



Subjective Decision-making and Reasoning in Moral Dilemma Situations

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Abstract

The aim of this study is to discover the subjective reasons of people for utilitarian and deontological decisions in moral dilemma situations and their dealings with inner conflicts after their moral dilemma decisions on a fundamental level. Furthermore, we aim to find out how people apply utilitarian and deontological reasoning in their “normal” lives. To this end we conducted 18 qualitative interviews, in which eight participants made a utilitarian decision in one of the three “classical” Trolley dilemmas (Switch, Loop and Footbridge) and 10 participants made a deontological decision. On this basis, we developed a model of subjective decision-making and dealing with inner conflicts, whose elements showed patterns that are characteristic for utilitarian and deontological decision-makers. People make a rather extensive or rather automated decision in a moral dilemma situation, which is influenced by or justified through reasons based in God or fate, reasons based in personal values, and additional factors, such as the value attributed to the affected persons and the emotional relationship of the decision-maker to the affected persons. People deal with inner conflicts after a moral dilemma decision by, firstly, questioning the situation and their decision, and, then, in a rather rational and/or rather emotional way, by accepting, relativising or externalising their perceived responsibility and guilt. When accepting the responsibility and guilt, people tend to hope for understanding and forgiveness, and/or try to balance their guilt through good deeds. Additionally, we found out that people do not clearly distinguish between utilitarian and deontological rationales in their “normal” lives, but rather employ different rationales in moral decision-making.

Keywords: Moral dilemma, trolley dilemma, moral dilemma decision, utilitarian decision, deontological decision, qualitative research, moral decision-making, moral reasoning

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1 Introduction

The aim of this study is to discover the subjective reasons for utilitarian and deontological decisions in moral dilemma situations through qualitative research. Furthermore, we aim to find out how people deal with inner conflicts after having made a moral dilemma decision, and how utilitarian and deontological reasoning is applied in “normal” life. The respective theoretical foundations are laid out in this section. In the first subsection, we explain moral dilemmas and moral dilemma decisions. In the second subsection, we shed light on moral reasoning and the determinants of moral decisions. On this basis, we develop our research questions in the final subsection.

1.1 Moral Dilemmas and Moral Dilemma Decisions

Every day, people face countless situations in which they have to make decisions. The context of these situations and decisions can be determined by personal discretion, social conventions, and/or moral rules (Bartels et al., 2015; Nucci, 2001; Turiel, 1983). Decisions that are (solely) left to personal discretion, e.g., having a shower first or brushing one’s teeth first in the morning, virtually entirely follow one’s individual preferences. Decisions that are influenced by social conventions, e.g., addressing someone by his or her first or last name, reduce the individual leeway in decision-making but allow for a certain degree of deviation from social expectations. In contrast, decisions that are related to moral issues and values permit virtually no flexibility from an individual or social perspective, as people understand moral beliefs and/or norms as “objectively” and “universally” right or wrong (Bartels et al., 2015; Goodwin & Darley, 2008; Skitka et al., 2005; Skitka, 2010; Turiel, 2002). This notion of “absolutely” right and wrong is arguably at the core of every system of moral beliefs and norms, even though the specific content of what is considered right and wrong can vary over time and across cultures (Bartels et al., 2015; Shweder et al., 1987). Furthermore, moral beliefs and norms commonly have a social component and prescribe how other living beings should be treated or proscribe how other living beings should not be treated with regard to justice and well-being (Bartels et al., 2015; Jones, 1991; Morris & McDonald, 1995; Turiel, 1983).

Against this backdrop, a moral dilemma can be defined as a situation in which all available decision choices conflict with moral beliefs and norms and (negatively) affect other living beings (Demaree-Cotton & Kahane, 2025). The study by Yudkin et al. (2025), analysing 369,161 posts in Reddit’s “Am I the Asshole?” section, shows that moral dilemmas are a rather common experience in everyday life. Such moral dilemmas can be rather mundane, such as telling a business partner, with whom one does not particularly enjoy spending time, “nice to meet you”. Moral dilemmas can, however, also be more serious, such as dilemmas involving end-of-life decisions (e.g., Afenigus & Sinshaw, 2025; McLeod, 2014) or moral dilemmas in military operations that involve accepting unjustified suffering and death (e.g., Thompson et al., 2008; van Baarle et al., 2015). Accordingly, unresolved dilemmas can lead to negative consequences, including, among others, distress, reduced physical and mental health,



trauma, burnout, strains on interpersonal relationships, and even suicidal thoughts and intentions (Afenigus & Sinshaw, 2025; Norvoll et al., 2018; Sillero Sillero et al., 2023; Ricciardelli et al., 2022). However, moral dilemmas and moral dilemma decisions are relevant not only at the individual but also at the societal level, e.g., in the contexts of autonomous driving (Milford et al., 2025) or medical triage (Keßler & Krumpal, 2025). Because of their aforementioned individual and societal relevance, moral dilemmas and the respective decisions have gained considerable attention in academic research.

In the academic context, moral dilemma decisions are commonly examined in relation to the philosophical traditions of utilitarian thought (Mill & Bentham, 1987) and deontological thought (Kant & Schneewind, 2002). Utilitarian decisions focus on the specific situation and the consequences of these decisions. They strive to maximise the overall well-being of the largest possible number of living beings and, under this condition, morally permit harm to living beings. In contrast, deontological decisions focus on generalised moral norms that are independent of specific situations, e.g., it is generally or normally not permitted to take another person's life. Thus, the deontological principle regards decisions as morally acceptable if they consistently adhere to generalised moral norms. Deontological decisions therefore focus less on the consequences and more on the rights and duties of individuals (Greene, 2013). The distinction between utilitarian and deontological decisions does not, however, mean that these decisions are necessarily made because of utilitarian or deontological attitudes or reasoning processes (Bago et al., 2022; Baron, 2017; Baron & Gürcay, 2017). Accordingly, deeper investigations of the subjective reasoning underlying decisions in moral dilemma situations are required.

In academic research, Trolley dilemmas represent arguably the most widespread approach to examining and understanding moral decisions and respective decision-making rationales (e.g., Ahlenius et al., 2012; Arutyunova et al., 2016; Awad et al., 2020; Hauser et al., 2007; Moore, Lee, et al., 2011), despite some criticism regarding their hypothetical character and arguably insufficient consideration of personal action–inaction tendencies (Gawronski et al., 2023; Gawronski & Ng, 2025; Ng et al., 2025). The three “classical” Trolley dilemmas, which are illustrated in Figure 1, are called Switch, Loop, and Footbridge (Foot, 1967; Thomson, 1985). All three dilemmas are based on the same initial situation: a trolley is running down a track towards five workers who will be killed if the trolley continues on its course. What differs between the dilemmas is how the decision-maker can intervene to save these five workers. In the Switch dilemma, the decision-maker can pull a lever and redirect the trolley to a side track, where it will kill one worker instead of the five workers on the main track. In the Loop dilemma, the decision-maker can also pull a lever and redirect the trolley to a side track. However, this side track loops back to the main track, and the trolley is stopped only because it hits and kills a worker on the side track. In the Footbridge dilemma, the decision-maker can push a worker from a bridge onto the track. The worker will be killed but will stop the trolley, thereby saving the five workers. Pulling the lever to redirect the trolley or pushing the worker from the bridge onto the track is considered a utilitarian decision, as



five workers survive and only one worker is killed. Conversely, not pulling the lever or not pushing the worker from the bridge onto the track is considered a deontological decision.

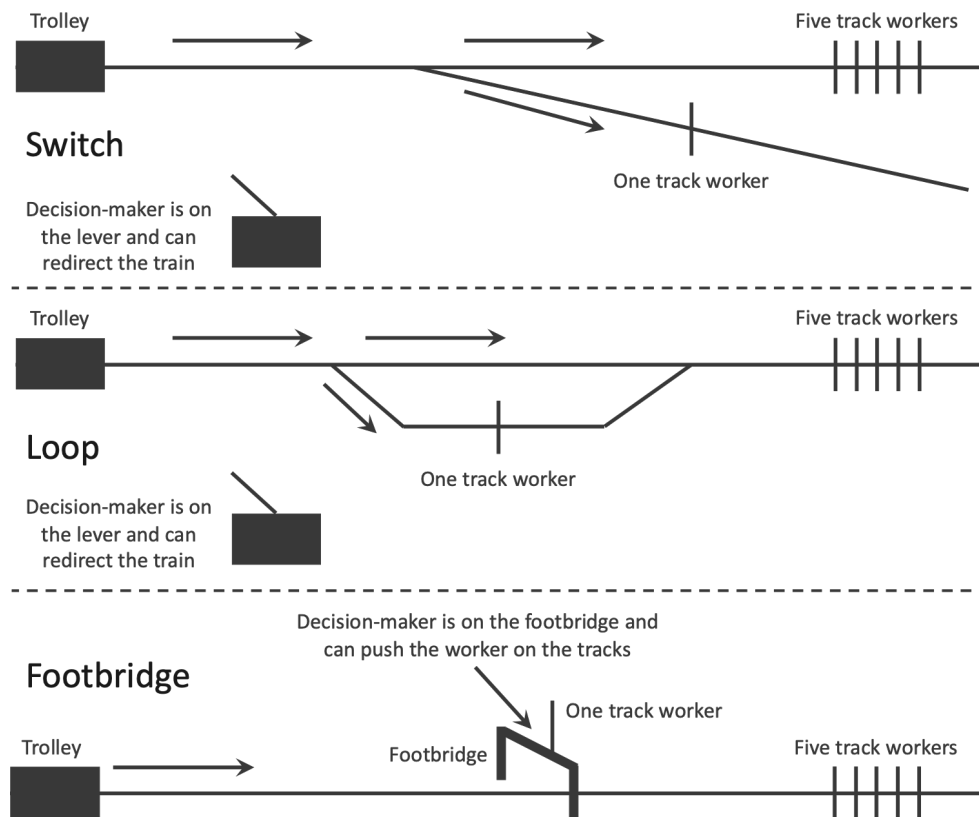


Figure 1: Trolley dilemmas Switch, Loop, Footbridge (Foot, 1967; Thomson, 1985).

The preference for a utilitarian decision (sacrificing one person to save the lives of five) is higher in the Switch dilemma than in the Loop dilemma, which, in turn, shows a higher preference for a utilitarian decision than the Footbridge dilemma (Ahlenius et al., 2012; Arutyunova et al., 2016; Awad et al., 2020; Moore, Lee, et al., 2011). The doctrine of double effect provides an explanation for the difference between the Switch and Loop dilemmas (Foot, 1967; Thomson, 1985). According to this doctrine, an important moral distinction exists between harm that occurs as a foreseeable but unintended side effect of an action and harm that is intentionally used as a means to achieve a desired outcome. This distinction becomes apparent when comparing the Switch and Loop dilemmas. In the Switch dilemma, redirecting the trolley saves the five workers, while the death of the worker on the side track is a foreseeable but unintended consequence of redirecting the trolley. Importantly, the death of this worker is not instrumental for saving the five workers; if the worker were not on the side track, redirecting the trolley would still save the five workers. In the Loop dilemma, by contrast, the death of the worker on the side track is instrumental to saving the five workers. The trolley has to hit the worker because it is the collision with this person that stops the trolley and prevents it from returning to the main track and killing the five workers. Thus,



although both decisions produce the same numerical outcome – one person dies and five survive – the role of the harmed person differs fundamentally. In the Switch dilemma, the person's death is a side effect of saving the five, whereas in the Loop dilemma, the person is used as a means to save them. According to the doctrine of double effect, the former is more morally permissible than the latter and can therefore explain the higher frequency of utilitarian decisions in the Switch compared with the Loop dilemma.

The concept of personal force provides an explanation for the difference between the Loop and Footbridge dilemmas (Cushman et al., 2006; Greene et al., 2009). In both dilemmas, the death of one person serves as a means to save the five workers. However, the way in which the decision-maker causes this harm differs. In the Loop dilemma, the decision-maker pulls a lever and thereby redirects the trolley towards the worker. The harm is therefore caused indirectly through the intervention in the course of the trolley. In the Footbridge dilemma, by contrast, the decision-maker has to personally and physically push another person from the bridge onto the track. Thus, the decision-maker directly applies personal force to the person who is sacrificed. This direct physical involvement makes the harmful action more personal and immediate, and provides an explanation for why people are less willing to make the utilitarian decision in the Footbridge dilemma than in the Loop dilemma.

The doctrine of double effect and the concept of personal force can therefore explain important differences in decision-making across the three Trolley dilemmas on a rather abstract and fundamental level. They do not, however, sufficiently shed light on the specific contents and processes of moral decision-making and reasoning. In particular, they do not reveal the subjective reasons individuals themselves perceive as relevant when making or rejecting a utilitarian or deontological decision. A deeper investigation of the subjective reasoning underlying these decisions is therefore advisable.

1.2 Moral Reasoning and Determinants of Moral Dilemma Decisions

To comprehensively understand decisions in moral dilemma situations, one should not only focus on the decision itself but also on the processes leading up to and following the decision and the multiple factors potentially influencing it. This distinction is particularly important because only classifying a decision as utilitarian or deontological does not necessarily reveal the reasoning processes that led to this decision.

Accordingly, decision-making processes in general, which are similar to general problem-solving processes (Robertson, 2001), consist of several phases. In its basic structure, the general decision-making process consists of the phases of (1) identifying the problem, (2) developing and evaluating alternatives, (3) making a decision, and (4) reflecting on the decision and its consequences (e.g., Guo, 2008; Mann et al., 1988; Taherdoost & Madanchian, 2024).

Including the processes following a decision in the examination of moral decision-making and reasoning is especially advisable because moral dilemmas can lead, and arguably often do lead, to internal conflicts within decision-makers, not all of which are resolved. This has



been shown by de Panfilis et al. (2019) and Ricciardelli et al. (2022) for moral dilemmas in the health care sector and by van Baarle et al. (2015) and Thompson et al. (2008) in the realm of the military.

Accordingly, a comprehensive examination of moral decision-making and reasoning should consider the processes leading up to the decision, the decision itself, and the processes following the decision. Ribeiro et al. (2021) identified two responses during and two phases after moral dilemmas in health care settings through qualitative research, i.e., immediate responses and reflection in action during the moral dilemma situation, and reflection on action and long-term consequences after the moral dilemma situation. Similarly, Noel-Weiss et al. (2012) identified six steps in managing health care-related moral dilemmas through qualitative research, i.e., (1) recognising a moral dilemma, (2) identifying the context of the dilemma, (3) determining the choices or alternatives, (4) developing and implementing strategies to solve the dilemma, (5) analysing the decision and results, and (6) taking actions to avoid similar situations. Pijanowski (2009) defined eight stages of moral decision-making, primarily based on theory, i.e., (1) understanding the relationships, norms, and procedures that influence a moral dilemma, (2) recognising the moral dilemma, (3) interpreting competing explanations for the moral dilemma, (4) developing and evaluating possible courses of action or responses, (5) examining the competing personal, institutional, or social values that may compete with moral values, (6) following through with actions that support a morally justified decision, (7) reflection in action, and (8) reflection on action.

Such process models contribute to the understanding of the general structure and different phases of moral decision-making and reasoning. They do not, however, sufficiently link the identified phases to specific reasoning contents or to eventual utilitarian or deontological decisions. In other words, these models describe when different processes occur but provide less insight into what people actually think, consider, or weigh when arriving at a particular decision and how these subjective reasons relate to a decision that is eventually classified as utilitarian or deontological.

More specific insights into how people deal with particular moral dilemma situations can be gained from a rich body of qualitative research, especially, but not exclusively, from the health care sector. Afenigus and Sinshaw (2025) discovered that health care professionals use ethical principles, clinical guidelines, collaborative decision-making with colleagues, and reflective practices to make decisions in moral dilemma situations. Ewnetu et al. (2020) found that health care professionals who perform treatments that contradict their religious beliefs deal with inner conflicts by redefining the situation, reconciling or balancing religious and, thereby, moral norms, referring to external criteria, or downplaying one side of the dilemma. McLeod (2014) found that ICU nurses' personal sets of moral beliefs, their own experiences, and their involvement in the decision-making process influence their reasoning in morally challenging end-of-life decisions. Hoggart (2019) established that young women who had to decide whether to continue a pregnancy or have an abortion justified their decisions by weighing personal and moral reasons, choosing the lesser evil, and focusing on their visions



of the future. According to Hovén et al. (2023), siblings of children diagnosed with cancer coped with the resulting moral dilemmas by maintaining normality, keeping their distance from cancer, using school as a free zone, turning to good friends, or obtaining or avoiding further information about cancer. Grgurić Čop et al. (2024) found that social media influencers cope with moral dilemmas related to their professional activities by downplaying, spotlighting, customising, or resorting to one of the roles they assume in their relationships with brands, followers, and society. Van Baarle et al. (2015) identified six factors influencing moral dilemma reasoning in the military, i.e., being a soldier, group bonding, uniformity, hierarchy, lack of privacy, and masculinity.

The aforementioned qualitative studies provide valuable and detailed insights into the factors, strategies, experiences, and reasoning contents involved in specific moral dilemma situations. Thus, they are in the best tradition of the Grounded Theory Methodology (Glaser & Strauss, 1967) by developing middle range theories. One might, however, argue that these findings are tied to particular situations and contexts and do not provide differentiated insights into moral decision-making and reasoning on a more fundamental level. In particular, they do not systematically examine which subjective reasons are associated with decisions classified as utilitarian or deontological. Thus, while these qualitative studies provide detailed insights into the contents of moral reasoning, they do not sufficiently explain how these contents relate to utilitarian and deontological decision outcomes.

While qualitative studies thus provide detailed insights into the contents and contexts of moral reasoning, quantitative research offers a complementary perspective by examining psychological factors associated with utilitarian and deontological decision outcomes. Gawronski et al. (2023) and Gawronski and Ng (2025) provide overviews of psychological factors associated with utilitarian and deontological decisions.

Several quantitative studies suggest consistent associations between particular psychological constructs and utilitarian or deontological decisions. Utilitarian beliefs are positively associated with utilitarian rather than deontological decisions (e.g., Kahane et al., 2018; Körner et al., 2020). Psychopathy is positively associated with utilitarian rather than deontological decisions (e.g., Paruzel-Czachura & Farny, 2024; Marshall et al., 2018). Empathic concern is positively associated with deontological rather than utilitarian decisions (e.g., Gleichgerricht & Young, 2013; Nasello & Triffaux, 2023). Moral identity internalisation, i.e., the subjective relevance of being a moral person, is positively associated with deontological rather than utilitarian decisions (e.g., Glenn et al., 2010; Körner et al., 2020). A more conservative political orientation is positively associated with deontological rather than utilitarian decisions (e.g., Chan, 2019; Hannikainen et al., 2017).

However, findings regarding other psychological constructs associated with utilitarian and deontological decisions are less consistent. For instance, positive associations with utilitarian rather than deontological decisions were found for need for cognition (Wiech et al., 2013) and engagement in cognitive reflection (Patil et al., 2021). These relationships are, however, not consistent across other studies (e.g., Bago & De Neys, 2019; Hashimoto et al.,



2022). Thus, a more differentiated view of the cognitions underlying moral dilemma decisions is advisable, i.e., distinguishing between the intensity and the content of cognitive reflection (Ng et al., 2025). Similarly, positive associations with deontological rather than utilitarian decisions were found for religiosity (Szekely et al., 2015). This relationship is, however, not consistent across other studies (Körner et al., 2020). It seems plausible that specific religious beliefs may be more important for moral decisions than the extent of religiosity alone.

The aforementioned quantitative studies have identified numerous psychological factors associated with utilitarian and deontological decisions in moral dilemma situations. These identified factors, however, represent rather abstract psychological constructs that do not entirely explain the specific reasoning contents behind them. This becomes especially evident for constructs that do not show consistent associations with utilitarian and deontological decisions across multiple studies. For instance, the aforementioned quantitative studies cannot sufficiently answer the question of which specific cognitions or religious beliefs contribute to a decision that is classified as utilitarian or deontological. Importantly, an association between a psychological construct and a particular decision type does not imply that the individual necessarily engaged in a corresponding utilitarian or deontological reasoning process. Thus, complementing quantitative evidence on psychological determinants with a qualitative examination of the subjective reasoning underlying such decisions may provide a more differentiated understanding of moral dilemma decision-making.

Finally, although Trolley dilemmas provide a well-established approach to examining utilitarian and deontological decisions under controlled conditions, moral dilemma decisions are not limited to such hypothetical situations. As outlined in Section 1.1, moral dilemmas also occur in various contexts of “everyday life”. Thus, a comprehensive understanding of utilitarian and deontological decision-making should also consider whether and how people recognise and apply comparable ways of weighing moral alternatives in their “normal” lives. Examining this relationship between hypothetical moral dilemma situations and moral decision-making in everyday life may provide further insights into the practical relevance of utilitarian and deontological decision-making.

1.3 Research Questions

We showed in Section 1.1 that moral dilemmas and the respective decisions are of substantial relevance to individuals and society. In this context, a more differentiated understanding of the processes and reasoning underlying moral dilemma decisions is worth striving for. Although the doctrine of double effect and the concept of personal force can explain important differences in decision-making across Trolley dilemmas, they do not sufficiently reveal the subjective reasons individuals themselves perceive as relevant when making or rejecting a decision that is classified as utilitarian or deontological.

In Section 1.2, we elaborated that a comprehensive understanding of moral decision-making and reasoning should incorporate the processes leading up to the decision, the



decision itself, and the processes following the decision. Process models provide insights into the general structure and different phases of moral decision-making but do not sufficiently link these phases to specific reasoning contents or to eventual utilitarian or deontological decisions. Qualitative studies provide detailed insights into factors, strategies, experiences, and reasoning contents involved in specific moral dilemma situations. However, these findings are tied to particular situations and contexts and do not systematically examine which subjective reasons are associated with decisions classified as utilitarian or deontological. Quantitative studies, in turn, provide evidence of psychological factors associated with utilitarian and deontological decisions but do not sufficiently reveal the specific reasoning contents behind these associations. Thus, neither an observed decision outcome nor its association with a particular psychological construct necessarily reveals the subjective reasoning that led to the decision.

Against this backdrop, we aim to identify the subjective reasons individuals perceive as relevant for and against utilitarian and deontological decisions. Furthermore, we aim to establish how people deal with inner conflicts after having made a moral dilemma decision. Finally, extending the investigation beyond hypothetical moral dilemma situations, we aim to examine how people apply utilitarian and deontological decision-making in their “normal” lives. These research objectives lead to the following research questions:

- RQ1: What are the subjective reasons for and against a moral dilemma decision type?
 - RQ1.1: What are the subjective reasons for a moral dilemma decision type?
 - RQ1.1.1: What are the subjective reasons for making a utilitarian decision?
 - RQ1.1.2: What are the subjective reasons for making a deontological decision?
 - RQ1.2: What are the subjective reasons against a moral dilemma decision type?
 - RQ1.2.1: What are the subjective reasons for not making a utilitarian decision?
 - RQ1.2.2: What are the subjective reasons for not making a deontological decision?
- RQ2: How do people deal with inner conflicts after having made a utilitarian or deontological decision?
- RQ3: How do people apply utilitarian and deontological decision-making in their “normal” life?



2 Methods

The following subsections describe the research design and the sample, the content and structure of the interviews, and the analysis of the interviews.

2.1 Research Design and Sample

The sample was recruited during November 2023 at FOM University of Applied Sciences in Stuttgart, Germany. Students of the course business psychology were given a screener which described one of the three Trolley dilemmas – Switch, Loop or Footbridge (cf. Section 1.1, Figure 1). The screener can be found in the Supplementary Materials. The students had to choose between pulling the lever or pushing a person from the bridge (utilitarian decision) and not pulling the lever or not pushing a person from the bridge (deontological decision). On this basis, for each moral dilemma, we invited 3 students who made a utilitarian decision and 3 students who made a deontological decision, resulting in a total of 18 interviews. Furthermore, we balanced the gender distribution so that half of our participants are female and half of them are male. The resulting sample distribution after screening can be found in Table 1.

Table 1: Sample after screening by dilemma, decision and gender (n = 18; own representation).

Dilemma	Utilitarian decision			Deontological decision		
	Male	Female	Total	Male	Female	Total
Switch	2	1	3	1	2	3
Loop	2	1	3	1	2	3
Footbridge	1	2	3	2	1	3
Sum	5	4	9	4	5	9

During the interviews however, one participant who made a deontological decision in the screener (dilemma Loop) changed to a utilitarian decision and two participants making utilitarian decisions in the screener (dilemmas Loop and Footbridge) changed their decision to a deontological one.

The average age of the participants was 24.83 years, with the youngest participants being 22 and the oldest 34 years of age. Six of the participants are in relationships whilst 12 are singles. The sample consists of 12 Germans, 1 Croatian, 1 Pole, 1 Turk and 1 other not specified nationality. 11 participants identify themselves with Christianity and 2 with Islam; 5 participants have no religious affiliation. In the context of characterising the sample, it should be mentioned that students at FOM are studying part-time so that our participants also have regular jobs.



The interviews were conducted in November and December 2023 at the Stuttgart study centre of FOM University of Applied Sciences. The interviews were recorded and transcribed. We applied a word-for-word transcription using Whisper (<https://openai.com/research/whisper>) in a first step and then manually corrected the transcripts, made by the aforementioned artificial intelligence.

2.2 Qualitative Interviews

The interviews we conducted were structured in an introductory and warm-up phase and three sections according to the research questions. The interview guideline can be found in the Supplementary Materials.

In the introduction and warm-up phase, we presented the dilemma, asked if the participants stick to the decision they made in the screener and asked which thoughts and feelings, they have when dealing with the dilemma.

After the introduction and warm-up, we asked the participants why they made their utilitarian or deontological decision and why they did not choose the other decision. These questions are related to our first research question of evaluating the reasons for and against moral dilemma decisions. Furthermore, we asked how the participants deal with inner conflicts when making such moral dilemma decisions, which corresponds with our second research question.

To gain further insights into the reasons for and against moral dilemma decisions (research question 1), we asked the participants how they would explain their decision in a public interview and when having to talk to the bereaved of the deceased person(s) in the next section of the interviews.

In the final section of the interviews, we asked the participants in which situations of their “normal” lives and why they use utilitarian and deontological decision-making. These interview questions correspond with our third research question. With reference to our second research question, we also asked the participants how they deal with inner conflicts in the respective dilemma situations in their “normal” lives.

During the introduction and warm-up phase as well as the three sections of our interviews, we used ad hoc questions, such as asking for a more extensive or detailed description of statements and asking for reasons for statements, to gain deeper and broader insights into the thoughts and feeling of our participants.

2.3 Analysis

Our analysis of the interviews followed the Guideline for Qualitative Analysis and Model Development by Godbersen (2023), which shows similarities to the Structuring Qualitative Content Analysis by Kuckartz and Rädiker (2023) and also draws from the Grounded Theory Methodology (Strauss & Corbin, 1998).

We aimed to build a hierarchical category system with more abstract main categories and subordinated categories that are more specific to the thoughts of the participants. Against



this backdrop, we deductively developed rather abstract main categories from our research questions and developed more specific subordinated categories by inductively coding the transcripts.

Before we started the coding process, we re-acquainted ourselves with the interviews through listening to the audio-recordings and reading the transcripts. The objective of this step was to gain an overview and general understanding of the interviews, which is consistent with Kuckartz and Rädiker's (2023) approach of "initial text work".

As mentioned above, we derived deductive main categories from our research questions, following the corresponding procedure of the Qualitative Content Analysis (Kuckartz & Rädiker, 2023).

The following deductive main categories were derived from Research Question 1.1 (reasons for utilitarian and deontological decisions):

- (1) Reasons for decision
 - (1.1) Reasons for utilitarian decision
 - (1.2) Reasons for deontological decision

The following deductive main categories were derived from Research Question 1.2 (reasons against utilitarian and deontological decisions):

- (2) Reasons against decision
 - (2.1) Reasons against utilitarian decision
 - (2.2) Reasons against deontological decision

The following deductive main categories were derived from Research Question 3 (dealing with inner conflicts):

- (3) Dealing with inner conflicts

The following deductive main categories were derived from Research Question 3 (utilitarian and deontological decision-making in "normal" life):

- (4) Decisions in "normal" life
 - (4.1) Life domains with utilitarian decision-making
 - (4.2) Life domains with deontological decision-making

The other categories were identified through inductive coding by developing categories from the transcripts. This procedure corresponds with open coding of the Grounded Theory Methodology (Strauss & Corbin, 1998) and with inductive categorising of the Qualitative Content Analysis (Kuckartz & Rädiker, 2023). We used MAXQDA (<https://www.maxqda.com>) to code and analyse our data.

3 Results

The deductive main categories, formed on the basis of our research questions, and the sub-ordinated categories, inductively derived from the transcripts, are described in this section. Following the deductive categories on the most abstract level of our category system, this section is structured by three sub-sections:



- Subjective reasons for and against utilitarian and deontological decisions
- Dealing with inner conflicts of utilitarian and deontological decision making
- Utilitarian and deontological decision-making in “normal” life situations

3.1 Subjective Reasons for and Against Utilitarian and Deontological Decisions

As described in the previous section, we deduced the reasons for and against utilitarian and the reasons for and against deontological decisions as main categories from our research questions. During the interviews additional factors for decision-making emerged as another main category.

We initially intended to evaluate not only the reasons for but also the reasons against utilitarian and deontological decisions. It was, however, not possible to clearly assign participants’ statements to these categories. Moreover, we found statements which show that the participants could not distinguish between reasons for and against their decision, e.g. “Exactly the same reasons [against the deontological decision as for the utilitarian decision]” (Switch: utilitarian decision)¹. Thus, we did not further investigate reasons against a utilitarian or deontological decision.

An overview of the category system regarding the reasons for utilitarian and deontological decisions as well as additional factors for decision-making, including case numbers for each category, can be found in Table 2. Eventually, we could distinguish three main categories:

- Reasons for utilitarian decisions
- Reasons for deontological decisions
- Additional factors for decision-making

3.1.1 Subjective Reasons for Utilitarian Decisions

The transcripts revealed three sub-categories for the reasons for utilitarian decision, which are described in the following sub-sections:

- Situation and decision-oriented reasons
- Values-based reasons
- Reasons founded in fate and/or God

3.1.1.1 Situation and Decision-oriented Reasons

Situation and decision-oriented reasons for utilitarian decisions can be distinguished into three sub-categories:

- Five person > 1 Person and 1 person < 5 persons
- Reducing guilt by choosing the lesser evil
- Reflexive action based on common sense

¹ German Statement: “Genau dieselben Gründe [gegen die deontologische Entscheidung wie für die utilitaristische Entscheidung].”



Table 2: Category system of the reasons for and against utilitarian decisions (8 cases) and deontological decisions (10 cases) with numbers of cases for each category (own representation).

Categories and codes	Utilitarian decision	Deontological decision	Total
1 Reasons for decision	0	0	0
1.1 Reasons for utilitarian decision	0	0	0
1.1.1 Situation & decision-related reasons	0	0	0
1.1.1.1 Five persons > 1 person and 1 person < 5 persons	7	0	7
1.1.1.1.1 Well-being of 5 persons > well-being of 1 person	5	5	10
1.1.1.1.2 Suffering of 1 person < suffering of 5 persons	6	2	8
1.1.1.1.3 Objective of a lower number of bereaved	4	1	5
1.1.1.1.4 Effect on life of 5 persons > effect on life of 1 person	3	0	3
1.1.1.2 Reducing guilt by choosing the lesser evil	4	0	4
1.1.1.3 Reflexive action based on common sense	5	2	7
1.1.2 Value-based reasons	0	0	0
1.1.2.1 Roots in socialisation and experiences	2	0	2
1.1.2.2 Equality of human lives as basic principle	2	0	2
1.1.2.3 Social responsibility as basic principle	1	0	1
1.1.2.4 Self-determination through activity	2	0	2
1.1.2.5 Understanding non-decisions as active decisions	4	1	5
1.1.3 Determination of own actions by fate/God	1	0	1
1.2 Reasons for deontological decision	0	0	0
1.2.1 Situation & decision-related reasons	0	0	0
1.2.1.1 Reducing guilt through avoiding an active decision	3	9	12
1.2.1.2 Innocence of person affected	0	5	5
1.2.1.3 Reflexive action based on (gut) feeling	0	6	6
1.2.2 Value-based reasons	0	0	0
1.2.2.1 Roots in socialisation and experiences	1	1	2
1.2.2.2 Rejection of charging lives against each other	0	0	0
1.2.2.2.1 Rejection of charging the values of human lives against each other	0	4	4
1.2.2.2.2 Rejection of charging the values of the effects of humans on live against each other	0	1	1
1.2.2.3 Proscription of deciding about life and death	0	4	4
1.2.2.4 Differentiating between active decision & passiveness	1	4	5

**Table 2** (continued).

Categories and codes	Utilitarian decision	Deontological decision	Total
1.2.3 Non-interference with course of events determined by God/fate	0	5	5
1.2.4 De-involvement because of indifference toward people	0	1	1
1.3 Additional factors for decision-making	0	0	0
1.3.1 Characteristics and value of those affected	2	0	2
1.3.1.1 Positive characteristics of persons affected	0	0	0
1.3.1.1.1 Achievements (potential) for closer social environment	2	1	3
1.3.1.1.2 Achievements (potential) for wider social environment	3	1	4
1.3.1.1.3 Potential for future life experiences & good life	1	1	2
1.3.1.2 Negative characteristics of persons affected	2	0	2
1.3.2 Emotional relationship to persons affected	5	3	8
1.3.3 Personal advantage from consequences of decision	1	0	1
2 Reasons against decision	0	0	0
2.1 Reasons against utilitarian decision	0	0	0
2.2 Reasons against deontological decision	0	0	0
2.3 Difficulties to distinguish between reasons for & against decision	3	3	6

All of the participants, who made a utilitarian decision, argued that five persons are more than one person or that one person is less than five persons, which becomes apparent in statements like “...it is five humans versus one human” (Loop: utilitarian decision)². The participants, however, did not make only such rather general statements. They specified that they valued the well-being of five persons higher than the well-being of one person, e.g., “...because for me the happiness and well-being of several people outweighs [the happiness and well-being of] the one” (Loop: utilitarian decision)³. Participants also focused on the suffering, which they aimed to reduce, e.g., “It was much more valuable for me to save five lives and having less suffering in this world than to save one person and five humans have to die” (Loop: utilitarian decision)⁴. In this context, participants did not only focus on the persons directly affected by the situation, i.e., the railroad workers, but also on the potentially

² German statement: “...es sind fünf Menschen versus einen Menschen.”

³ German statement: “...weil für mich das Glück oder Wohlbefinden von mehreren Personen dem einzelnen überwiegt.”

⁴ German statement: “Mir war es viel mehr wert, die fünf also fünf Leben zu retten und weniger Leid auf der Welt zu haben, als jetzt hier nur eine Person zu retten und dafür, dass fünf Menschen sterben.”



bereaved, e.g., “Why do five people have to die; that also means five families suffer ... And if it only affects one person, then this circle is smaller” (Switch: utilitarian decision)⁵. Apart from the well-being and suffering, participants argued that five persons can have a larger effect on life than one person, e.g., “Five human lives can potentially change more than one” (Footbridge: utilitarian decision)⁶.

Four participants focused on reducing guilt by choosing the lesser evil with the utilitarian decision, e.g., “Guilty of the death of one or five humans” (Switch: utilitarian decision)⁷.

The afore-described reasons can be characterised as rather extensive decision-making. In contrast, some participants stated that their decision resembled a reflexive action based on common sense, e.g., “I think the first reflex or the first impulse is normally the right one” (Switch: utilitarian decision)⁸ and “You simply act out of pure, normal – let’s call it – common sense” (Footbridge: utilitarian decision)⁹.

3.1.1.2 Values-based Reasons

Value-based reasons for utilitarian decisions can be distinguished into five sub-categories:

- Roots in socialisation and experiences
- Equality of human lives as a basic principle
- Social responsibility as a basic principle
- Self-determination through activity
- Understanding non-decisions as active decisions

The interviews revealed that reasons for utilitarian decisions can be based on values of the participants that are acquired through socialisation and experiences, which becomes apparent through statements like “Because I was confronted with a lot of suffering during my life, I would like the world experiencing as little suffering as possible.” (Loop: utilitarian decision)¹⁰.

One value that might lead to a utilitarian decision is the assumption of the equality of human lives, e.g., “All humans have equal rights, completely independent from if he is a banker, who is super wealthy, or [if he is] someone who is a cleaner somewhere.” (Loop: utilitarian decision)¹¹.

⁵ German statement: “Also warum müssen 5 Leute sterben; das heißt auch 5 Familien leiden ... Und wenn es nur eine Person betrifft, dann ist der Kreis einfach kleiner.”

⁶ German statement: “Fünf Menschenleben können eventuell vielleicht mehr verändern als eins”

⁷ German statement: “Schuldig am Tod von einem oder fünf Menschen.”

⁸ German statement: “Ich denke, der erste Reflex oder der erste Impuls ist meistens der richtige”

⁹ German statement: “Man handelt einfach nur aus reinem, normalen – sagen wir es mal so – Menschenverstand.”

¹⁰ German statement: “Dadurch, dass ich auch mit sehr viel Leid konfrontiert wurde in meinem Leben, möchte ich eigentlich, dass so wenig Leid wie möglich auf dieser Welt herrscht.”

¹¹ German Statement: “Alle Menschen sind gleichberechtigt, völlig egal, ob es der Banker ist, der super wohlhabend ist, oder jemand, der vielleicht irgendwo eine Reinigungskraft ist.”



Another value with a possible impact on making a utilitarian decision is acknowledging social responsibility as a basic principle, e.g., “it is very important to me that one is social” (Switch: utilitarian decision)¹².

Apart from the two afore-described values which can be characterized as being rather outward-oriented, values with a rather inward-oriented focus can affect making a utilitarian decision. One of these values is achieving or preserving self-determination through activity, e.g., “the tendency that I always decide for something in my life; I am rarely the person who does something passively” (Footbridge: utilitarian decision)¹³.

Also, rather inward-oriented, the understanding of non-decisions as active decisions can impact the utilitarian decision-making, e.g., “One makes the decision I intervene and kill one or I do not intervene; however, it is a decision regardless” (Loop: utilitarian decision)¹⁴.

3.1.1.3 Reasons Founded in Fate and/or God

One participant argued for a utilitarian decision because his fate, which is determined by God, would be to be in the dilemma situation and to pull the lever. He stated “I do not determine that I am at this location ... God determines the (my) fate” (Footbridge: utilitarian decision)¹⁵.

3.1.2 Subjective Reasons for Deontological Decisions

The structure of the sub-categories for the reasons for deontological decisions resembles the one for utilitarian decisions in principle. However, the participants who made deontological decisions have a different understanding of these sub-categories than their utilitarian counterparts. Furthermore, one interview revealed an additional sub-category (de-involvement because of indifference toward people) which does not fit into the “normal” deontological decision-making. Thus, the subjective reasons for deontological decisions can be distinguished into four sub-categories:

- Situation and decision-related reasons
- Value-based reasons
- Non-interference with course of events determined by God/fate
- De-involvement because of indifference toward people

3.1.2.1 Situation and Decision-oriented Reasons

Situation and decision-oriented reasons for deontological decisions can be distinguished into three sub-categories:

¹² German Statement: “mir ist es sehr wichtig ... dass man ja sozial ist.”

¹³ German statement: “die Tendenz, dass ich halt eher in meinem Leben mich dann immer für was entscheide; also ich bin eher seltener die Person, die passiv irgendwas macht.”

¹⁴ German statement: “Man trifft ja die Entscheidung, ich greife jetzt ein und töte einen oder ich greife nicht ein; aber es ist ja trotzdem eine Entscheidung.”

¹⁵ German statement: “dass ich vor Ort bin, das bestimme nicht ich ... der liebe Gott bestimmt das Schicksal.”



- Reducing guilt through avoiding an active decision
- Innocence of person affected
- Reflexive action based on (gut) feeling

Firstly, participants make a deontological decision to reduce their feelings of guilt by avoiding an active decision. Some participants focus more on the “objective” guilt whilst other focus more on the “unpleasant” feeling associated with guilt, e.g., “I do not want to push somebody... because, then, I have to live with that” (Footbridge: deontological decision)¹⁶.

Secondly, participants do not want to be responsible for the death of an innocent person, e.g., “How dare I to just push and kill an innocent person?” (Footbridge: deontological decision)¹⁷.

Thirdly, participants understand their deontological decision as a reflexive action based on their (gut) feeling, e.g., “I did not think about it. I have simply listened to my gut feeling and thought, okay, I let it run its course (Switch: deontological decision)¹⁸.

3.1.2.2 Values-based Reasons

Value-based reasons for deontological decisions can be distinguished into four sub-categories:

- Roots in socialisation and experiences
- Rejection of charging lives against each other
- Proscription of deciding about life and death
- Differentiating between active decision and passiveness

Reasons for deontological decisions can be found in rather stable values of the respective participants. As with the values-based reasons for utilitarian decisions, the values underlying deontological decisions stem from the socialisation and life experiences of the participants, e.g., “I think that is how one grows up, what values one is taught, or what one simply learns or sees; yes, with what one grows up” (Switch: deontological decision)¹⁹.

Participants, making a deontological decision, reject the charging of lives against each other, which means that five lives cannot be considered more than one live. This aspect can be further distinguished into not charging the values of human lives against each other as a basic principle, e.g., “I have thought how can I take the right to specifically say about one person that this life is less valuable than the lives of the other five” (Switch: deontological

¹⁶ German statement: “Aber ich will nicht jemanden runterschucken... , weil dann muss ich ja damit leben”

¹⁷ German statement: “was fällt mir denn ein, einfach jemanden unschuldigen runter zu schmeißen und umzubringen?”

¹⁸ German statement: “Ich habe darüber gar nicht so nachgedacht. Ich habe dann einfach auf mein Bauchgefühl gehört und gedacht, okay, ich lasse es jetzt so seinen Weg laufen.”

¹⁹ German statement: “Ich denke, das ist das, wie man aufwächst, was für Werte man auf dem Weg mitbekommt, oder was man halt einfach so lernt, sieht; ja, womit man halt groß wird.”



decision)²⁰ and not charging the (potential) effects of humans on live against each other, e.g., "In my opinion, the one person can also achieve a lot in life" (Loop: deontological decision)²¹.

Some participants argued for a deontological decision with the principle that humans are proscribed to decide about life and death. The participants stated the afore-mentioned principle in general, e.g., "Because it is not within my rights and not my responsibility to kill someone; and I cannot decide about life and death" (Footbridge: deontological decision)²² or with reference to faith and religion, e.g., "coming back to Christianity, to the Bible, where you can say I do not have the right to decide about life or death of another person" (Switch: deontological decision)²³.

In contrast to the participants who made a utilitarian decision, the participants making a deontological decision distinguish between active decisions and passiveness, e.g., "The eventual question is to what extent do I want to be actively involved or not" (Footbridge: deontological decision)²⁴.

3.1.2.3 Reasons Founded in Fate and/or God

Some participants argued that they would not intervene in the dilemma situation because they do not want to interfere with the course of events which is determined by fate or God, e.g., "There, fate simply decides what happens to people; nobody is responsible for that" (Switch: deontological decision)²⁵. At this point, it should be mentioned that some value-based reasons and reasons founded in fate or God are closely related and not entirely distinctive, in parts.

3.1.2.4 De-involvement Because of Indifference Toward People

One participant expressed that he does not care for other people at all and almost exclusively looks after his own benefits. This attitude can be exemplified through one of his statements: "I am indifferent if five people die or one person dies. I simply do not want to have anything to do with this situation" (Loop: deontological decision)²⁶. The de-involvement because of indifference toward people should not be seen as a common or "normal" reason

²⁰ German statement: "Ich habe halt für mich so gedacht, was kann ich mir das Recht draus nehmen, über eine einzige Person, also wirklich dann so gezielt zu sagen, dieses Leben ist von der Person weniger wert, als jetzt das von den fünf anderen."

²¹ German statement: "Meiner Meinung nach kann die eine Person auch viel bewirken im Leben"

²² German statement: "Weil es nicht mein Recht ist und nicht meine Verantwortung, jemanden umzubringen; und ich kann nicht über Leben und Tod entscheiden."

²³ German statement: "auf das Christentum zurückzukehen, auf die Bibel, wo man eben sagen kann, ich habe nicht direkt das Recht, über Leben oder Tod von einer anderen Person zu entscheiden."

²⁴ German statement: "Die Frage ist halt im Endeffekt, inwieweit möchte ich halt aktiv daran beteiligt sein oder nicht."

²⁵ German statement: "Da entscheidet eben das Schicksal, was mit einem passiert; da kann keiner was für."

²⁶ German statement: "Es ist für mich gleichgültig, ob fünf Leute sterben oder ob eine Person stirbt. Ich möchte praktisch einfach nur nichts mit der Situation zu tun haben."



for deontological decisions, as an almost complete disregard for the well-being and emotions of other human beings can be considered an exception.

3.1.3 Additional Determinants of Decisions-making in Moral Dilemma Situations

Without being asked, the participants brought up additional factors they would regard as being relevant when making a decision in a moral dilemma situation. Thus, we inductively developed a respective category, which consists of three sub-categories. These three sub-categories have in common that additional characteristics of the persons affected, which are not described in the dilemmas, would have the power to change the utilitarian or deontological decision, made by the participants solely based on the information provided. The three sub-categories of additional determinants of decisions in moral dilemma situations are:

- Characteristics and value of those affected
- Emotional relationship to persons affected
- Personal advantage from consequences of decision

3.1.3.1 Characteristics and Value of the Persons Affected

Some participants explicitly stated that the value of the persons affected, in the sense of good or bad people, is of relevance for their decision-making, e.g., "If one has background information, good people, bad people etc., this can change the situation" (Loop: Utilitarian decision)²⁷. Thus, participants distinguished between positive and negative characteristics of the persons affected. The positive characteristics, which can influence a moral dilemma situation, can be summarised in three sub-categories:

- Achievements (potential) of persons affected for closer social environment
- Achievements (potential) of persons affected for wider social environment
- Potential of future life experiences and good life

From the perspective of the participants, positive characteristics of the persons affected can be their achievements for their closer social environment or the potential to it. Participants regard the impact that the persons affected had or can have on the lives of their family and friends as a factor influencing the decision in a moral dilemma situation, e.g., "Then, I would rather save this one railroad worker if I knew that this is a person who worked for 40 years to provide for his family" (Loop: utilitarian decision)²⁸. Participants do not only focus on the closer social environment but also on the wider social environment or society, e.g., "...if, perhaps, this person does a lot for others, then I take a huge part from society" (Footbridge: deontological decision)²⁹. Apart from the impact on other lives, participants also

²⁷ German statement: "Wenn man jetzt Hintergrundinfos hat, gute Menschen, schlechte Menschen etc., kann das die Situation verändern."

²⁸ German statement: "Dann hätte ich lieber den einen Gleisarbeiter gerettet, wenn ich weiß, hey, das ist jemand, der arbeitet seit 40 Jahren, um seine Familie zu versorgen."

²⁹ German statement: "...wenn dieser Mensch vielleicht auch viel für andere tut,... dann nehme ich ja der Gesellschaft ja auch wieder einen großen Teil weg."



regard the potential for a future good life of the persons affected as a factor impacting their decision, e.g., "And if, in my eyes, the person can be really happy" (Switch: utilitarian decision)³⁰. In the context of a good life, participants also see the future experiences of the persons affected as relevant, e.g., "I think that, when one is relatively young, he has many significant steps in life ahead of him ... Wedding, children, career, emotional things ... That is naturally a relatively important aspect." (Footbridge: deontological decision)³¹.

Apart from positive characteristics of the persons affected, their perceived negative characteristics can also impact the decision, e.g., "If, perhaps, the five railroad workers are criminals who do some sort of community work there and do not regret, then, they would be bad people" (Loop: utilitarian decision)³².

3.1.3.2 Emotional Relationship to the Persons Affected

A possible emotional relationship of the participants to the persons affected can have an impact on making a decision in a moral dilemma situation. Some participants stated that they would change their decision if family or friends are involved and affected by their decision, e.g., "If my family is with the five railroad workers and the one railroad worker is a stranger, then I would, of course, decide for my family" (Loop: deontological decision)³³.

3.1.3.3 Personal Advantage of the Consequences of the Decision

One participant stated that he would change his decision if it leads to personal benefits: "If, for example, one of the five has a position [at work] that I would like to have; that would be another aspect, for example. Then, one says rather the five; then the one is gone so that I can progress [in my career]" (Switch: deontological decision)³⁴.

3.2 Dealing with Inner Conflicts after Utilitarian and Deontological Decision-making

Our second research question focuses on how people deal with inner conflicts when and after making decisions in moral dilemma situations. An overview of the categories and their respective subcategories can be found in Table 3. Dealing with inner conflicts because of decisions in moral dilemma situations can be distinguished into five sub-categories:

³⁰ German statement: "Und ob die Person dann auch wirklich in meinen Augen auch glücklich sein kann."

³¹ German statement: "Ich denke, wenn man halt noch relativ jung ist, hat man viele Schritte, lebensentscheidende Schritte, ... Hochzeit, Kinder, Karriere, emotionale Dinge ... Das ist natürlich ... einen relativ wichtigen Aspekt."

³² German statement: "Wenn jetzt vielleicht die fünf Gleisarbeiter Straftäter wären, die das nur als Art Sozialarbeit ableisten müssen und keine Reue empfinden, dann wären es schlechte Menschen."

³³ German statement: "Wenn hier jetzt meine Familie wäre bei den fünf Gleisarbeitern und der eine Gleisarbeiter wäre ein Fremder, dann würde ich mich natürlich für meine Familie entscheiden."

³⁴ German statement: "Ob zum Beispiel einer der 5 eine Position hat, die ich gerne hätte. Das wäre zum Beispiel auch noch so ein Thema. Dann sagt man lieber die 5, dann ist der eine weg, dass ich höher komme."



- Questioning and accepting the situation and decision
- Inward orientation vs. outward orientation
- Rationale vs. intuition
- Dealing with responsibility and guilt
- Indifference toward people

3.2.1 Questioning and Accepting the Situation and Decision

People who make or made a decision in a moral dilemma situation can accept the dilemma and question their decision and the situation. Three sub-categories could be distinguished in this context:

- Accepting the dilemma and its insolvability
- Questioning the decision
- Questioning the situation

Some participants dealt with their inner conflicts by accepting that “there is no right and wrong solution” (Loop: deontological decision)³⁵ and that their decision, whichever this may be, will not be good, e.g., “So, it would always feel fundamentally wrong, always bad, I think, regardless of what decision I would make” (Switch: deontological decision)³⁶.

Apart from accepting the dilemma, participants questioned their decision, e.g., “I think one always doubts oneself when making such a decision” (Switch: utilitarian decision)³⁷,

Furthermore, they questioned the situation, e.g., “an incredible amount of information is missing” (Loop: utilitarian decision)³⁸ or “I do not know the background ... I would possibly ask myself why this accident happened” (Footbridge: deontological decision)³⁹.

3.2.2 Inward vs. Outward Orientation

When dealing with inner conflicts, participants showed both, an inward orientation, e.g., “...simply if I could make the right decision for myself” (Footbridge: utilitarian decision)⁴⁰ and an outward orientation, e.g., “I probably have to deal with it in some conversations; in every case, I would have to talk about it” (Loop: deontological decision)⁴¹ or “if, someone came to me afterwards ... and asked me why didn’t you” (Switch: utilitarian decision)⁴². Thus, people can deal with inner conflicts because of a decision in a moral dilemma situation based on:

³⁵ German statement: “Es gibt da keine richtige und falsche Lösung.”

³⁶ German statement: “Also es würde sich grundlegend immer falsch anfühlen, also immer schlecht, finde ich, egal welche Entscheidung ich treffen würde.”

³⁷ German statement: “Ich glaube, da kriegt man immer Zweifel bei so einer Entscheidung.”

³⁸ German statement: “...es fehlen ja unglaublich viele Informationen.”

³⁹ German statement: “Ich kenne ja auch nicht die Hintergründe ... ich würde eventuell versuchen, mir die Frage zu stellen, warum ist dieser Unfall so passiert.”

⁴⁰ German statement: “...ob ich einfach für mich selber die richtige Entscheidung treffen könnte.”

⁴¹ German statement: “Ich müsste das wahrscheinlich in irgendwelchen Gesprächen verarbeiten; ich müsste auf jeden Fall darüber reden.”

⁴² German statement: “...ob dann im Nachhinein jemand zu mir gekommen wäre ... und gefragt hätte, warum hast du nicht.”



- Inward orientation
- Outward orientation

Table 3: Category system of dealing with inner conflicts when making utilitarian decisions (8 cases) and deontological decisions (10 cases) with numbers of cases for each category (own representation).

Categories and codes	Utilitarian decision	Deontological decision	Total
3 Dealing with inner conflicts	0	0	0
3.1 Questioning and accepting the situation and decision	0	0	0
3.1.1 Accepting the dilemma & its insolvability	3	7	10
3.1.2 Questioning the decision	3	7	10
3.1.3 Questioning the situation	7	5	12
3.2 Inward orientation vs. outward orientation	0	0	0
3.2.1 Inward orientation	2	3	5
3.2.2 Outward orientation	5	6	11
3.3 Rationale vs. intuition	0	0	0
3.3.1 Rationalising the decision	6	0	6
3.3.2 Emphasising intuition	4	3	7
3.4 Dealing with responsibility and guilt	0	0	0
3.4.1 Accepting responsibility and guilt	5	2	7
3.4.2 Hoping for understanding and forgiveness	3	0	3
3.4.3 Relativising responsibility and guilt	0	6	6
3.4.4 Externalising responsibility and guilt	0	0	0
3.4.4.1 Shifting responsibility to persons affected	3	5	8
3.4.4.2 Shifting responsibility to third-party	1	4	5
3.4.5 Balancing guilt through good deeds	0	2	2
3.5 Indifference toward people	0	1	1

3.2.3 Rationale vs. Intuition

We showed above that the participants distinguished between rather thought through reasons for their decision and reflexive actions based on common sense (rather utilitarian decision) or gut feeling (rather deontological decision). Correspondingly, when dealing with inner conflicts, participants who made a utilitarian decision tend to rationalise their decisions, e.g., “...if I simply objectively and from the outside look at it, then, I would decide for the one”



(Loop: utilitarian decision)⁴³, whilst participants who made a deontological decision tend to emphasise their intuition, e.g., “I have, as mentioned, listened to my gut feeling; and if I think about it, I would make it the same way again” (Switch: deontological decision)⁴⁴. Thus, people can deal with inner conflicts because of a decision in a moral dilemma situation based on:

- Rationale
- Intuition

3.2.4 Dealing with Responsibility and Guilt

Taking or avoiding responsibility and therewith dealing with guilt was introduced in the context of the reasons for utilitarian and deontological decisions. Thus, it is not overly surprising that responsibility and guilt play a role when people deal with inner conflicts during and after decisions in moral dilemma situations. We could identify five sub-categories corresponding with this aspect:

- Accepting responsibility and guilt
- Hoping for understanding and forgiveness
- Relativising responsibility and guilt
- Externalising responsibility and guilt
- Balancing guilt through good deeds

3.2.4.1 Accepting Responsibility and Guilt

Some respondents acknowledge the responsibility for their decision and also admitted guilt with regard to the consequences of their decision, e.g., “The guilt lies with me regardless of how I decide” (Switch: deontological decision)⁴⁵.

3.2.4.2 Hoping for Understanding and Forgiveness

An aspect of dealing with inner conflicts after a decision in a moral dilemma decision can be to hope that others understand the decision and that the bereaved can forgive the actions taken, e.g., “...naturally, the forgiveness and understanding of the bereaved is important to me” (Switch: utilitarian decision)⁴⁶.

3.2.4.3 Relativising Responsibility and Guilt

In contrast to the two aforementioned categories, we could find that some participants would deal with their inner conflicts by relativising responsibility and guilt, e.g., “...one can

⁴³ German statement: “...wenn ich jetzt einfach rein objektiv von außen drauf schaue und das betrachte, dann würde ich mich für den einen entscheiden.”

⁴⁴ German statement: “Ich habe, wie gesagt, einfach auf mein Bauchgefühl gehört; und auch wenn ich drüber nachdenke, würde ich es ja jetzt auch wieder so machen.”

⁴⁵ German statement: “Die Schuld liegt quasi trotzdem bei mir, egal wie ich mich entscheide.”

⁴⁶ German statement: “...ist mir natürlich auch die Vergebung oder das Verständnis von den Hinterbliebenen wichtig.”



actually not expect that a stranger who has nothing to do with that ... that this one somehow intervenes" (Footbridge: deontological decision)⁴⁷.

3.2.4.4 Externalising Responsibility and Guilt

Some participants go a step further than relativising responsibility and guilt. They externalise the responsibility and guilt toward the persons affected, e.g., "And these ones [railroad workers] also have the option to take over responsibility – to go away, to be attentional enough and save themselves" (Footbridge: deontological decision)⁴⁸. Other participants shift the responsibility to a third-party not mentioned in the description of the dilemmas, e.g., "It is not my fault, that they worked there, that the railway service did not know about it, that the channels of communication did not work. Therefore, there are many, many more factors than just me." (Footbridge: deontological decision)⁴⁹.

3.2.4.5 Balancing Guilt through Good Deeds

Some participants would attempt to balance the guilt, they would experience after a decision in a moral dilemma situation through good deeds, in some cases resembling a sale of indulgences, e.g., "I would probably always engage in something somehow; some social projects so that I always give something back to some people." (Loop: deontological decision)⁵⁰.

3.2.5 Indifference toward People

One participant stated "There [in a public interview] I would in no case say that, in plain language, people are irrelevant to me" (Loop: deontological decision)⁵¹. As mentioned before in the context of the reasons for a deontological decision, an almost complete disregard for other people is a "hypothetically individually healthy" way to deal with inner conflicts after decisions in moral dilemma situations. However, such extreme callousness should be regarded as a rather rare exception amongst living beings.

3.3 Utilitarian and Deontological Decision-making in "Normal" Life Situations

Our third research question aims to find out how and in what life domains people apply utilitarian and deontological decision-making in what domains of their "normal" lives. The

⁴⁷ German statement: "...eigentlich kann man nicht erwarten, dass ein Fremder, der nichts damit zu tun hat, ...dass der da irgendwie Einfluss nimmt."

⁴⁸ German statement: "Und die hier haben ja noch die Möglichkeit, selber Verantwortung zu tragen – ob sie weggehen, ob sie aufmerksam genug sind und irgendwie sich wegzuretten."

⁴⁹ German statement: "[Es] ist ja nicht meine Schuld, dass die dort gearbeitet hatten, dass die Bahn davon nichts wusste, dass die Kommunikationswege nicht waren, also es gibt ja noch viel, viel mehr Faktoren als nur mich."

⁵⁰ German statement: "Ich würde wahrscheinlich immer irgendwie mich bei irgendwas engagieren; irgendwie soziale Projekte, dass ich einfach irgendwelchen Menschen immer was zurückgebe."

⁵¹ German statement: „Da [in einem öffentlichen Interview] würde ich auf keinen Fall sagen, dass mir die Leute praktisch auf Deutsch gesagt gleich egal wären.“



respective categories can be found in Table 4. Utilitarian and deontological decision-making in “normal” life can be distinguished into four sub-categories:

- Relevance of utilitarian and deontological decision-making
- Combination of utilitarian and deontological decision-making
- Utilitarian decisions in “normal” life
- Deontological decisions in “normal” life

3.3.1 Relevance of Utilitarian and Deontological Decision-making in “Normal” Life

Many participants faced difficulties to apply the principles of utilitarian and deontological decision-making in their “normal” lives. They found it hard to find respective examples in their “normal” lives, e.g., “Boah, I just do not come to any example. I understand, so I think, the principle but accessing it is somehow hard for me” (Loop: utilitarian decision)⁵². Moreover, participants stated that they apply alternative decision-making rules in their “normal” lives, such as “[deciding because of] gut feeling” (Switch: deontological decision)⁵³, “I treat others like I would like to be treated” (Loop: utilitarian decision)⁵⁴, “quickest decision ... where I just say, okay, the utility is the biggest for me” (Switch: deontological decision)⁵⁵, and religious rules like “You should not lie” (Footbridge: deontological decision)⁵⁶ or “To please God” (Footbridge: deontological decision)⁵⁷. Thus, the relevance of utilitarian and deontological decision-making in “normal” life can be structured in two categories:

- Difficulties in transferring utilitarian and deontological decision-making to “normal” life
- Application of alternative decision-making rules

3.3.2 Combination of Utilitarian and Deontological Decision-making in “Normal” Life

Apart from having difficulties to transfer utilitarian and deontological decision-making to their “normal” lives, participants did not see these two decision-making principles as mutual exclusive options but rather complementary approaches to decisions, e.g., “With the rules, we have the same utility. ...the two variants actually depend on each other” (Loop: deontological decision)⁵⁸. When distinguishing between utilitarian and deontological decision-making, participants emphasised on the proportionality of benefit and harm, e.g., “500,000 [people] experience crap and seven billion have good lives; this is somehow a

⁵² German statement: “Boah, ich komme gerade irgendwie auf gar kein Beispiel. Also ich verstehe, glaube ich, das Prinzip an sich, aber irgendwie der Zugang fällt mir da gerade schwer.”

⁵³ German statement: “[Entscheiden] nach Bauchgefühl”

⁵⁴ German statement: “Ich behandle andere so, wie ich auch behandelt werden möchte.”

⁵⁵ German statement: “...schnellstmögliche Entscheidung ... wo ich eben sage, okay, für mich der Nutzen ist jetzt am meisten.”

⁵⁶ German statement: “Du sollst nicht lügen.”

⁵⁷ German statement: “Gott zu gefallen.”

⁵⁸ German statement: “Mit den Regeln haben wir den gleichen Nutzen. ...die zwei Varianten hängen ja eigentlich miteinander [zusammen].”



relation which I say is acceptable” (Switch: utilitarian decision)⁵⁹. Thus, the combination of utilitarian and deontological decision-making in “normal” life can be structured in two categories:

- Complementarity of utilitarian and deontological decision-making
- Proportionality of benefit and harm

3.3.3 Application of Utilitarian and Deontological Decision-making in “Normal” Life

Even though many participants faced difficulties transferring the principles of utilitarian and deontological decision-making to their “normal” lives, examples for applying utilitarian decision-making in several life domains could eventually be found: Anti-Corona measures, clubs, family life, politics, Relationships, Science, and work and business life.

Similarly, several life domains in which the participants consider deontological decision-making a possible and good approach could also be found: Work and business life, self-protection during first aid, family life, friendships, abortion, social life, criminal behaviour, and road traffic.

Table 4: Category system of how people apply utilitarian decision-making (8 cases) and deontological decision-making (10 cases) in their normal lives with numbers of cases for each category (own representation).

Categories and codes	Utilitarian decision	Deontological decision	Total
4 Decision-making in "normal" life	0	0	0
4.1 Relevance of utilitarian & deontological decision-making	0	0	0
4.1.1 Difficulties in transferring utilitarian and deontological decision-making to "normal" life	6	4	10
4.1.2 Application of alternative decision-making rules	1	4	5
4.2 Combination of utilitarian and deontological decision-making	0	0	0
4.2.1 Complementarity of utilitarian and deontological decision-making	6	2	8
4.2.2 Proportionality of benefit and harm	3	1	4
4.3 Utilitarian decisions in "normal" life	0	0	0
4.3.1 Anti-Corona measures	1	0	1
4.3.2 Work & business life	3	2	5
4.3.3 Family life	3	0	3
4.3.4 Relationship	0	1	1
4.3.5 Politics	1	1	2

⁵⁹ German statement: “500,000 geht [es] scheiße und sieben Milliarden geht es gut, ist das für mich noch irgendwo so eine Relation, wo ich sage, ok, wäre vertretbar.”

**Table 4** (continued).

Categories and codes	Utilitarian decision	Deontological decision	Total
4.3.6 Clubs	0	1	1
4.3.7 Science	1	1	2
4.4 Deontological decisions in "normal" life	0	0	0
4.4.1 Work & business life	3	1	4
4.4.2 Self-protection during first aid	1	0	1
4.4.3 Family life	1	2	3
4.4.4 Friendships	0	2	2
4.4.5 Abortion	1	0	1
4.4.6 Social life	1	2	3
4.4.7 Criminal behaviour	1	1	2
4.4.8 Road traffic	1	2	3

4 Discussion

This section is dedicated to the discussion of our results. In the first subsection we will present models that explain the processes associated with making decisions in moral dilemma situations. On this basis, we will summarise these findings and draw conclusions for broader and deeper understanding of moral dilemma decision-making and for future research in the second subsection.

4.1 Implications

In the first subsection, an overall model, which should serve as a framework for explaining the process of decision-making and dealing with inner conflicts with regard to moral dilemma situations, is presented. On this basis and in accordance with our first research questions, a more detailed explanation of subjective reasons for utilitarian and deontological decisions is given in the second subsection. The third subsection is associated with our second research question, which aims to give a better understanding of how people deal with inner conflicts during and after making decisions in moral dilemma situations. In the fourth and last subsection, corresponding with our third research question, we will elaborate to what extent and how people apply utilitarian and deontological decision-making to their “normal” lives.

4.1.1 Overall Model of Subjective Decision-making and Reasoning in Moral Dilemma Situations

We developed an overall model of the process of decision-making and dealing with inner conflicts in moral dilemma situations, which is based on our results in Section 3 and represented in Figure 2.

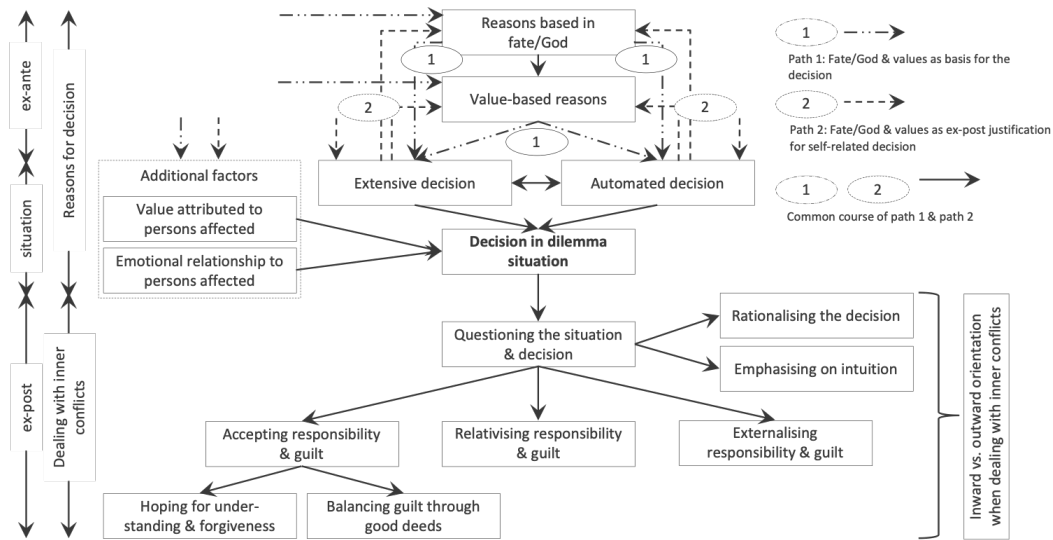


Figure 2: Overall model representing the process of decision-making and dealing with inner conflicts in moral dilemma situations (own representation).

Decision-making in moral dilemma situations can be structured by an ex-ante phase before the decision, the decision-making itself and an ex-post phase after the decision, as indicated in Figure 2. The ex-ante phase and the situation of decision-making can be associated with the reasons for a utilitarian or deontological decision, whilst the ex-post phase can be ascribed to dealing with inner conflicts.

When having to make a decision in a moral dilemma situation, people can pursue two paths, which are indicated as path 1 and path 2 in Figure 2.

Believing in God or fate and having fundamental values are the starting point for path 1 (cf. Sections 3.1.1.2, 3.1.1.3, 3.1.2.2 and 3.1.2.3). In this context, the faith in God or fate can, but must not, serve as the basis for the fundamental values. Based on their faith and/or their fundamental values people come to a utilitarian or deontological decision.

The decision itself can be a result of an extensive decision-making process, which involves a thorough evaluation of the arguments for the decision, or an automated decision, which resembles a “cognitive reflex” based on common sense or gut feeling (cf. Sections 3.1.1.1 and 3.1.2.1). These two situation-oriented decision-making processes should not be seen as mutually exclusive but rather interdependent processes.

Path 2 of making a utilitarian or deontological decision in a moral dilemma situation begins with the afore-mentioned extensive and/or automated decision-making. After having made the decision first, people try to find an ex-post justification for their decision by referring to fundamental values and/or God or fate. Our reason for establishing path 2 is based on the fact that interviewees made their decisions by giving situational reasons for it and only afterwards gave more general explanations, i.e., God/fate or fundamental values, for their situational decisions. Thus, path 2 can be understood as the reverse process of path 1 and resembles the concept of justificatory labour for a moral decision in hindsight (Chiweshe et



al., 2017; Hoggart, 2019). The distinction between path 1 and 2 also resembles the attitude-behaviour relationship in which not only an attitude can lead to behaviour but also behaviour can lead to the formation of an attitude, in accordance with the Theory of Cognitive Dissonance (Festinger, 1957).

In Section 3.1.3, we documented that participants mentioned additional factors that would influence their decisions, i.e., value attributed to the persons affected and emotional relationship with persons affected. This is in line with the findings of other studies that external positive and negative rewards, and the consequences for the personal life of the decision-maker impact the choice in a moral dilemma situation (Agustin et al. 2025; Hernández et al., 2023; Hoggart, 2019). Independent of the afore-described paths of decision-making, it seems to be of relevance for the decision what value the decision-makers attribute to the persons affected and what emotional relationship they have to the persons affected.

As mentioned above, the ex-post phase after a decision in a moral dilemma situation can be ascribed to the process of dealing with inner conflicts. The initial phase of this process is questioning and accepting the dilemma situation and one's decision (cf. Section 3.2.1), which resembles the first step of managing health care-related moral dilemmas according to Noel-Weiss et al. (2012).

People can approach and conduct this ex-post process on two levels, with two dimensions each. On the first level, people can deal with inner conflicts having a predominantly inward orientation, meaning that the reference points for evaluating the decision is located within the decision-maker and his or her own values, emotions etc. People can also have a predominantly outward orientation, meaning that the reference points for evaluating the decision is located with other persons and their values, emotions etc. (cf. Section 3.2.2). This finding corresponds with results of other studies, which reveal that moral reasoning is referenced against one's own set of moral beliefs (McLeod, 2014), external principles or guidelines (Afenigus & Sinshaw, 2025), or both (Hlaing et al., 2023). On the second level, people can deal with inner conflicts after a moral dilemma decision by focusing on logic and rationalising their decisions, thereby shoving emotions aside, and/or by focusing on their intuition and emotionally justifying their decisions (cf. Section 3.2.3). Both reactions to moral dilemmas, rational and emotional, could also be detected in other studies, e.g., in the health care sector (Ribeiro et al., 2021) and the realm of the military (Thompson et al., 2008).

After having questioned the moral dilemma situation and their decisions with an inward and/or outward orientation and in a rational and/or intuitive way, people are dealing with their responsibility and feeling of guilt, which can be done in three ways. Firstly, people can accept responsibility and guilt against the backdrop that, in a moral dilemma situation, no decision is purely good or right (cf. Section 3.2.4.1). In this case, they can hope that others, especially the bereaved, understand and accept their decision (cf. Section 3.2.4.2) or try to balance their guilt through good deeds, which may or may not be directly related to their decision, partly resembling a sale of indulgences (cf. Section 3.2.4.5). Secondly, people can



relativise their guilt by downplaying their responsibility for their decisions (cf. Section 3.2.4.3). Grgurić Čop et al. (2024) could find that social media influencers similarly apply this coping strategy by downplaying the relevance of their role toward their followers when dealing with moral dilemmas related to their work. Thirdly, people can externalise their guilt by attributing the responsibility for the situation to the persons affected or third parties, not explicitly mentioned in the dilemma situation (cf. Section 3.2.4.4). The latter coping strategy could also be found for nurses who attribute the decisional competence in a moral dilemma situation to physicians (van Zuuren & van Manen, 2006).

4.1.2 Subjective Reasons for Utilitarian and Deontological Decisions

We deduced a general model for making decisions in moral dilemma situations and dealing with resulting inner conflicts in the previous section. In this section, we will elaborate on how people differ in their decision-making process when making a utilitarian or deontological decision, i.e., the different reasoning for utilitarian and deontological decisions. To this end and based on our general model represented in Figure 2, we developed a more differentiated model of the process of making utilitarian and deontological decisions, which is represented in Figure 3.

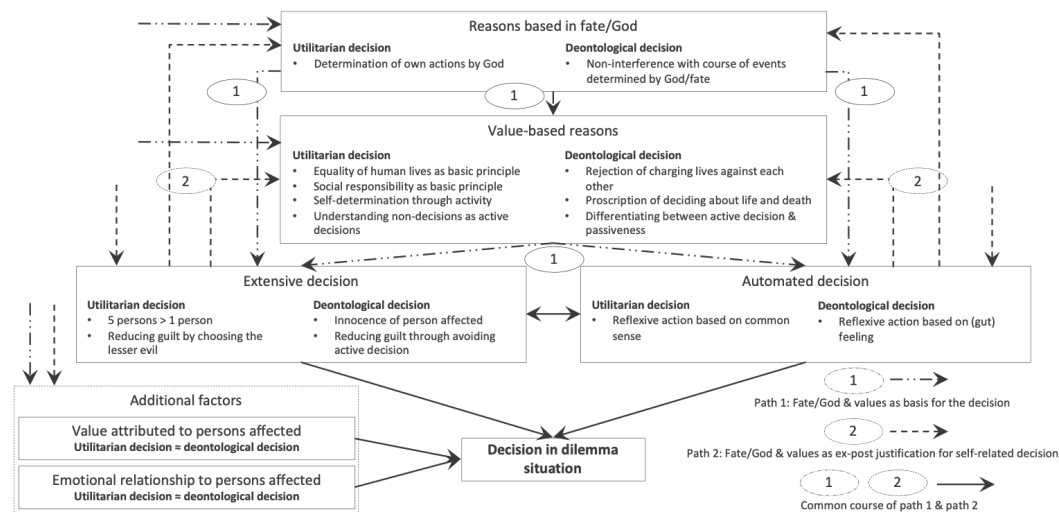


Figure 3: Model representing the process of making utilitarian and deontological decisions in moral dilemma situations (own representation).

Decisions in moral dilemma situations can be founded in reasons based in God or fate (cf. Sections 3.1.1.3 and 3.1.2.3). Our interviews indicate that the belief in God or fate is a stronger reason for a deontological decision than a utilitarian decision, as people, making a deontological decision, might not want to interfere with the course of events that is predetermined by God or fate. However, our data also show that it is possible that a person, making a utilitarian decision, argues that his or her own actions, i.e. making a decision in a moral dilemma situation, are determined by God or fate. Amongst others, Szekely et al. (2015) could quantitatively establish the association of religiosity and the tendency to prefer



deontological decisions for the traditional dilemmas, which we also used in our study. In more practical or plausible dilemmas, this association could not be fully replicated (Körner et al., 2020). In accordance with Gawronski et al. (2023), our data indicates a more differentiated association of religiosity or faith and the preference for utilitarian or deontological decisions, i.e., a more differentiated understanding of the contents of religiosity and faith and not just a focus on the extent of religiosity. Based on our data, it seems that people, coming to utilitarian decisions, could understand their decision as deriving from God's commandment to take action, whilst people, coming to deontological decisions, tend to not wanting to interfere in the course of events which is predetermined by God or fate.

Similar to the association of religiosity and the preference for utilitarian or deontological decisions, the respective effects of personal values and related constructs were predominantly quantitatively researched, e.g., political orientation (Chan, 2019; Hannikainen et al., 2017) and empathic concern (Gleichgerrcht & Young, 2013; Nasello & Triffaux, 2023). Accordingly, these constructs were conceptualised and operationalised on a rather abstract level. Our data suggest that a more nuanced approach with more differentiated value-based reasons, leading to utilitarian and deontological decisions, is advisable (cf. Sections 3.1.1.2 and 3.1.2.2), which is in line with the conclusions of Körner et al. (2020) and Ng et al. (2025), amongst others. Utilitarian decisions seem to be based on the fundamental value that every human life has the same value. This subjective assumption serves as the basis for the rationale that five lives have a higher value than one life, which we will introduce as a situational reason for a utilitarian decision below. Additionally, people who make utilitarian decisions seem to feel an obligation to take on responsibility in a social context. This aspect can be seen in conjunction with the value of determining the own life and the lives of others through active decisions and the utilitarian decision-makers' understanding of inaction as an active decision. This aspect shows similarities to the association of behavioural activation and inhibition and the preference for utilitarian and deontological decisions (e.g., Moore, Lee, et al., 2011; van den Bos et al., 2011). The relevance of tendencies to action vs inaction for moral dilemma decisions is also reflected in the CNI model of moral judgements by Gawronski et al. (2023; C: sensitivity to consequences, N: sensitivity to moral norms, I: general inaction vs. action tendencies). In contrast, people, who make a deontological decision, tend to follow the value that one cannot or must not charge lives against each other, i.e., one is not allowed to sacrifice one human being to save other human beings. In conjunction with this, people, making deontological decisions, seem to have the value that a human being is generally not allowed to decide about life and death of others. These two reasons for deontological decisions might be linked to a religious foundation, as the respective values can be traced back to the dogmas of Christianity and other religions. Furthermore, and in contrast to their utilitarian counterparts, people, making deontological decisions, distinguish between active decisions and passiveness by regarding passiveness not as a decision or as some sort of semi-decision, again pointing to the association of behavioural activation and inhibition and the preference for utilitarian and deontological decisions (e.g., Gawronski et al., 2023; Moore, Stevens &



Conway, 2011; Van den Bos, Müller & Damen, 2011). We showed that several values, which qualitatively differ between people making utilitarian and deontological decisions, underly decision-making in moral dilemma situations. Against this backdrop, we propose that a combination and interaction of the afore-mentioned values might provide more explanatory power than an isolated examination.

As outlined in Section 4.1, people can come to their decision in a moral dilemma situation either through an extensive decision-making process and/or an automated decision-making process.

The reasoning within the extensive decision-making process can be understood within the scholarly definition of utilitarian and deontological decisions (cf. Sections 3.1.1.1 and 3.1.2.1). People who make utilitarian decisions argue that five lives are more than one life, by aiming to maximise the well-being of others, minimise the suffering of others and/or maximise the potential future effects that the survivors can have on the lives of others. In contrast, people, making deontological decisions, emphasise on the innocence of the person affected by their decision, i.e., they are not willing to sacrifice an innocent person for the greater good. For both, utilitarian and deontological decision-makers, guilt because of their decisions can play an important role. People, making utilitarian decisions, aim to reduce their guilt by choosing the lesser evil, whilst people, making deontological decisions, aim to avoid guilt by not actively intervening in the moral dilemma situation. These findings indicate that, for some people, having to make decisions in moral dilemma situations, the utilitarian or deontological rationale is not the final stage of their decision-making process. For these people it is rather a means to end, which is to reduce their guilt because of the moral dilemma decision.

Apart from the extensive decision-making process, people can also come to a decision in a moral dilemma situation through an automated decision-making process (cf. Sections 3.1.1.1 and 3.1.2.1). Such an automated decision-making process can be found with both, utilitarian decision-makers and deontological decision-makers. The people, making a utilitarian decision, emphasise more on common sense, which might be understood as a rather rational approach. In contrast, people, making a deontological decision, emphasise more on their gut feeling, which might be understood as a rather emotional approach.

So far, we described decision-making processes that can be understood as being in the framework of utilitarian and deontological decisions in the narrower sense. Surprisingly for us, our participants, whether they came to a utilitarian or deontological decision, mentioned other factors that would influence and potentially alter their decision (cf. Section 3.1.3). It seems to be important to people what value they can attribute to the persons affected. This value can be the past and future achievements of the affected persons in a social context and the potential the affected persons have for a good life in the future. Furthermore, the decision in a moral dilemma situation seems to be affected by the emotional relationship the decision-maker has with the persons affected. This means that people might not decide because of a utilitarian or deontological rationale but because of their emotional bond with the persons



affected, if such emotional relationship exists. This finding indicates that other personal factors, outside the utilitarian and deontological rationale, possibly play a greater role in making decisions in moral dilemma situations, as we have also pointed out above.

4.1.3 Dealing with Inner Conflicts During and After Moral Dilemma Decisions

Most likely, people have to deal with inner conflicts after having made a decision in a moral dilemma situation (de Panfilis et al., 2019; Ricciardelli et al., 2022; Thompson et al., 2008; van Baarle et al., 2015). We described the general process of dealing with such conflicts in Section 4.1.1. In this section, we elaborate more on this process by showing the similarities and differences between people who made utilitarian and deontological decisions. Figure 4 represents the respective process model of dealing with inner conflicts after making a moral dilemma decision; again, this more differentiated model is based on our overall model (Figure 2).

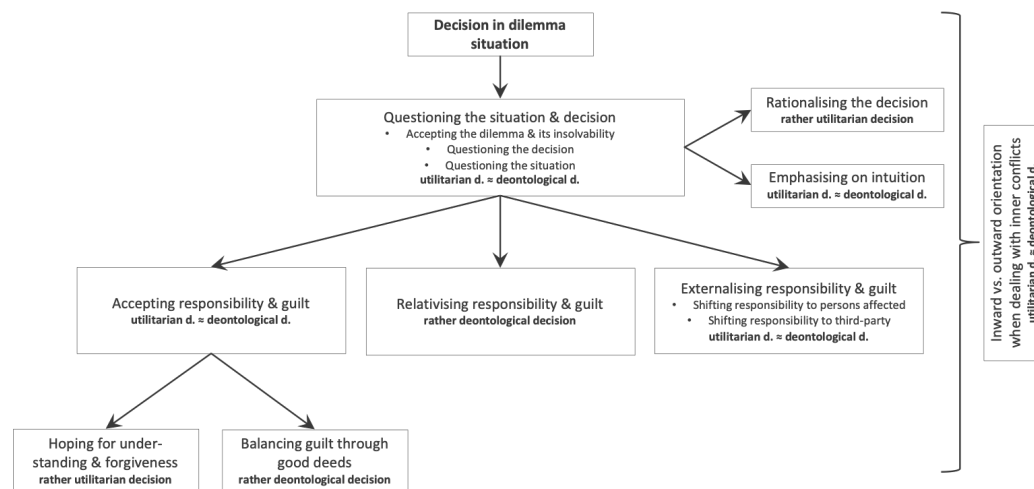


Figure 4: Model representing the process of dealing with inner conflicts after making utilitarian or deontological decisions in moral dilemma situations (own representation).

The initial phase of dealing with inner conflicts after decisions in moral dilemma situations is accepting the dilemma and its insolvability, and questioning the decision and its underlying situation, as explained in Section 4.1. This initial phase, as the precondition for dealing with inner conflicts, is the same for both, people who made a utilitarian decision and those who made a deontological decision (cf. Section 3.2.1).

As outlined in Section 4.1, people can approach the aforementioned initial phase and the whole process of dealing with inner conflicts after moral dilemma decisions by rationalising their decision and the situation or by emphasising on one's own intuition (cf. Section 3.2.3). Furthermore, the perspective during this process can be inward- or outward-oriented. Our data reveal that utilitarian decision-makers tend to use a rather rational approach to deal with inner conflicts. This finding is consistent with the situational reasons for a utilitarian decision, which circle around the "cold-hearted" calculation of the best outcome with regard to the



greater good. Conversely, it is plausible that deontological decision-makers predominantly focus on their intuition and a rather emotional approach of dealing with inner conflicts. This roughly corresponds with the situational reason for deontological decisions not to sacrifice innocent persons for the greater good. However, it has to be mentioned that some participants, who made a utilitarian decision, also emphasised their intuition when dealing with inner conflicts. At first glance this might appear surprising. At second glance, this aspect, however, is less surprising as both, utilitarian and deontological decision-makers, also stated that they made a reflexive or automated decision.

Apart from the focus on rationale or intuition, people can have an outward-oriented perspective and/or an inward-oriented perspective when dealing with inner conflicts after moral dilemma decisions (cf. Section 4.1). We could not detect a clear distinction between utilitarian and deontological decision-makers (cf. Section 3.2.2). This indicates that, regardless of the decision, both strategies for dealing with inner conflicts after moral dilemma situations, referencing to oneself and referencing to the social environment, are applied.

As described in Section 4.1, the responsibility for the decision and the guilt because of the moral dilemma decision play a central role in dealing with respective inner conflicts. Our interviews reveal that people apply three different strategies to deal with inner conflicts after a moral dilemma situation and the therewith associated guilt.

Firstly, people can accept responsibility and guilt, regardless of having made a utilitarian or deontological decision (cf. Section 3.2.4.1). If they do, utilitarian decision-makers tend to hope for understanding and forgiveness, especially from the bereaved (cf. Section 3.2.4.2). Deontological decision-makers tend to balance their guilt through good deeds, which might or might not be directly related to the dilemma situation and its consequences (cf. Section 3.2.4.5).

Secondly, people can relativise responsibility and guilt in the sense that the decision-maker came into the moral dilemma situation as some sort of innocent bystander, of whom nobody can expect to make a severe dilemma decision (cf. Section 3.2.4.3). This way of dealing with inner conflicts after moral dilemma decisions finds a stronger association with people who made a deontological decision than with people who made a utilitarian decision.

Thirdly, people can externalise responsibility and guilt to the persons affected and/or third parties, not explicitly or directly involved in the actual dilemma situation (cf. Section 3.2.4.4). This strategy of dealing with inner conflicts can be applied by both, utilitarian decision-makers and deontological decision-makers.

The afore-described strategies of people dealing with conflicts after moral dilemma decisions can be explained through the Theory of Cognitive Dissonance and its three main strategies to reduce cognitive dissonance (Festinger, 1957). When people accept their responsibility and guilt because of their moral dilemma decision and hope for understanding and forgiveness or try to balance their guilt through good deeds, they add consonant elements to their cognitive system. By relativising their responsibility and guilt, people reduce the relevance of their moral dilemma decision, which means they reduce the relevance of



dissonant elements. By externalising the responsibility and guilt, people reinterpret elements of their cognitive representation of the moral dilemma situation. Another possible explanation for the strategies of dealing with inner conflicts and the associated guilt after moral dilemma decisions can be found in the Theory of Reactance (Brehm, 1966; Brehm & Brehm, 1981). In this context, the moral dilemma situation can be understood as a reduction of freedom, as the decision-makers lack the freedom to make a (purely) good decision. Either the decision-makers accept that they could not make a (purely) good decision and try to make amends in case of the first strategy or they develop reactance in the case of the second and third strategy by reinterpreting the moral dilemma situation and their decision.

4.1.4 “Normal” Life Decision-making in Moral Dilemma Situations

We pointed out in Section 4.1.2 that our participants gave situational reasons for their decisions that were well within the scholarly definition of utilitarian and deontological decision-making. Our participants, however, had difficulties to transfer the utilitarian and deontological rationales of decision-making to their “normal” lives (cf. Section 3.3.1). They also stated that they apply alternative decision-making rules in their “normal” lives, which is in line with the notion that utilitarian or deontological decision-makers do not necessarily follow a utilitarian or deontological rationale (Bago et al., 2022; Baron, 2017; Baron & Gürcay, 2017). This indicates that people experience moral dilemma situations and the associated decision-making in a more complex way than the relatively “narrow” scholarly assumptions of utilitarian and deontological rationales would suggest. The potentially better suitability of a more complex multi-factored process model to explain moral dilemma decisions is also supported by the fact that, from the decision-makers perspective, additional factors influence the decision (c.f. Sections 4.1.1 and 4.1.2).

In Section 3.3.2, we described that our participants did not understand utilitarian and deontological decision-making as mutually exclusive approaches but rather as complementary and/or interconnected processes, in the sense that respecting and supporting the well-being of an individual (deontological perspective) serves the greater good of supporting the well-being of all individuals (utilitarian perspective) and vice versa. This interconnectivity of the two decision-making types is supported by the fact that the life domains, in which our participants regard utilitarian and deontological decision-making applicable, overlap (cf. Section 3.3.3).

4.2 Conclusion and Outlook

In Section 4.1.1., we developed a model explaining the process how people come to moral dilemma decisions and how they deal with inner conflicts after their decisions. We could show that reasons based in God or fate and value-based reasons are either the ex-ante foundation or the ex-post justification for an extensive and/or automated decision-making. Furthermore, people regard additional factors, i.e., the values attributed to the persons affected and their emotional relationship to the persons affected, as influential for their moral



dilemma decision. After a moral dilemma situation, people most likely have to deal with inner conflicts. In the initial phase, they question the situation and their decisions centred around their responsibility and guilt. In a rational and/or intuitional way and with an inwards and/or outwards focus, people can accept, relativise and/or externalise responsibility and guilt. In Section 4.1.2, we specified that different constructs are valid for utilitarian and deontological decision-makers during the phases of the decision-making process. During the phases of dealing with inner conflicts, utilitarian and deontological decision-makers emphasise on different phases or strategies (c.f. Section 4.1.3).

Against this backdrop, we advocate for using the more holistic and differentiated model, we proposed on the basis of our qualitative interviews, for reaching a greater explanatory power when examining moral dilemma decisions. On an empirical level, this requires a quantitative validation of our model, including the operationalisation of our proposed constructs and testing their relationships, probably through structural equation modelling.

However, our findings do not only provide implications for further empirical research, arguably quantitative research, but also have implications on a conceptual level. Our results suggest that determinants of utilitarian and deontological decisions are not one-dimensional, e.g., more or less religiosity, but qualitatively differ between processes that lead to utilitarian and deontological decisions. This implies that a distinction between utilitarian determinants and deontological determinants and their differentiation on a theoretical level (and then subsequently on an empirical level) has the potential for a deeper understanding of moral dilemma decisions and decision-making.

Our results, furthermore, suggest that moral dilemma decisions should be examined with a broader scope than just within the “narrow” scholarly framework of utilitarian versus deontological reasoning. On one hand, additional factors, i.e., the value attributed to the persons affected and the emotional relationship of the decision-maker with the persons affected, should be considered in the explanation of moral dilemma decisions. On the other hand, people do not necessarily regard utilitarian and deontological decisions as mutually exclusive and face difficulties to apply “purely” utilitarian or “purely” deontological decision-making rules to their “normal” lives (c.f. Section 4.1.4). This could mean that, even though the existing and wide-spread understanding of utilitarian and deontological decisions provides a scholarly and philosophically sound conceptualisation, this understanding should be adjusted to the subjective thoughts and feelings of the actual decision-makers and therewith to the “real world”.

One aspect that might bring decision-making processes in moral dilemma situations closer to the “real world” thinking and feeling of people is focussing on and examining the rationality and emotionality of these processes. Our findings give first, but “fragile”, hints that making and dealing with utilitarian decisions tend to be rather rational, whilst making and dealing with deontological decisions tend to be rather emotional.

Finally, we would like to propose the integration of the Theory of Cognitive Dissonance (Festinger, 1957) and, possibly, the Theory of Reactance (Brehm, 1966; Brehm & Brehm, 1981)



into the explanation of moral dilemma situations. Especially, the former holds some potential for a deeper understanding of moral dilemma decisions, as it can contribute to the explanation of both, the process of making moral dilemma decisions (cf. Section 4.1.2) and the process of dealing with inner conflicts after moral dilemma decisions (cf. Section 4.1.3). A provocative hypothesis in this context would be that some people make a utilitarian or deontological decision not with the aim of coming to the best contentual outcome but with the aim to reduce their own cognitive dissonance, i.e., the aim to reduce their feeling of guilt.

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Supplementary Materials

Supplementary Material 1: Screener (excerpt) for the moral dilemma Switch.

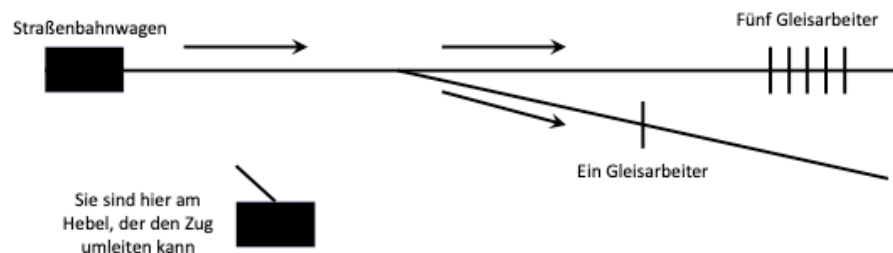
Screening-Fragebogen zur Studie „Subjective Decision-making and Reasoning in Moral Dilemma Situations“

(A) Moralisches Dilemma & Entscheidung

Bitte lesen Sie sich die folgende Situation gründlich durch.

Ein leerer und führerloser Straßenbahnwagen rollt auf fünf Gleisarbeiter zu, die auf dem Hauptgleis arbeiten. Vor diesen Gleisarbeitern geht ein Nebengleis ab, auf dem ein Gleisarbeiter arbeitet. Wenn nichts unternommen wird, wird der Straßenbahnwagen auf dem Hauptgleis bleiben und die fünf Gleisarbeiter dort töten. (siehe Diagramm unten)

Es ist möglich, den Tod der fünf Gleisarbeiter zu vermeiden. Dazu müssen Sie einen Hebel bedienen, der den Straßenbahnwagen auf das Nebengleis umleitet. In diesem Fall tötet der Straßenbahnwagen aber den Gleisarbeiter, der auf dem Nebengleis arbeitet.



Beachten Sie bitte: Es gibt keine Alternativen zu den oben beschriebenen Optionen und keine Unsicherheiten über den Ausgang Ihrer Entscheidung.

Welche Entscheidung treffen Sie?

Ich lege den Hebel um	☐
Ich lege den Hebel nicht um	☐



Supplementary Material 2: Interview guideline for interviews with participants who made a utilitarian decision.

Interview Guideline

(1) Begrüßung & Warm-up

- Stimulus Dilemma (Präsentation und Erklärung des Dilemmas)
- Welche Entscheidung treffen Sie?
- Wie fühlen Sie sich, wenn Sie die dargestellte Situation lesen, darüber nachdenken und eine Entscheidung treffen?

(2) Gründe für und gegen Entscheidung

- Warum haben Sie sich dafür entschieden **eingzugreifen, so dass die fünf Arbeiter überleben und ein Arbeiter stirbt?** (RQ1.1)
- Warum haben Sie sich nicht für die andere Alternative entschieden; also nicht eingzugreifen, so dass der eine Arbeiter überlebt und fünf Arbeiter sterben? (RQ1.2)
- Bei der Entscheidung sind Sie in einem Dilemma, da es Gründe für beide Entscheidungsmöglichkeiten gibt. Wie gehen Sie mit diesem Dilemma um? (RQ2)

(3) Öffentliche Rechtfertigung der Entscheidung (RQ 1)

- Wie würden Sie Ihre Entscheidung in einem öffentlichen Interview erklären?
- Wie würden Sie Ihre Entscheidung den Angehörigen des Getöteten erklären?

(4) Generalisierung der Entscheidungsfindung

- Sie haben sich in der konkreten Situation für eine **utilitaristische** Entscheidung entschieden. In welchen Situationen im „normalen“ Leben ist diese Entscheidungsart richtig und warum? (RQ3)
- Sie haben sich in der konkreten Situation gegen eine deontologische Entscheidung entscheiden. In welchen Situationen im „normalen“ Leben ist diese Entscheidungsart richtig und warum? (RQ3)
- Die beiden Entscheidungsarten – utilitaristisch und deontologisch – können in einem Konflikt stehen. Wie gehen Sie mit diesem Konflikt im Allgemeinen um? (RQ2)
- Erläuterung zu Entscheidungen
 - **Utilitaristische** Entscheidung = Grundlage von Entscheidungen ist das große Ganze und die Maximierung des Nutzens für möglichst viele Menschen
 - **Deontologische** Entscheidung = Grundlage von Entscheidungen sind allgemeingültige Regeln und die Rechte des Einzelnen

Verabschiedung