

Moral Judgments: Studying People with Helping Professions

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Abstract

While a considerable amount of research is done in the field of moral psychology, to our best knowledge, no systematic study of moral judgments made by professional groups who make moral decisions as part of their occupational duties exists (e.g. firefighters, medical doctors, midwives, police officers). By their training and practice, such professionals are expected to exhibit differences in moral judgment compared to the general population. Here we report data about moral judgments of firefighters and midwives using moral dilemmas in which one person must be sacrificed in order to save more people. The study reveals that midwives and firefighters are considerably less utilitarian compared to a control group of students. Midwives almost never find the utilitarian action to be permissible. This striking result demonstrates that further understanding of the specific mechanisms involved in special professional groups' moral judgment is needed.

Keywords: moral dilemmas; moral judgment; professional biases in moral judgment

Introduction

Experimental research on moral judgment extensively has used the 'Trolley problem' (Foot, 1978). It presents a situation in which a runaway trolley will kill five people if not diverted on a side track, where it will kill one person. Another widely used dilemma – the 'Footbridge dilemma' – describes a similar situation, but in which a bystander should be pushed from a footbridge in front of the trolley in order to save several people whose life is endangered by the moving trolley (Thomson, 1985).

From a utilitarian point of view (based on the comparison of the utility of saving one or several human lives), the situations are identical. However, when people are asked to judge the moral appropriateness of the suggested resolutions, most of them find the resolution permissible in the 'Trolley problem' but not in the 'Footbridge dilemma' (e.g. Greene et al., 2001).

This behavioral dissociation reveals that moral judgment does not universally follow deontological rules or utilitarian calculations, but is shaped by various factors, and probably several cognitive mechanisms stand behind the process. For instance, Greene et al. (2001) claimed that the 'personal' infliction of harm in the 'Footbridge dilemma' as opposed to the 'impersonal' one in the 'Trolley problem,' leads to higher emotional level, which is responsible for the greater proportion of deontological judgments in the 'Footbridge dilemma.'

Further research, using a set of modified scenarios, established that two other important factors also influence moral judgment. Harm is judged as more permissible when

the death of the potential victim is inevitable compared to when it is avoidable (the 'inevitability of death' factor) and when it is inflicted intentionally rather than as a side effect (the 'instrumentality of harm' factor). These two factors are considered to be related to rational deliberations (e.g. Hauser et al., 2007; Moore et al., 2008) and therefore subject to training and rules.

On the other hand, life-or-death decisions are common for professionals from different occupational groups (e.g. judges, pilots, medical doctors, public health professionals, etc.). A central question needing extensive exploration is about the role played by special training and professional experience.

Typically, such decisions have significant consequences for many people but no systematic study of the factors underlying them is available. Here, a first step in this direction is made with the participation of representatives of two professional groups – midwives and firefighters.

Goals and Hypotheses

Presently, many experiments on moral judgment are conducted on-line thus including diverse participants. However, to the best of our knowledge, no specific information about the participants' occupation has been used in relation to their moral judgments.

The present study provides the first results of a series of experiments, started recently, focusing on moral judgments of representatives of occupations directly related to moral choice or involving ethical issues (military officers, firefighters, medical doctors, midwives, etc.). Here, we report the results about firefighters and midwives.

Both groups face situations in which they have to make decisions related to life and death. For instance, Chappa, Gonzales, & Stinger (2013) consider the question of measuring firefighters' 'moral courage', which they define as 'making moral decisions despite the circumstances'. One of the items of their questionnaire, aimed at evaluating moral courage, is about the readiness to 'stop and help people' in dangerous situations. According to Sekerka, Bagozzi, & Charnigo (2009), moral courage is a managerial competency and has to be supported by 'proactive organizational ethics'. Even if firefighters have no specific training in moral courage, the corresponding behavior is part of the code of conduct of this profession (Cooper, 1995) and as such is potent to implicitly bias moral judgment outside the professional context.

Similarly, midwives facing termination of pregnancy for fetal abnormality or situations in which birth can endanger the life of the mother, have to get to terms with a moral decision and shared responsibility (Cignacco, 2002; Garel, Etienne, Blondel, & Dommergues, 2007). Some of the difficulties they report are related to the responsibility felt when supporting the patients and coping with their own distress. In Garel et al. (2007), 75% of the midwives reported concern about the child being alive in late termination of pregnancy and 25% of them reported moral conflicts related to personal, cultural, or religious background. Some midwives believed that it was illegal to kill a living unborn child. At the same time, these problems were less pronounced in experienced midwives. The latter draws attention to a factor common to professions involving stress and decision making concerning human life – experience and training can lessen the emotional impact of the responsibility and risks and promote a more utilitarian viewpoint.

Following this brief analysis of specificities related to job experience, we discuss several important factors to be taken into account but which sometimes lead to different hypotheses about the outcomes of the experiments.

The first factor is the practical real-life experience with similar situations involving life-or-death decisions. Both groups are experienced in making judgments and taking action in life-threatening situations. This could make them more tolerant towards intervention in general and hence, more utilitarian.

The second factor is their repetitive experience with highly emotional situations and their practice and ability in emotion management. That, according to the dual-process theory of Greene et al. (2001), should increase the number of utilitarian judgments.

A third factor, specific to the artificial settings of moral dilemma scenarios, could be the underestimation of the presented task based on comparison with real life situations encountered in the professional life of the participants. If this is the case, the judgments of firefighters and midwives will not differ from those of ordinary participants.

A fourth factor may be the fact that firefighters and midwives rarely face situations in which they have to make choices involving saving the life of one person or the lives of five. More often, they are involved in decisions and actions concerning the life of a single person. That factor will imply non-utilitarian judgments based on the awareness of the value of each life.

As noted above, it is well established that physical directness of harm (personal vs. impersonal) and instrumentality of harm (instrumental vs. incidental) are important factors in moral judgments (see e.g. Moore et al., 2008). However, due to the professional experience of both groups, e.g. the physical contact for midwives, it is expected that these factors would be less important for them.

Although the presented considerations apply to both groups, some important differences should also be noted. Midwives usually do not make the moral decisions themselves but only take part in their execution (Cignacco,

2002). Additionally, midwives' professional obligations imply responsibility for individual patients while firefighters are often responsible for a number of people, e.g. when they participate in rescue missions. This difference might contribute to more utilitarian judgments for firefighters than for midwives.

Moreover, firefighters are more regularly exposed to situations that resemble the hypothetical scenarios. This lack of experience in similar situations for midwives could lead to underestimation of the presented task based on comparison with real life situations encountered in their professional life. It is possible that this underestimation would produce less utilitarian judgments for midwives compared to firefighters.

This paper undertakes a systematic comparative exploration of the above considerations based on a standardized set of artificial moral dilemmas that has been extensively used in other contexts and are carefully controlled for uniformity, structure, and content (Hristova, Kadreva, & Grinberg, 2014a, 2014b).

Method

Stimuli and Design

Three groups of participants with different occupations were studied – *midwives*, *firefighters*, and *students*.

Using hypothetical artificial moral dilemmas, three factors significant in moral judgment (Greene et al., 2001, Moore et al., 2008) were explored:

- **physical directness of harm** – requiring physical contact (*personal* harm) or mediated through other means (*impersonal* harm);
- **inevitability of death** – harm leading to death is inflicted either to a person that is going to die anyway (*inevitable* death), or to a person that is not endangered by the described situation (*avoidable* death);
- **instrumentality of harm** – in order to save endangered people, harm is inflicted as an instrument to saving others (*instrumental* harm) or as a byproduct of the undertaken action (*incidental* harm).

Two avoidable and two inevitable situations were used. In order to manipulate *physical directness of harm* and *instrumentality of harm*, only the resolution paragraphs were modified. As it is not possible to have *personal/incidental* resolution, there are three resolution versions for each situation – *personal/instrumental*, *impersonal/instrumental*, and *personal/incidental*. In all situations, there is a constant tradeoff between killing one person and saving five other persons. It is also important to note that all of the endangered and potentially sacrificed persons in the scenarios are adults.

Each situation is followed by the same question: 'Is it permissible to act as described?' with two possible responses – 'Yes' and 'No'.

The following is an example of an *avoidable* dilemma with three possible resolutions:

You are in a factory. You are standing on a platform above a railway track. Some loaded trolleys are moving along the

rails. One heavy loaded trolley is speeding towards five workers as its breaks had suddenly stopped working. There is no time for them to run away and they are going to die. The trolley could be stopped only if a heavy object is set on its way.

Personal/Instrumental resolution: The only thing that you can do is to push the worker standing next to you on the platform. He is going to fall down on the rails. Together with the tools that he is equipped with, the worker is heavy enough to stop the moving trolley. He is going to die but the other five workers will be saved.

Impersonal/Instrumental resolution: The only thing that you can do is to activate a control button and to release the safety belt of a worker hanging from a platform above the rails. The worker will fall onto the rails of the trolley. Together with the tools that he is equipped with, the worker is heavy enough to stop the moving trolley. He is going to die but the other five workers will be saved.

Impersonal/Incidental resolution: The only thing that you can do is to activate a control button and to release a large container hanging from a platform. It will fall onto the rails of the trolley. The container is heavy enough to stop the moving trolley. On the top of the container there is a worker who will also fall on the rails. He is going to die but the other five workers will be saved.

Is it permissible to act as described? YES/NO

Participants and Procedure

Fourteen firefighters took part in the study. At the time of the study, all of them worked in the same firefighter unit. All of them are male, aged between 25 and 47 ($M = 36$). They had work experience between 2 and 27 years ($M = 11$).

Sixteen midwives took part in the study. At the time of the study, all of them worked in an obstetrics and gynecology hospital in the intensive care and post-intensive care units taking care of babies. All of them are female, aged between 32 and 61 ($M = 36$), having work experience between 10 and 38 years ($M = 23$).

A group of 30 students – 14 male, 16 female, with age between 18 and 35, ($M = 23$) – also took part in the study.

Each participant was presented with 12 dilemmas – 4 situations (2 avoidable and 2 inevitable) each with 3 possible resolutions (*personal instrumental*, *impersonal instrumental*, and *impersonal incidental*). For each participant, the dilemmas were presented in a pseudo-randomized order ensuring that the same situation never appears in two consecutive dilemmas. In total, twelve pseudo-randomized orderings were used.

For the midwives and the firefighters, data was collected using paper-and-pencil questionnaires on their workplaces.

Students participated in lab settings, using computerized administration of the stimuli and recording of responses.

Results

Physical Directness of Harm and Inevitability of Death

In the first set of analyses, we used the responses for 8 of the 12 dilemmas. In those 8 dilemmas *physical directness of*

harm and inevitability of death factors are varied resulting in 2 dilemmas for each combination of the factors' levels. All of those 8 dilemmas are *incidental* dilemmas.

First, we analyzed data for all participants. Then, we performed separate analyses for female participants (midwives and female students) and for male participants (firefighters and male students) in order to control for possible gender differences.

All participants. The mean number of responses 'permissible' was analyzed in a 2x2x3 mixed ANOVA with *physical directness of harm* (*personal* vs. *impersonal*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-subjects factors and *occupation* (*firefighters* vs. *midwives* vs. *students*) as a between-subjects factor.

The analysis revealed a main effect of the *occupation* ($F(2, 57) = 52.06, p < 0.001, \eta_p^2 = .2$). Midwives (8.6% responses 'permissible') were less utilitarian than both firefighters (28.6%) and students (49.6%) ($p = .068$ and $p < .001$, respectively). Firefighters were less utilitarian than students were ($p = .013$). The results are presented in Figure 1.

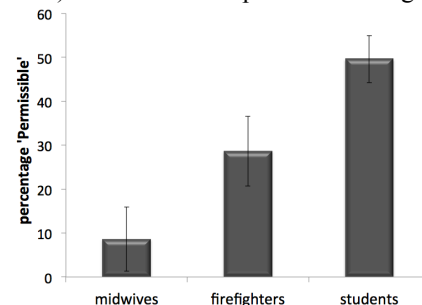


Figure 1: Mean percentage of responses 'permissible' (YES) for each occupational group. Error bars stand for SEM.

There was also a main effect of *physical directness of harm* ($F(1, 57) = 28.13, p < .001, \eta_p^2 = .33$) – *impersonal* harm was judged as more permissible than *personal* harm (40.0% vs. 17.5% 'permissible' responses). There was also a main effect of *inevitability of death* ($F(1, 57) = 20.89, p < 0.001, \eta_p^2 = .27$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (36.1% vs. 21.8% responses 'permissible'). The results are presented in Figure 2. No significant interaction effects were found.

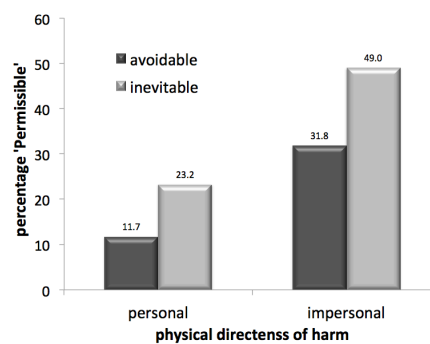


Figure 2: Mean percentage of responses 'permissible' for each dilemma type.

Females only (midwives and female students). The mean number of responses ‘permissible’ was analyzed in a 2x2x2 mixed ANOVA with *physical directness of harm* (*personal* vs. *impersonal*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-subjects factors and *occupation* (*midwives* vs. *female students*) as a between-subjects factor.

The analysis revealed a main effect of the *occupation* ($F(1, 30) = 12.5, p = 0.001, \eta_p^2 = .29$). Midwives gave fewer responses ‘permissible’ (8.6%) than the female students (39.8%). Data is presented in Figure 3.

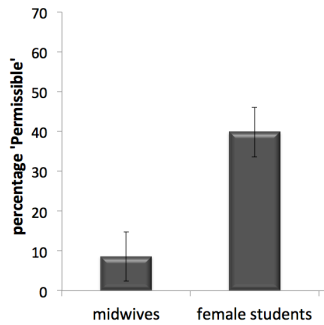


Figure 3: Mean percentage of responses ‘permissible’ for midwives and female students.

There was also a main effect of *physical directness of harm* ($F(1, 30) = 16.3, p < .001, \eta_p^2 = .35$) – *impersonal* harm is judged as more permissible than *personal* harm (34.4% vs. 14.1% ‘permissible’ responses) and a main effect of *inevitability of death* ($F(1, 57) = 15.7, p < 0.001, \eta_p^2 = .34$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (31.3% vs. 17.2% responses ‘permissible’). The results are given in Figure 4. No significant interaction effects were found.

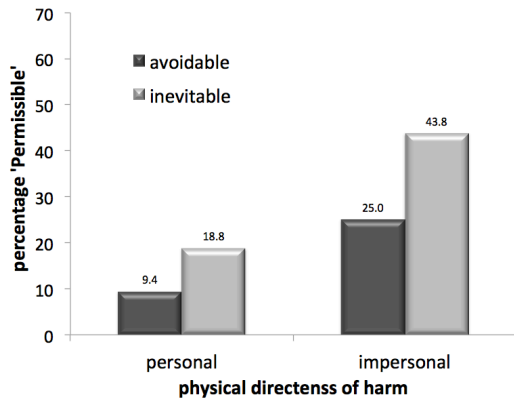


Figure 4: Midwives and female students. Mean percentage of responses ‘permissible’ for each dilemma type.

Males only (firefighters and male students). The mean number of responses ‘permissible’ was analyzed in a 2x2x2 mixed ANOVA with *physical directness of harm* (*personal* vs. *impersonal*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-subjects factors and *occupation* (*firefighters* vs. *male students*) as a between-subjects factor.

The analysis revealed a main effect of the *occupation* ($F(1, 26) = 6.9, p = 0.014, \eta_p^2 = .21$). Male students gave more responses ‘permissible’ (60.7%) than the firefighters (28.6%). The results are presented in Figure 5.

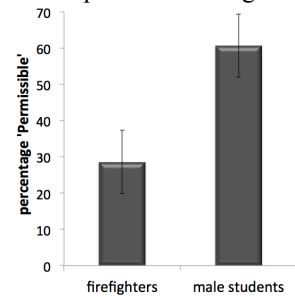


Figure 5: Mean percentage of responses ‘permissible’ for firefighters and male students.

There was also a main effect of *physical directness of harm* ($F(1, 26) = 14.1, p = .001, \eta_p^2 = .35$) – *impersonal* harm was judged as more permissible than *personal* harm (57.1% vs. 32.1% ‘permissible’ responses) and a main effect of *inevitability of death* ($F(1, 26) = 8.4, p = 0.008, \eta_p^2 = .24$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (51.8% vs. 37.5% responses ‘permissible’). The results are shown in Figure 6. No significant interaction effects were found.

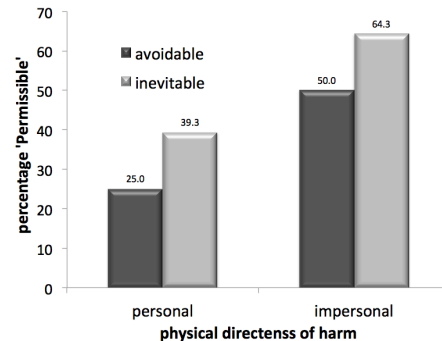


Figure 6: Firefighters and male students. Mean percentage of responses ‘permissible’ for each dilemma type.

Instrumentality of Harm and Inevitability of Death

For the second set of analyses, we used the responses for 8 of the 12 dilemmas. In those 8 dilemmas *instrumentality of harm* and *inevitability of death* factors are varied resulting in 2 dilemmas for each combination of the factors’ levels. All of those 8 dilemmas are *impersonal* dilemmas.

First, we analyzed data for all participants. Then we performed separate analyses for female participants (midwives and female students) and for male participants (firefighters and male students) in order to control for possible gender differences.

All participants. The mean number of responses ‘permissible’ was analyzed a 2x2x3 mixed ANOVA with *instrumentality of harm* (*instrumental* vs. *incidental*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-

subjects factors and *occupation* (firefighters vs. midwives vs. students) as a between-subjects factor.

The analysis revealed a main effect of the *occupation* ($F(2, 57) = 12.38, p < 0.001, \eta_p^2 = .30$). Post-hoc tests showed that midwives (23.4% responses ‘permissible’) are less utilitarian than both firefighters (57.1%) and students (67.5%) ($p = .007$ and $p < .001$, respectively, Bonferroni correction applied). There was no significant difference in the responses ‘permissible’ between firefighters and students ($p = .81$). The results are presented in Figure 7.

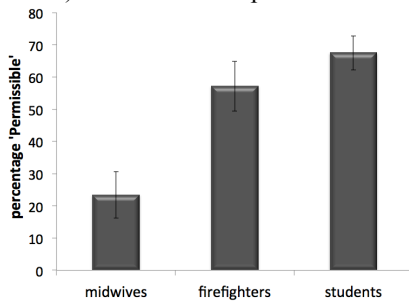


Figure 7: Mean percentage of responses ‘permissible’ for each occupational group.

There was also a main effect of *instrumentality of harm* ($F(1, 57) = 12.68, p < .001, \eta_p^2 = .18$) – *incidental* harm was judged as more permissible than *instrumental* harm (58.4% vs. 40.4% responses ‘permissible’) and a main effect of *inevitability of death* ($F(1, 57) = 22.25, p < 0.001, \eta_p^2 = .28$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (58.3% vs. 40.4% responses ‘permissible’). The data is presented in Figure 8. No significant interaction effects were found.

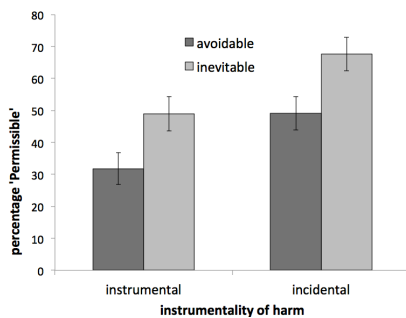


Figure 8: Mean percentage of responses ‘permissible’ for each dilemma type.

Females only (midwives and female students). The mean number of responses ‘permissible’ was analyzed in a 2x2x2 mixed ANOVA with *instrumentality of harm* (*instrumental* vs. *incidental*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-subjects factors and *occupation* (*midwives* vs. *female students*) as a between-subjects factor.

The analysis revealed a main effect of the *occupation* ($F(1, 30) = 17.3, p < 0.001, \eta_p^2 = .37$). Midwives gave fewer responses ‘permissible’ than female students (23.4% vs. 64.8%). The results are given in Figure 9.

There was also a main effect of *instrumentality of harm* ($F(1, 30) = 16.89, p < .001, \eta_p^2 = .36$) – *incidental* harm was

judged as more permissible than *instrumental* harm (53.9% vs. 34.4% responses ‘permissible’) and a main effect of *inevitability of death* ($F(1, 30) = 14.4, p = .001, \eta_p^2 = .32$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (53.1% vs. 35.2% responses ‘permissible’). The results are shown in Figure 10. No significant interaction effects were found.

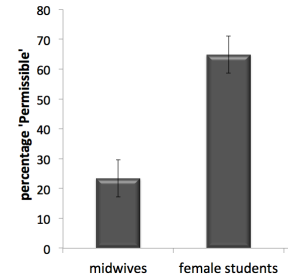


Figure 9: Mean percentage of responses ‘permissible’ for midwives and female students.

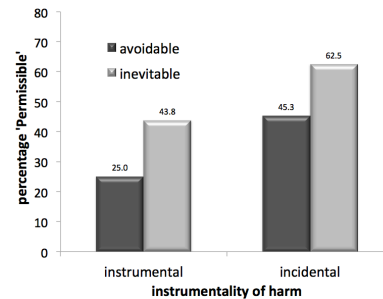


Figure 10: Midwives and female students. Mean percentage of responses ‘permissible’ for each dilemma type.

Males only (firefighters and male students). The mean number of responses ‘permissible’ was analyzed in a 2x2x2 mixed ANOVA with *instrumentality of harm* (*instrumental* vs. *incidental*) and *inevitability of death* (*avoidable* vs. *inevitable*) as within-subjects factors and *occupation* (*firefighters* vs. *male students*) as a between-subjects factor.

The analysis revealed a main effect of *inevitability of death* ($F(1, 26) = 7.7, p = .010, \eta_p^2 = .23$) – killing someone whose death is *inevitable* was judged as more permissible than harming a person whose death is *avoidable* (71.4% vs. 56.3% responses ‘permissible’). The data is presented in Figure 11. No other main effects or interactions were significant.

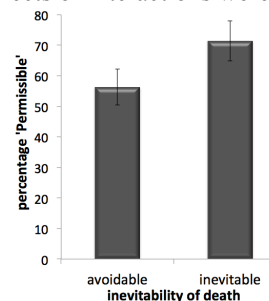


Figure 11: Firefighters and male students. Mean percentage of responses ‘permissible’ for avoidable and inevitable scenarios.

Summary and Discussion

For the first time in this paper we investigated systematically moral judgments made by representatives of two special professions – midwives and firefighters.

The results show a striking difference in the proportion of utilitarian responses given by midwives, firefighters, and students in Trolley-type moral dilemmas. Midwives are the least utilitarian: they judge the utilitarian action of sacrificing one person to save five others to be morally permissible in less than ten percent of the scenarios. At the same time, students choose the utilitarian response in almost half of the dilemmas. The firefighters are more utilitarian than the midwives are, but they are still much less utilitarian than the students are.

These results demonstrate a large effect of the participants' occupation on moral judgments. As noted above, these professionals are regularly exposed to life threatening situations and they are more likely to encounter and deal with real life moral dilemmas as part of their job-related duties. Because of that and the related coping and emotion management, one possible expectation was that they would be more utilitarian in their judgments. However, the results support the opposite hypothesis based on other factors related to the fact that both occupations aim at helping people, and therefore people from these professions share higher moral values, respect more strongly individual rights and thus, restrain from utilitarian judgements related to life-or-death.

Overall, firefighters gave a lot more utilitarian judgments than midwives. This could be related to the similarity of the artificial moral dilemmas to situations firefighters encounter in their professional activities.

The exploration of physical directness, instrumentality and inevitability of death factors for the two professional groups replicated the well-established effects in the general population. Impersonal and incidental harm was judged as more permissible than personal and instrumental harm respectively. Killing someone whose death is inevitable was judged as more permissible than harming a person whose death is avoidable. No significant interactions with occupation were present, questioning possible interference of professional experience with these factors.

The analyses, controlling for gender, revealed a more complex pattern of moral judgment. For female participants (midwives and female students), all three factors mentioned above shape their moral judgments (physical directness of harm, inevitability of death, and instrumentality of harm). Midwives gave fewer utilitarian responses than female students did. For male participants (firefighters and male students), only the physical directness of harm and inevitability of death had the expected effects on their moral judgments. Instrumentality of harm had no effect on judgments. Firefighters gave fewer utilitarian responses than male students did.

In order to shed more light on possible mechanisms of moral judgment, future research would benefit from more detailed measurement of different factors related to

occupational experience and training as well as exploration of more diverse professional groups and better control of age and gender of participants.

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