems of registered nurses and physicians in combat zones	CME/Reasons for civilian registered healthcare professional not undertaking combat duties were that it was not in their role, not according to ethical codes or humanitarian law or a breach towards patients. Reasons for undertaking combat duties were that humanitarian law does not apply or has to be treated pragmatically or that it is a case of force protection. Shortage of resources and competence were reasons for both doing and not doing military tasks. Under some circumstances, they could undertake military tasks: when under threat, if unseen or if not needed for healthcare duties.	Humanitarian Law, Duties, Role, Resource shortage
23	M	Pingree, C.S., 2020, USA	HEC forum	Medical Ethics in Extreme and Austere Environments	CME/Focus and emphasize on ethical challenges and promotes individual physician training in both medical and ethical decision-making.	Ethics Training

Table A1. Cont.

No.	QE	MA/Year/Country	Journal	Title	Topic/Main Scope	Items
24	M	Cawthorne, D., 2020, Denmark	Sci Eng Ethics	An Ethical Framework for the Design, Development, Implementation, and Assessment of Drones Used in Public Healthcare	CE/The emergence of fifth bioethics principles from artificial intelligence ethics: explicability.	AI and new ethical issues
25	M	de Vries, P., 2020, The Netherland	J Mil Ethics	Virtue Ethics in the Military: An Attempt at Completeness	ME/There are seven virtues of character and the intellectual virtue of practical wisdom, i.e., responsibility, competence, comradeship, respect, courage, resilience, discipline, and practical wisdom (corresponding military praxis of task, arms, cooperation, enemy, danger, undetermined time and place, rules, and action). These virtues provide clear and practical guidance on the standards of excellence and how one ought to behave in a comprehensive use of narrative in turn provides a context for elaboration on the virtues and their role in successful military operations.	Task, Arms, Cooperation, Enemy, Danger, Undetermined time and place, Rules, and Action
26	M	Hertelendy, A.J., 2021, USA	Int J Qual Health Care	Crisis standards of care in a pandemic: navigating the ethical, clinical, psychological and policy-making maelstrom	CE/A shift in crisis standard of care in pandemic from an individual to a population-based and the focus has profound consequences on how clinical decisions are made at the point of care.	Pandemic Medical decision-making vs. Ethics
27	M	Shanks Kaurin, P., 2021, USA	Strat Stud Quart	An “Unprincipled Principal”: Implications for Civil-Military Relations	CME/Discusses separate spheres, shared responsibility, and the place of moral values and normative commitments in Civil–Military relationship. There are some principals in this relationship that may have the right to be wrong but there is a need for guidance of those working operationally about how they should act when the moral and normative values of their principal are called into question.	Ethics, Moral, and Values and the principals strategically and operationally
28	S	Khorram-Manesh, A., 2021, Sweden	Front Public Health	Estimating the number of civilian casualties in modern armed conflicts—A Systematic Review	CME/A systematic review, pointing out the increasing number of public health emergencies and armed conflicts with particular attention on the challenges on the field. Deficient casualty counting during modern conflicts due to organizational, political or strategic reasons, the international organizations responsible for collecting such data (the International Federation of Red Cross and Red Crescent and International Institute of Humanitarian Law) face difficulties in accessing the conflict scene, resulting in under-reported, unreliable, or no-reported data.	IHL, Resource limitation, Modern armed conflicts

Appendix C. Converting Topics to Subjects through Content Analysis

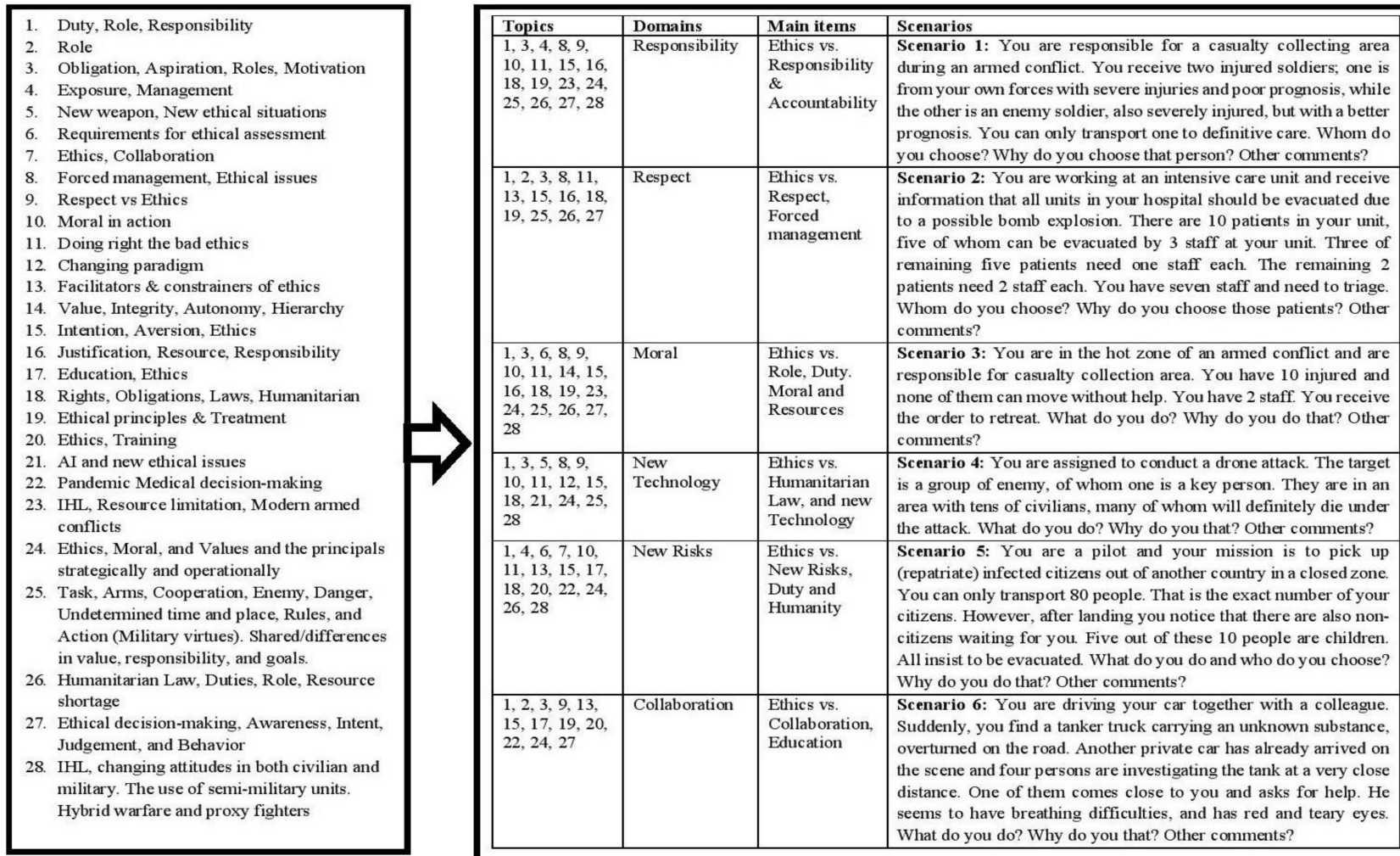


Figure A2. PRISMA 2020 flow diagram for new systematic reviews, which included searches of databases and registers only.

Appendix D. Subgroups Characteristics and Responses

Table A2. The distribution of groups based on the position, gender, and age.

General Information	Polish		Swedish	
	Male	Female	Male	Female
Military	69	4	22	6
Civilian	19	6	30	43
Military	19	1	1	0
Military Physician	31	2	18	4
Civilian Physician	15	1	20	18
Military Nurse	0	0	2	0
Civilian Nurse	4	5	10	25
Others (administration + Paramedic)	19	1	1	2
Total	88	10	52	49

Table A3. The viewpoints of the Polish and Swedish participants in scenario 1.

Scenario 1	Polish		Swedish	
	Own	Enemy	Own	Enemy
Military	17	54	9	16
Civilian	6	19	24	52
Military Female	0	1	0	0
Military Male	9	9	0	1
Civilian Physicians Female	0	1	4	14
Civilian Physicians Male	3	11	7	13
Military Physicians Female	0	2	2	2
Military Physicians Male	0	31	7	11
Civilian Nurse Female	2	3	5	20
Civilian Nurse Male	1	3	8	3
Military Nurse Female	0	0	0	0
Military Nurse Male	0	0	0	2
Others Female	0	1	0	2
Others Male	8	11	0	0
Total	23	73	33	68

Table A4. Both groups' viewpoints in triaging patients before evacuation.

Scenario 2	Polish		Swedish	
	Leave Some	Take All	Leave Some	Take All
Military	50	2	18	7
Civilian	40	2	63	8
Military Female	1	0	0	0
Military Male	18	0	1	0
Civilian Physicians Female	2	0	14	2
Civilian Physicians Male	31	0	17	1

Table A4. *Cont.*

Scenario 2	Polish		Swedish	
	Leave Some	Take All	Leave Some	Take All
Military Physicians Female	1	0	4	0
Military Physicians Male	14	0	12	6
Civilian Nurse Female	4	0	20	4
Civilian Nurse Male	3	1	10	1
Military Nurse Female	0	0	0	0
Military Nurse Male	0	0	1	1
Others Female	0	1	2	0
Others Male	16	2	0	0
Total	90	4	81	15

Table A5. The differences in decision-making between the Polish and Swedish health care staff.

Scenario 3	Polish				Swedish			
	Retreat	Leave	Stay	Medevac	Retreat	Leave	Stay	Medevac
Military	43	22	5	2	5	6	5	8
Civilian	11	8	2	2	19	30	8	13
Military Female	0	1	0	0	0	0	0	0
Military Male	14	5	0	0	0	0	1	0
Civilian Physicians Female	0	0	0	0	6	5	2	2
Civilian Physicians Male	8	3	1	1	5	8	2	4
Military Physicians Female	1	1	0	0	0	1	0	3
Military Physicians Male	20	10	1	0	5	4	3	5
Civilian Nurse Female	1	2	1	1	5	13	1	4
Civilian Nurse Male	2	2	0	0	2	4	2	3
Military Nurse Female	0	0	0	0	0	0	0	0
Military Nurse Male	0	0	0	0	0	1	1	0
Others Female	0	1	0	0	1	0	1	0
Others Male	8	5	4	2	0	0	0	0
Total	54	30	7	4	24	36	13	21

Table A6. The result of the groups' viewpoint in conducting drone attack involving civilians.

Scenario 4	Polish				Swedish			
	Fire Drone	Don't Fire	Call Superior	Un-Decided	Fire Drone	Don't Fire	Call Superior	Un-Decided
Military	17	31	2	1	4	10	2	6
Civilian	8	9	0	1	15	40	2	2
Military Female	1	0	0	0	0	0	0	0
Military Male	11	5	1	1	0	1	0	0
Civilian Physicians Female	0	1	0	0	2	8	1	0
Civilian Physicians Male	3	4	0	0	7	9	1	0
Military Physicians Female	0	1	0	0	0	3	0	1
Military Physicians Male	1	18	0	0	4	5	1	5

Table A6. *Cont.*

Scenario 4	Polish				Swedish			
	Fire Drone	Don't Fire	Call Superior	Un-Decided	Fire Drone	Don't Fire	Call Superior	Un-Decided
Civilian Nurse Female	2	3	0	0	3	14	0	2
Civilian Nurse Male	3	0	0	1	3	7	0	0
Military Nurse Female	0	0	0	0	0	0	0	0
Military Nurse Male	0	0	0	0	0	1	1	0
Others Female	0	1	0	0	0	2	0	0
Others Male	4	7	1	0	0	0	0	0
Total	25	40	2	2	19	50	4	8

Table A7. The outcomes of the scenario 5 and differences between the Polish and Swedish cohort.

Scenario 5	Polish		Swedish	
	As Planned	Others	As Planned	Others
Military	11	59	15	9
Civilian	7	22	35	33
Military Female	0	1	0	0
Military Male	4	15	0	1
Civilian Physicians Female	1	0	8	8
Civilian Physicians Male	3	15	11	6
Military Physicians Female	0	2	3	1
Military Physicians Male	1	30	11	6
Civilian Nurse Female	0	5	7	15
Civilian Nurse Male	2	2	8	3
Military Nurse Female	0	0	0	0
Military Nurse Male	0	0	1	1
Others Female	1	0	1	1
Others Male	6	11	0	0
Total	18	81	50	42

Table A8. The outcomes of the scenario 6 and differences between the Polish and Swedish cohort.

Scenario 6	Polish				Swedish			
	Help	Avoid	Alert	Instruct	Help	Avoid	Alert	Instruct
Military	38	10	13	11	13	6	8	0
Civilian	12	2	6	5	21	9	39	0
Military Female	1	0	0	0	0	0	0	0
Military Male	9	2	3	4	0	0	1	0
Civilian Physicians Female	0	0	1	0	7	1	9	0
Civilian Physicians Male	10	0	1	3	6	4	9	0
Military Physicians Female	2	0	0	0	1	2	1	0
Military Physicians Male	18	3	3	7	12	2	6	0
Civilian Nurse Female	1	1	2	1	2	4	16	0
Civilian Nurse Male	0	1	2	1	6	2	3	0

Table A8. Cont.

Scenario 6	Polish				Swedish			
	Help	Avoid	Alert	Instruct	Help	Avoid	Alert	Instruct
Military Nurse Female	0	0	0	0	0	0	0	0
Military Nurse Male	0	0	0	0	0	2	0	0
Others Female	1	0	0	0	0	0	2	0
Others Male	8	5	7	0	0	0	0	0
Total	50	12	19	16	34	17	47	0

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