


Morality Meters and Their Impacts on Moral Choices in Videogames: A Qualitative Study

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Abstract

Morality meters are a commonly used mechanic in many ethically notable video games. However, there have been several theoretical critiques of such meters, including that people can find them alienating, they can instrumentalise morality, and they reduce morality to a binary of good and evil with no room for complexity. While there has been much theoretical discussion of these issues, there has been far less empirical investigation. We address this gap through a qualitative study that involved participants playing a custom-built visual novel game (*The Great Fire*) with different intuitive and counter-intuitive morality meter settings. Overall, we found that players' attitudes towards the morality meter in this game was complex, context sensitive and variable throughout gameplay and that the intuitiveness of the meter encouraged participants to treat the meter more 'as a moral guide' that prompts reflection and less 'as a score' to be engaged with reactively.

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Introduction

Morality meters are a commonly used mechanic in ‘ethically notable games’ (Zagal, 2009, p. 1) in which ‘ethical reasoning and reflection’ is a central focus of the gaming experience. There have been several theoretical critiques of morality meters, including that people can find them alienating as they are judgemental and impose the developer’s view of morality onto players; they can instrumentalise morality by turning it into a score to be maximised rather than something to be authentically engaged with; and they are too limiting as they reduce morality to a binary of good and evil with no room for complexity (Consalvo, Busch and Jong, 2016; Formosa, Ryan and Staines, 2016; Melenson, 2011; Staines, Consalvo, Stangeby, & Pedraça, 2019; Staines, Formosa and Ryan, 2019). While there has been much theoretical discussion of these issues, there has been far less empirical investigation. How do players actually experience and respond to morality meters? We address this empirical gap in the research. This study is part of a larger project in which we designed a visual novel game, *The Great Fire*, to explore moral choice making in games. In our study, participants played the game with either intuitive or counter-intuitive morality meter settings. We then interviewed the players in small focus groups to assess their general attitude towards the meter and its perceived impacts on their in-game moral choices. In this study, we explore the relevant background literature, then briefly describe *The Great Fire* and outline the game’s key moral choices. Next, we set out our methods and results. Finally, we note our key findings, including that the intuitiveness of the morality meter had an important impact on the participants’ attitudes towards the meter, before discussing limitations and future research directions.

Background Literature

Morality meters are a commonly used mechanic to ‘gamify’ morality, as well as to foreground (or problematise) the importance of morality in a gameworld (although morality meters are certainly not the only way of doing this as other games, such as *Papers, Please*, demonstrate (Formosa et al., 2016)). The tracking of morality as an in-game mechanic dates back at least as far as *Ultima IV* (Origin Systems, 1985); however, the morality meter as a specific interface device only became popular after the success of BioWare’s *Star Wars: Knights of the Old Republic* (BioWare, 2003). Other well-known examples include the *inFamous* series (Sucker Punch, 2009–2014), *Fallout 3* (Bethesda, 2007) and the *Mass Effect* series (BioWare, 2007–2012). Other games use different design features as a proxy for a morality meter, such as the light or dark look of the environment (e.g. *Black & White* (Lionhead Studios, 2001)) or avatar

appearance (e.g. the *Fable* series (Lionhead Studios, 2004–2010)). Other games, such as *Undertale* (Toby Fox, 2015), deliberately attempt to problematise such systems by leaning on players' expectations of 'good' play and then revealing their shaky ethical foundations. Players often role-play moral identities when making choices in games with moral content. Previous research has shown that most players 'choose the path of good or "right" for their journeys' (Consalvo et al., 2016, p. 4; Schrier, 2017), at least on their first play through (Lange, 2014). This is confirmed, for example, by player data from *Mass Effect 3* which shows that more players opted to be 'paragons' (64.5%) than 'renegades' (35.5%) (Totilo, 2013). In line with this, the in-game choices players make often reflect what players imagine that they might do if they were faced with such a choice in real life (Lange, 2014). However, the impact of morality meters on these choices is less well understood, especially given that many morality meters reduce in-game ethics to simplistic binaries of good and evil when 'not all choices are so easily evaluated' (Consalvo et al., 2016, p. 5). Further, critics suggest that players might disagree with the moral rankings of choices by meters and become frustrated with meters as 'omniscient axis [and] transparent proxy for developer opinions' (Melenson, 2011, p. 67). Dissonance is also created by meters when they aggregate morality points in a way that, to use an example from *Fallout 3*, makes it seem as if one can 'make up for mass murder by piling water bottles on beggars' (Formosa et al., 2016, p. 220). Sicart (2013, p. 94) describes this kind of dissonance as 'ethical cognitive friction [which] introduces tension between the procedural and semiotic levels and potentially generates moral reflection'. He sees such friction as neither good nor bad, but as a tool that can invite the player to question the systems of the game. However, players can also become morally disengaged when they feel limited by the choice options available to them or when they do not see any consequences to their in-game choices (Schrier, 2017; Iten, Steinemann, & Opwis, 2018).

Morality meters not only add an extra game mechanic or in-game 'score' that players can respond to (systemic element), but they also add a semantic layer (narrative element) that can help the player to engage with the morality of in-game choices (Sicart, 2013). One way to understand this dual impact is in terms of Sicart's (2010) distinction between a reactive player, who interacts with a game as a system to be optimised and engaged with instrumentally, and a reflective player, who interacts with a gameworld as a semantic system and directly engages with the moral content of choices. By adding a score or metric via a morality meter to in-game moral decision-making, do morality meters encourage reactive rather than reflective play? Or can the semantic content of a meter encourage players to take morality more seriously in games? We can see both these issues reflected in the literature. Ryan, Staines, & Formosa (2017, p. 155) are concerned that morality meters can encourage reactive play by leading players to ignore the moral content of their decisions and instead focus on the procedural layer by 'clicking the button Simon-says style in almost total ignorance of what it implies'. This could also lead players to 'switch off' their moral sensitivity when the morality meter is not in play (Ryan et al., 2017, p. 155). In contrast, Schrier (2017) notes the importance for well-designed games to give

feedback to players and that feedback should include morality in games where morality matters. She notes that there are several common ways feedback can be given, including how NPCs (non-player characters) treat players, changes in the appearance of avatars ('such as diabolic or angelic wings') and morality meters (Schrier, 2017, p. 856). This leads Schrier (2017, p. 856) to suggest that morality meters can encourage reflective play since feedback, 'even in a simplistic format (such as karma points, a moral standing meter or changes in appearance)', can clearly communicate 'the game's value system and enables the player to reflect on how their choices affect...the game'. But morality meters do not merely provide feedback after a choice is made; they can also influence a choice by showing the impact various choice options will have on the meter before the choice is made. What remains unclear is how different morality meter settings influence players, how strong those influences are and how (if at all) players understand those influences on their in-game choices. Most studies in this area use existing games, such as *Fable III* (Schrier, 2017), where there is little opportunity for manipulation of such factors in an experimental context. This points towards the need for custom-built and high-quality games that allow for such manipulations. Our study provides that with *The Great Fire*.¹

The Great Fire Game

The Great Fire is a narrative or visual novel game, with a film noir atmosphere, that involves selecting from various text-based choice options, some of which impact on an always visible morality meter. The game tells the story of Frankie, an usher in a 1940s cinema in small-town Australia. Playing as Frankie, the player makes a series of choices while dealing with Harry, a psychopath bent on revenge. Frankie's character (and gender) is kept deliberately vague, and there is no visual or audio representation of Frankie, to allow players to shape Frankie through their in-game choices and (potentially) project themselves into that role. Further, the extent to which players saw Frankie as a proxy for themselves or role-played Frankie as a distinct character was a question we explored below. Harry puts Frankie in several life-or-death situations that the player must resolve. The game development team was highly interdisciplinary with different members bringing with them expertise in game design, creative writing, ethics and moral psychology. Art, sound design and coding were performed by a local commercial games company (*Chaos Theory Games*, Sydney). The game includes a morality meter, as shown in Figure 1, which provides a score between 100 Good (blue) and 100 Evil (red). For this experiment, the meter was constantly visible for the duration of the game.

While players make many choices throughout the game, the morality meter is only impacted by eight major choices that occur on a separate screen as shown in Figure 2. Each major choice has two alternative options labelled with a score either '+15 Good' (blue) or '+15 Evil' (red) to indicate its effect on the meter. The left/right arrangement of the two options was randomised for each player. There is no time limit for making choices. At the beginning of the game, the meter is set to zero (neither Good nor Evil).

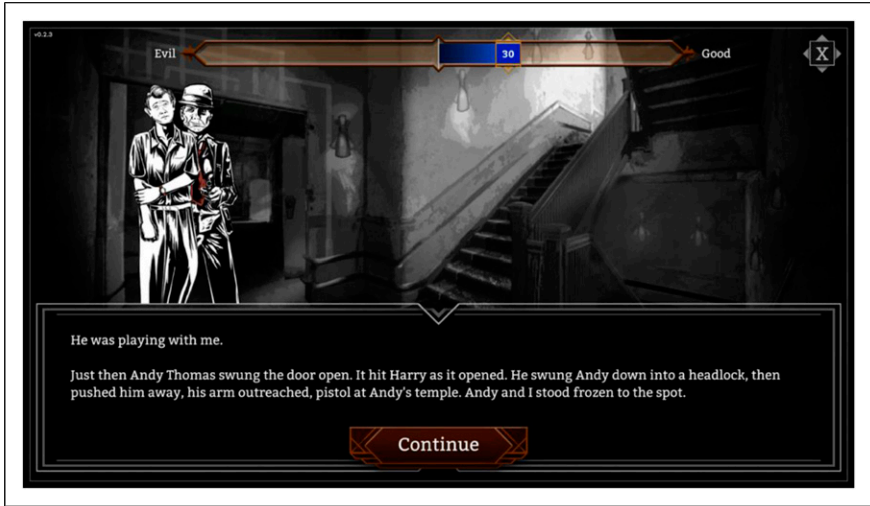


Figure 1. Scene from *The Great Fire*. The morality meter at the top of the screen indicates that the player has a current morality score of 30 Good.



Figure 2. Moral choice screen for choice 3 'kick the dog'. The values shown are for the 'intuitive' meter which rates kicking the dog as Evil. The player has already made one previous Evil choice, as indicated by the morality meter at the top of the screen.

This allows the player to shape the morality of their in-game character through their choices, as well as mirroring the initialisation settings for morality meters used in the games mentioned in the previous section. *The Great Fire* includes various callbacks to earlier choices so that players can see the impacts of their choices in the game. The consequences of the major choices are also clearly stated. To minimise uncertainty about choice outcomes, the narrative was designed to give participants good reasons to believe that NPCs will in fact do what they say they will do. This means that players can rely on the outcomes of choices being transparently represented through the choice options available to them, and they will see these outcomes implemented by the game.

The eight major choices that impacted the meter are described in Table 1. We designed choices that required players to respond to a range of value conflicts, including versions of deontological versus consequentialist ethics via the standard trolley problem and the ‘footbridge’ variant (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Greene, 2009), and versions of morality versus self-interest with and without up-close-and-personal physical contact. We also included a choice without conflict where both morality and self-interest coincide, and a random choice (coin toss) to explore the influence of having a suggested morally intuitive choice in a case where such a suggestion is clearly fabricated. The choice options were ranked for the purposes of our analysis as ‘intuitive’ or ‘counter-intuitive’, where ‘intuitive’ was understood, as is common in moral psychology, to mean ‘immediately compelling to most people’ (Kahane et al., 2012). In the three self-interest versus morality choices (choices 2, 5 and 8), we designated as intuitive the choice option that all three major moral theories (deontological, consequentialist and virtue theory) would agree were moral. In the two trolley problems where morality is more ambiguous and deontological and consequentialist theories have conflicting implications (choices 6 and 7), we drew on existing studies (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008) that show that pulling the lever in the standard trolley problem (equivalent to pulling the lever in choice 6) and not pushing the man off the bridge in the footbridge variant (equivalent to not kicking the chair in choice 7) are the more intuitive options. Finally, in the random choice case (coin toss), we simply stipulated one choice (heads) as intuitive, given that neither option was more inherently intuitive than the other and there is some evidence of a bias towards picking heads (Bar-Hillel, Peer, & Acquisti, 2014). Further, as confirmation, a separate study of 42 students playing the game without the morality meter (i.e. the morality meter was not visible and choices had no morality score associated with them) confirmed that the majority of students chose the option we designated here as ‘intuitive’ in each case, except for choice 7 (‘kicking the chair’) where responses were evenly split (Ryan, McEwan, Formosa, Messer, & Howarth, 2021). These intuitiveness ratings were not seen by participants and were only used to determine whether various choices were given a positive or negative meter score. Besides choice 1, which was a non-moral practice choice to familiarise players with the choice screen and was given a score of +0 Good for both options, the options for the remaining seven major choices were given either a +15 Good or a +15

Table 1. Eight Major Moral Choices Players Face in the Game in the Order they Appear in the Narrative.

No	Choice Description	Moral Classification	Intuitive Choice
1	Eat the offered free sausage	Non-moral practice choice	N/A
2	Steal Mick's wallet which is lying on the ground without touching him	Morality (do not steal) vs. self-interest (steal); no physical contact version	Do not steal
3	Kick the harmless dog that is resting out the front of the cinema	Morality <i>and</i> self-interest coincide (do not kick the dog); there is no reason to kick the dog	Do not kick the dog
4	Coin toss – pick heads or tails	Non-moral choice; random choice	Heads (by fiat)
5	Steal Andy's wallet by physically tripping him over	Morality (do not steal) vs. self-interest (steal); physical contact version	Do not steal
6	Pull the lever and save 3 children (Alice, Craig & Benjie) or do nothing and 1 child (Moirra) dies	Deontological (do not pull the lever) versus consequentialist (pull the lever); standard trolley problem with no physical contact	Pull the lever
7	Kick the chair out from under Mr Feros and kill him by hanging or do nothing and 3 unknown people die via an explosion	Deontological (do not kick the chair) versus consequentialist (kick the chair); 'Footbridge' variant of the trolley problem with up-close-and-personal physical contact	Do not kick the chair
8	Shoot and kill Harry after he is already captured or wait and hand him over to the police	Morality (hand him over to the police) vs. self-interest (shoot him and get personal revenge); with up-close-and-personal physical contact	Hand Harry over to the police to face justice

Evil score (see [Table 1](#)). This score was selected so that choosing all Good or all Evil options would max out the meter at 100 Good or 100 Evil. We made the quantity associated with each choice option the same (i.e. +15 or –15) because our focus was on the impact of the label ('good' or 'evil'), rather than the quantity associated with the label, and because this is a common design feature of morality meters used in games. For the intuitive morality meter condition, all the choice options ranked as 'intuitive' in [Table 1](#) were given a positive Good score, while the alternative options were Evil. For the counter-intuitive morality meter condition, the reverse applied and all the choice options rated as 'intuitive' were given a positive Evil score and the alternative options were Good. For example, kicking the dog (shown in [Figure 2](#)) was given a '+15 Evil' score for the intuitive meter condition and a '+15 Good' score for the counter-intuitive meter condition. Finally, although we separate out each choice here, these choices only exist in a rich narrative context, and thus the ways that players engage with those choices are not separable from their narrative context.²

Methods

From a larger separate study, we know that there is a statistically significant difference ($n = 89$; $p < 0.001$) between the choices of participants in the intuitive and counter-intuitive meter conditions, with participants in the intuitive condition making, overall, more intuitive choices than those in the counter-intuitive condition (for details see [Ryan et al., 2021](#)). What these numbers do not tell us and what we wanted to explore in this study are how participants *understood* the basis of their choices in the game and what impact they *understood* the meter as having on this. This study was driven by two research questions.

- **RQ1:** How do participants understand their relationship with the morality meter and its impact on their choices?
- **RQ2:** How do participants understand the basis of their in-game moral choices?

In terms of RQ1, we were interested to see if the intuitiveness of the morality meter changed that relationship. In terms of RQ2, we were interested in assessing whether the presence of the morality meter reduced choices to a procedural layer of meter optimisation (reactive players) or whether participants engaged reflectively with the moral content of the choice options (reflective players). We developed our interview schedule to answer these research questions (see the [Appendix 1](#)). We first asked the participants general questions about how they made choices in the game, and then asked why they made each of the eight major choices in the game outlined in [Table 1](#), before focussing on how they understood their relationship with the morality meter, the narrative and characters.

Following ethics approval for the study, we advertised for students to participate in research on ‘decision-making and video games’. Participation was voluntary. Participants were randomly assigned to either the intuitive (+15 Good for intuitive choices) or counter-intuitive (+15 Good for counter-intuitive choices) meter conditions. Participants played the game individually with the meter settings for their condition. The game took approximately 30 minutes to complete. After completing the game individually, participants were interviewed in small focus groups. Focus groups are a widely used method that are effective at encouraging more dynamic and ‘naturalistic’ discussion and eliciting ‘people’s own understandings’, which fits with our research questions, although skilled moderation is required to ensure that all group members can contribute freely ([Wilkinson, 2004](#), p. 347). The interviews were conducted in September and October 2019 by an experienced researcher and were recorded and transcribed for analysis.

There were 13 focus group interviews with a total of 25 participants ($n = 25$). The number of participants in our study was comparable to the number of participants in similar studies (e.g. [Schrier, 2017](#) where $n = 30$ and [Consalvo et al., 2016](#) where $n = 28$). 12 participants played the game in the intuitive morality meter condition and 13

participants played in the counter-intuitive morality meter condition. The number of participants in each focus group varied from one to four people (the mean was 1.92 and the median was 2 participants per group). Six groups had only one person in them. Interview times ranged from 15:32 minutes (with 1 person in that group) to 54:21 minutes (with 4 people in that group). Taking into account group size, each participant spoke on average for 18:41 minutes. Of the 20 participants, we have demographic data on (5 did not complete these data), we had 13 men (65%) and 7 women (35%). The age of our participants ranged from 18 to 27 years, with a mean age of 19.9 years and a median age of 19 years. All participants were current university students.

To answer our research questions, we undertook a thematic analysis of our focus group interview data. Thematic analysis is a method for identifying themes within data (Braun and Clarke, 2006). We adopted a bottom-up ‘inductive analysis’ approach, which allows themes to emerge organically from the data (Braun & Clarke, 2006, p. 83; Pratt, 2009). Themes were identified at a ‘latent or interpretative level’ (Braun & Clarke, 2006, p. 84) by coding whole passages with mentioned themes. When participants mentioned multiple or contradictory themes within a single passage, we coded the passage with all the relevant themes. We also adopted an ‘essentialist/realist approach’ by understanding the participants’ experiences in a ‘straightforward’ and individualist manner without considering the sociocultural and structural conditions required by a ‘constructivist’ framework (Braun & Clarke, 2006, p. 85). This approach fits best with the single-player and individualistic nature of the gameplay. We used ‘investigator [or researcher] triangulation’ to ensure that different perspectives informed the thematic coding and to achieve inter-coder consistency (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014). We documented this process in a coding memo. We used a three-phase process of (1) developing a provisional thematic coding scheme; (2) developing a revised coding scheme; and (3) applying the revised coding scheme consistently to the data. In phase one, four academic researchers (one of whom was not involved in the design of the game) independently coded two of the thirteen focus group interviews. We then met as a group to develop a combined provisional coding scheme. In phase two, all four researchers used the provisional coding scheme to individually code all the interviews. We then met again to develop a revised coding scheme, including developing detailed descriptions of each theme, inclusion and exclusion criteria, typical exemplars and examples of data that could easily be incorrectly coded. We then coded one interview together using our revised coding scheme. In phase three, one researcher coded all the remaining interviews with the revised scheme. Other researchers reviewed this coding to ensure consistency and reliability.

Results

Using an inductive analysis approach, we divided emergent themes into two conditions addressing the two research questions. For RQ1 (§5.1), which explores

participants' attitude towards the morality meter, four main themes emerged: 'meter as a score', 'indifference to the meter', 'rejecting the meter', and 'meter as a moral guide' (Table 2). For RQ2 (§5.2), which explores the participants' understanding of the basis of their in-game choices, five high-level themes emerged: 'moral basis', 'emotional basis', 'moral disengagement', 'self-interested basis' and 'narrative basis'. These five high-level themes were broken down into 25 sub-themes that emerged (Table 3). For each theme we give the thematic coding, theme description, illustrative quotes and the percentage of the total number of codes which use that theme and the number of focus groups (out of the 13 focus groups) that mention that theme at least once. Themes are ordered from the most commonly to the least commonly used. The results in Tables 2 and 3 are for all participants from both conditions ($n = 25$). We discuss results for the two conditions (intuitive vs. counter-intuitive meter) below (see Tables 4 and 5). To indicate which condition the quoted participant was in, we include an '[I]' for intuitive or '[C]' for counter-intuitive in brackets after each quote.

RQ1 Response to the Meter

Just under half of the codes (47.1%) involved participants expressing either indifference to or rejection of the meter. Rejection is an active defiance of the meter (22.8%), whereas indifference is a more passive ignoring of the meter (24.3%), although both themes were closely related. Participants reported ignoring the meter because they wanted to focus on making choices on their own merits rather than because the meter told them to do something ("*it didn't really come down to what the meter was... I made the best decisions to benefit everyone in the game*" [I]), or because they were too engrossed in the choices and narrative to notice the meter ("*I think I was... [too] engrossed in the story*" [C]). Participants reported defying the meter because they rejected the meter's implicit morality ("*I thought ... this is evil for ... Kant's morality. But I'm a Consequentialist, so I'm going to ignore that. And...do what I believe is right*" [I]), found the meter's implicit judgements too simplistic ("*I do find the morality meter a bit...generic or...simplistic*" [C]), or did not like the meter's instrumentalisation of morality ("*I hated how you're...rewarding me ...points because I chose something*" [I]). Many of these concerns echo the theoretical criticisms of morality meters discussed above. Several participants in the counter-intuitive condition found the meter 'confusing' and 'weird' ("*You got rewarded for the wrong thing... It was just weird*" [C]) and this led to a rejection or 'defiance' of its rankings ("*even though...my rating at the end was...evil, I feel like I made the most ethical decisions*" [C]). However, the thematic mentions of rejecting the meter were approximately the same in both the intuitive and counter-intuitive meter conditions as we can see in Table 4. This suggests that many players reject or ignore the meter, irrespective of whether the meter was set to be intuitive or counter-intuitive because they want to make decisions on their own merits and for their own reasons and not because the game rewards or penalises them.

Table 2. Themes that Emerged Regarding Participants' Direct Response to the Morality Meter; Percentages in Bold.

Major Themes	Theme Description	Illustrative Quotes	% of Codes/ No. of Groups
1. Meter as a score	Treating the meter as a score or trying to get a particular score	<ul style="list-style-type: none"> - "Sometimes I just swing toward the good just to see that bar in the top." [I] - "As long as I was a tiny bit above the neutral, I didn't mind if I was extremely good or [a] tiny bit good." [I] - "I was considering... [stealing] the money... I knew, logically that I probably shouldn't, but then I saw... Oh, you get good points. And I was like, why not?" [C] - "I reached 75 and then I got to the killing of Mr. Feros and it was ...minus 15 to kill him. And I was like, oh, but if I just put +15 I'll be up to 90 and then I'll be so close to a hundred." [I] - "I just wanted to see what happens if you get completely evil." [C] 	31.7% n = 9
2. Indifference to the meter	Indifference and lack of concern for the meter; failing to notice the meter	<ul style="list-style-type: none"> - "I kind of ignored it... the meter was [just]... decoration for me." [I] - "I think I was... [too] engrossed in the story... to care about the meter. I was more [focused on]... the decisions I made and ... I don't care what evil or good rating I have." [C] - "I honestly don't remember what my meter was. I... just paid attention to the game." [C] 	24.3% n = 10

(continued)

Table 2. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/ No. of Groups
3. Rejecting the meter	Rejecting and defying the meter; actively disregarding it (rather than merely not noticing it)	<p>- "I think it [the meter] was stupid because...they're both evil decisions and to label one more good or less good [than] the other...[it] kind of felt like it lost purpose for me." [C]</p> <p>- "[The] morality meter can have its judgment, but ... it's like a bit simplistic." [C]</p> <p>- "As I'm playing the game, it's not a matter of...I want to achieve this because...the game told me to do it, [but] because it's good. It's like, congratulations... you got a hundred points being good. It's not how I play games. Games are for me a place... to... self-reflect on myself ... trying to picture... what would I do if I was in this situation." [I]</p>	22.8% n = 12
4. meter as a moral guide	Taking the meter as a moral guide; a source of moral advice; or prompt for reflection	<p>"I look at the meter and I feel like it kind of reminded me..., no that's not the right thing to do, it's kind of just that reminder. Whereas if I didn't have that... I would have made a more reckless decision." [I]</p> <p>- "[I] found it helpful...it's kind of like... an opinion on the situation that you can take into account." [I]</p> <p>- "I read the situation, picked what I thought, and then I looked at...if it was good or evil, and it made me think about the other side of it before I actually chose." [I]</p>	21.3% n = 11

Table 3. Bold Percentages are for Major Themes, Not Bolded Percentages are for Sub-Themes Under That Major Theme.

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
I. Moral Basis	Motivations based on morality		39.3%
I.1 Moral principle	Acting on moral principles or for moral standards in general terms (e.g. it is just wrong)	<ul style="list-style-type: none"> - "No, just because...from my moral standards, I wouldn't do that." [I] - "It kind of reminds me that it's all a game, it's not real-life decisions, but I still like to follow my moral beliefs" [I] - "Big decisions are based off [of] personal morality." [I] - "I'm pretty against murder as a whole, whether it's [the] death penalty or you're...killing people. So I was tempted, but I wouldn't do that even in the game." [C] - "How I always go about [it] in these sorts of games is...the first run it's always...based upon my conscious choices, something that reflects upon me...so that's why I always choose something that's morally right... Maybe if it was my second go, I would try to test my boundaries out a bit more." [I] 	11.5%; n = 12

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
1.2 Consequentialism	Acting on consequentialist reasons (e.g. maximising good outcomes; minimising deaths)	<p>- "Because either way it's just blood on your hands...it just comes down to whether one life is worth taking to save three." [I]</p> <p>- "It's just three lives versus one. And it doesn't matter if you don't know them. They are still lives." [C]</p> <p>- "I see where this game influenced me by the trolley experiment ... you have to switch the lever to kill five or one worker...you'll physically kill somebody or ... it's really just like passive and indirectly kill somebody." [C]</p>	9.5%; n = 13
1.3 Real self	Doing what you think you would do if faced with that choice	<p>- "I'm putting myself in that position in the same circumstance that he was in." [I]</p> <p>- "[For] the integrity of the thing I acted how ... I would in real life." [I]</p> <p>- "I like to put myself in those shoes; what would I do? ... I'm not going to kick a dog. So regardless of the incentivisation of the good and evil, you wouldn't want to kick a dog, like [because of] your morals." [C]</p> <p>- "I felt like decisions I made would be ... what I would do in real life." [C]</p>	7.1%; n = 11

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
I.4 Justice	Acting because justice requires/forbids it or someone deserves it (e.g. he deserved it; karma; it was illegal)	<p>-“Because I feel like there is a sort of karma in what you do ... what you may think is beneficial to you at the time can also have its consequences.” [I]</p> <p>-“I don’t think revenge is something that should be done with violence...[it’s] better off him ... facing [the] death penalty anyways. So just let it go through [the] law, justice served.” [I]</p> <p>-“I took a shot [at Harry]. I was like, yeah you deserve it.” [C]</p> <p>-“He deserved to face consequences and ... reflect on his actions... [but] I feel like it’s better for a jury to decide or a judge to decide instead of just a random person.” [I]</p>	4%, n = 11
I.5 Deontology	Acting because of deontological reasons (e.g. universalisation; doctrine of double effect; doing vs. allowing; and using as means)	<p>-“I think it’s wrong to take money because I wouldn’t like [it] if someone took my money and... so therefore it’s morally wrong.” [I]</p> <p>- “The one where you kick the chair is labelled as evil... and I thought, yeah, this is evil for...Kant’s morality.” [I]</p> <p>-“I thought kicking the chair was a bit like, whoa, like I’m really killing this person...it’s not really...choosing to save someone, I’m choosing to kill someone now.” [I]</p> <p>-“I didn’t take the money because stealing is wrong and I believe that maxim extends to every circumstance.” [C]</p>	2.6%, n = 10

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
I.6 Comparative value of a life	Taking some lives to be worth more than others (e.g. children over adults)	<ul style="list-style-type: none"> - "Children have their whole lives ahead of them. And my boss has already lived a pretty good life." [I] - "Whose life was more valuable? For example, the children where it was three on one, I had to weigh that...three of them were orphans." [I] - "What if it's the three kids again? [Mr Feros] he's old ... he's like close to it... I just thought that he's old so I should pick him]" [C] 	1.8%; n = 7
I.7 Moral Character	Acting to have a certain moral character (e.g. being virtuous and avoiding vices)	<ul style="list-style-type: none"> - "And if you live a life of morally wrong actions, then your life isn't very good. It doesn't have concrete...foundation(s), it's built on vices." [I] - "I didn't want to be petty. I wanted to be...a bigger man." [I] - "I...see that as a stooping to his level...letting my rational anger get the better of me." [C] 	1.7%; n = 8
I.8 Cultural norm	Acting because cultural norms require/forbid it	<ul style="list-style-type: none"> - "Because it's culturally not acceptable to kick dogs." [I] - "I mean, it's the Australian culture to grab a snag. So I guess that's a bias." [C] - "It's a nice thing to do to take something when someone is offering it to you." [C] 	1%; n = 6

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
2. Emotional basis	Motivations based on emotion		24.1%
2.1 Negative responses	Having negative emotional responses (e.g. feeling guilty or regretting a choice)	<p>–“Even though...my score was in...the positive end, I still feel...crap after it. I mean, like people have died in the game.” [I]</p> <p>–“I feel bad...having the kids die because I told them to go look for treasure. So I feel responsible for that.” [C]</p> <p>–“I pulled the chair out from beneath him, didn’t feel happy about it.” [C]</p> <p>–“I want to change a few decisions ... I would have kicked the dog.” [C]</p> <p>–“I still feel a sense of guilt.” [C]</p> <p>–“The boss was really nice. He’s a good person, so...he deserves to live.” [I]</p> <p>–“I feel like... the fact that I knew that person influenced my decision.” [C]</p> <p>–“The boss [Mr Feros]...he’s always been a very nice man...it wasn’t a good thing to do cause like he was a nice person.” [I]</p> <p>–“I...thought he [Mick] was a homeless person...I felt empathetic for...his situation. So stealing from him would be the wrong thing to do even though it would be beneficial for me.” [I]</p> <p>–“Because the brother [of Moira] died already, so the chance to save another kid [from the same family], [I] felt bad for the parents [of Moira].” [C]</p>	5.3%; n = 9
2.2 Liking a character	Liking or personally knowing another character		4.9%; n = 11
2.3 Sympathy or empathy	Having or acting on sympathy or empathy for others		3.8%; n = 9

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
2.4 Disliking a character	Disliking another character	-“He (Andy) was just a twat. He was just like that teenage guy ... And it’s just so annoying and I was like, you deserve it [having your money stolen].” [C] -“Andy...[was] a prick, so I didn’t ...[want] to speak nicely to him at all.” [I] -“I wanted to shoot him [Harry] because [of] all the horrible things he’d done.” [C] -“I think I made the right decisions even though... some of them were really hard, like the one with the noose.” [C] -“I wouldn’t go back and do them differently, but I think I might do them differently if I tried it a second time.” [C]	3.8%; n = 8
2.5 Positive responses	Having positive emotional responses (e.g. satisfaction)		1.5%; n = 9
3. Moral Disengagement	Disengaging from morality and avoiding responsibility		17.1%
3.1 Rationalising	Trying to rationalise your actions (e.g. it does not matter; he is rich so it is ok; and it all evens out)	- “[T]hey come from the two richest families in the town. So stealing...from them wouldn’t [be] too bad for them.” [I] -“I took the money. In my defence he was sleeping and yeah, I know that’s like “in my defence” but I took the money... but I didn’t hurt the dog so that would even it out for me.” [C] -“I shouldn’t, he might need it, but then I was like, you shouldn’t sleep with this money out.” [C]	6.4%; n = 13

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
3.2 Carefree play	Playing without caring (e.g. it is just a game)	<p>- "I would never do this in real life. I have the opportunity to do it in...a game, so I'm going to take it. And it's a character. It's not me, so why not?" [C]</p> <p>- "I did choose...bad options obviously, but...this makes me sound so bad, but I was, it's just a game... And I wanted it to be interesting." [C]</p> <p>- "If I was to make those decisions in real life, there'd be the consequences. Because it's just a game I was like, I can just fill out the meter and not have to worry about it." [C]</p>	3%, n = 11
3.3 Uncertainty about outcome	Being uncertain about the outcomes of a choice	<p>- "I didn't expect him to actually have explosives rigged up." [I]</p> <p>- "I know Harry was bluffing." [I]</p> <p>- "I was sceptical about it, I wasn't too sure what would have happened, so I just went for the safe option." [I]</p>	2.5%, n = 10
3.4 Staying out of it	Trying not to get involved or to keep out of it	<p>- "I didn't do anything ... so it wasn't my fault." [C]</p> <p>- "I didn't pull it [the lever] because I was kind of like, I didn't really want to ... involve myself and then I ... thought ... just let things play out." [C]</p>	1.5%, n = 5

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
3.5 Dehumanising	Trying to disregard or degrade the humanity of others	<p>-“Because in the game, I didn’t really know the three other people... So I didn’t care too much [about them].” [I]</p> <p>-“I guess random people. I mean, there’s still people of course. But...knowing the boss and the boss being a good guy compared to...three random people is, yeah. It played into it [the decision to save the boss] a little bit.” [I]</p>	1.4%, n = 6
3.6 Lack of physical immediacy	Disregarding others because you cannot see them or are not near them	<p>-“[I] I could see the three kids and see the one kid, it might be different. But because I couldn’t see it, I just thought, not going to ... interrupt” [C]</p> <p>-“Knowing that ... you’re the one actually killing the person, ... you’re doing the action to kill the person and ... being able to see it. Whereas the other ones you just, you can’t see it.” [C]</p>	0.9%, n = 6
3.7 Immorality	Trying to be evil or immoral	<p>-“Sometimes I do...play as the bad guy. That’s fun, but this time I was like, no, I’m playing as...if I was in his shoes, instead of playing...a renegade type person.” [C]</p> <p>-“I would like to see what happened if I’d just made negative choices the whole game.” [I]</p> <p>-“Straight up evil to be honest. Because...when it was evil, some of these decisions were seemingly... morally correct for me. So I just wanted to see what happens if you get completely evil.” [C]</p>	0.9%, n = 5

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
3.8 Lack of consequences for choice	Feeling that choices do not matter because there are no consequences	<p>-“It’s almost like the developer wants to... pull your hand into ... the linear story.” [I]</p> <p>- “I feel like there was...no consequences for them [the choices], so I don’t feel as bad about them.” [C]</p>	0.6%, n = 3
4. Self-interested basis	Motivations based on self-interest		
4.1 Personal benefit	Acting because it benefits you or your character	<p>-“Free sausages. It’s free food.” [I]</p> <p>-“I was saving money in the game.” [I]</p> <p>-“I guess it’s kind of selfish because I’m...thinking a bout me, but it’s like, it would have less of an impact... on me if I ... didn’t see that.” [C]</p> <p>-“I guess objectively, it would be a selfish decision, but ... I doubt many people in that situation would be able to not kill him.” [I]</p>	<p>11.1%</p> <p>8.4%, n = 13</p>
4.2 Personal Cost	Avoiding doing something because it might cost you or your character	<p>- “I was really worried about what the consequences would be... [if] they found out, I’d lose my job.” [I]</p> <p>-“I might fail, he might see me in the dark.” [I]</p> <p>-“I’m not going to kick a dog because obviously it might bite me back and then I would feel the pain.” [I]</p>	2.6%, n = 9
5. Narrative basis	Motivations based on the story		
5.1 Plot	Following and exploring the narrative	<p>- “I just chose...what would make the story... more interesting rather than...anything else.” [C]</p> <p>-“At the beginning, stealing that old guy’s money. I just thought the story might kind of be boring if I don’t steal it.” [C]</p>	<p>8.4%</p> <p>4.8%, n = 12</p>

(continued)

Table 3. (continued)

Major Themes	Theme Description	Illustrative Quotes	% of Codes/No. of Groups
5.2 Character	Role playing and playing in character	<p>- "I really want to do it, ... [but] if I was embodying that character, I wouldn't make that decision." [C]</p> <p>- "I was trying to be a good person. That even... factored into my decision not to kill him at the end, because I'm roleplaying." [C]</p>	3.7%; n = 11

Table 4. Frequency of Themes for the Intuitive and Counter-intuitive Meter Conditions; Percentages in Bold.

Themes	Intuitive Meter Condition		Counter-intuitive Meter Condition	
	No. of codes	% of nodes	No. of codes	% of nodes
Meter as a moral guide	30	32.6%	13	11.5%
Indifference to the meter	24	26.1%	27	23.9%
Rejecting the meter	24	22.8%	26	23%
Meter as a score	17	18.5%	47	41.6%

Table 5. Frequency of Major Themes for the Intuitive and Counter-intuitive Meter Conditions; Percentages in Bold.

Themes	Intuitive Meter Condition		Counter-intuitive Meter Condition	
	No. of codes	% of nodes	No. of codes	% of nodes
Moral basis	187	41.8%	172	37.3%
Emotional basis	96	21.5%	125	27.1%
Moral disengagement	67	15%	84	18.2%
Self-interested basis	55	12.3%	46	10%
Narrative basis	42	9.4%	34	7.4%

Table 4 shows that while the frequency with which indifference and rejection themes appeared was similar for both conditions, there was a dramatic reversal in the frequency of the ‘meter as a moral guide’ and ‘meter as a score’ themes for the two conditions. For the intuitive meter condition, the most common theme was to see the ‘meter as a moral guide’ (32.6%) and the least common was to see it ‘as a score’ (18.5%). In contrast, for the counter-intuitive meter condition, the most common theme was to see the ‘meter as a score’ (41.6%) and the least common was to see the ‘meter as a moral guide’ (11.5%). The differences across these two themes indicate that, comparatively, participants in the intuitive meter condition tended to engage with the meter more *reflectively* (i.e. treated it more as a guide or prompt for moral reflection), and participants in the counter-intuitive condition tended to engage with the meter more *reactively* (i.e. treated it more ‘as a score’ to be maximised, balanced and so on). We can see this difference reflected in participants’ comments.

In terms of the ‘meter as a moral guide’, we see comments that suggest players take the meter seriously without simply following it (“*when I was ... considering taking the money from Mick or ... Andy... I look at the meter and I feel like it ... reminds me ... no that’s not the right thing to do, it’s kind of just that reminder*” [I]). The meter acted as a guide or nudge towards morality (“*it was a kind of a nudge just to get me the rest of the way through the door*” [C]) and it encouraged reflection (“*I think it made me pause to think about [the choice]*” [I]). Several mentioned that this guiding role was

particularly important for ‘hard’ decisions, such as whether to kill one person to save three others (“*[For] the hard decisions...[the meter] definitely made you rethink that yeah, that probably wouldn't be the best thing to do*” [I]), whereas others found the influence stronger in easier choices (“*I was influenced [by the meter] in inconsequential ones*” [C]). These comments suggest that the meter acted for those participants as a prompt for moral engagement and reflection, and this was the most common theme in the intuitive meter condition.

In terms of the ‘meter as a score’ theme, this was commonly mentioned in the coin toss choice in both conditions. For example, one person said that they “*only [used the meter in] the coin toss [case], other than that [they did not use it]*” [C] and another that in the “*coin toss [choice] ... I didn't have any preferences, and so I just followed the meter on that question*” [C]. However, perceiving the ‘meter as a score’ did not entail that participants saw it only as a score that should be optimised or maximised, suggesting a more complex relationship to the meter’s score. Some players sought to optimise the meter for good (“*when it gave...the two options and said it was good or evil, I always went with the good one*” [C]) or, less commonly, for evil (“*I just wanted to see what happens if you get completely evil*” [C]). Others wanted to experiment with the meter and try out both types of choices (“*[in the] coin toss [choice] ...heads was bad, so I just chose that for fun, [I was] kind of curious*” [I]), balance their score by keeping it neutral (“*I was trying to stay neutral [in terms of the meter]*” [C]; “*I picked the one that was.. the good option just...because I wanted to get my... alignment back to neutral*” [C]) or stay on one side of the meter (“*as long as I was a tiny bit above the neutral, I didn't mind if I was extremely good or [a] tiny bit good*” [I]). At least one participant in the counter-intuitive condition slavishly followed the meter by choosing all the options labelled ‘good’ [C], including kicking the harmless dog, and justified those choices simply by pointing to the meter; however, this mindless ‘clicking the button Simon-says style’ was uncommon.

Overall, in response to RQ1 we found, first, that about half of the time players seemed to ignore or reject the meter regardless of its intuitiveness and, second, that comparatively the intuitiveness of the meter encourages players to see the meter ‘as a moral guide’ (i.e. more reflective play) and the counter-intuitiveness of the meter encourages players to see the meter ‘as a score’ (i.e. more reactive play).

RQ2 Basis of in-game choices

Table 3 gives the percentages for both the intuitive and counter-intuitive meter conditions combined, ordered from most to least commonly used major theme, with sub-themes included and ordered by frequency within that major theme. Table 5 gives the total number of times each of the five major themes was used and the percentage frequency of that theme for the intuitive and counter-intuitive conditions individually. The breakdowns for the sub-themes are not given in Table 5.

As Table 5 shows, there is very little difference in terms of the frequency with which the five major themes were used by participants in each condition and there is

no difference in the frequency ordering of those themes. This suggests that the intuitiveness of the meter did not have a large impact on the explanations that participants gave for their in-game choices. While the meter was important for some players who saw it ‘as a guide’ or ‘as a score’ (as §5.1 shows), the meter was not the only factor that influenced participants’ explanations of their in-game choices. The meter’s intuitiveness did not, therefore, seem to prevent players from deeply engaging with the content of the game, given that the themes raised by participants were similar irrespective of the meter’s intuitiveness.

Moral motivations were by far the most common themes mentioned (39.3% overall). This included taking into account: what they thought morality required in such cases (11.5%), consequentialist considerations about saving the most lives (9.5%), justice concerns about obeying the law (4%), deontological considerations about not using other characters as mere means to helping other people (2.6%) and the comparative value of the life of a child (1.8%). Cultural norms (1%) were most important for the non-moral choice of whether to accept the offered sausage sandwich (“*it’s the Australian culture to grab a snag*” [C]). Players often made choices by putting themselves (their ‘real self’ 7.1%) in the character’s shoes (“*I felt like decisions I made would be...what I would do in real life*” [C]) and applying their morality to that decision (“*from my moral standards, I wouldn’t do that*” [I]). These data broadly reflect previous findings that players adopt a moral persona and choose ‘good’ or ‘right’ paths in a game (Consalvo et al., 2016) and that players typically make in-game choices that match what they imagine they would do ‘in reality’ (Lange, 2014). Further, several participants stated that while they knew it was only a game, they still chose to play morally (“*It ... reminds me that it’s all a game, it’s not real-life decisions, but I still like to follow my moral beliefs*” [I] and “*I was tempted [to act badly] but I wouldn’t do that even in the game*” [C]). Another noted that they “*always choose something that’s morally right*” when they play games, but “*on my second go I would try to test my boundaries out a bit more*” [I]. Overall, players most commonly understood themselves to be making their in-game choices in terms of moral reasons that reflect how they imagine they might act if faced with such a situation in real life, at least on the first play through. This suggests that reflective play was the most common approach.

Emotional responses were the next most common theme mentioned (24.1%). The majority of these were negative responses (e.g. “*I still feel a sense of guilt*” [C]) to their in-game choices (5.3%). Given the range of difficult choices participants had to make, including whether to kill one person to save three others, positive responses were much less common (1.5%) and often conditional (“*I’m happy with the choices I made but I’m not happy ...[that I had] to make them*” [I]). Many players acted because they liked (4.9%), disliked (3.8%) or sympathised with (3.8%) other characters. In particular, many people liked their boss, Mr Feros, sympathised with Mick and Moira and disliked Andy and Harry. This was an important factor in explaining why some people were willing to use physical violence to rob Andy (“*He [Andy] was just a twat ... you deserve it [having your wallet stolen]*” [C]) but were unwilling to take Mick’s money

off the ground despite not having to use any physical contact or force (*“I felt empathetic for ... his [Mick’s] situation. So stealing from him would be...wrong”* [I]). The presence of such moral and emotional responses to in-game choices again reinforces the claim that reflective play was most common.

Players used a variety of strategies to morally disengage and distance themselves from their situation (17.1%). Participants only rarely mentioned not caring at all about the morality of their choices and engaging in carefree play (3%) or intentionally choosing to be ‘evil’ (0.9%). Instead, players often felt the need to ‘rationalise’ their unethical decisions (6.4%). For example, one participant rationalised stealing from Mick as follows: *“I shouldn’t, he might need it, but then I was like, you shouldn’t sleep with this money out”* [C]. This player recognised it was wrong to steal but rather than justify their choice on the grounds that it is just a game, they instead rationalised their choice (i.e. Mick should look after his money better). Several players rationalised stealing from Andy on the grounds that he is rich (*“So stealing [from Andy]...wouldn’t [be] too bad for [him]”* [I]). Not being able to see other characters and not knowing them were also an important disengagement strategy. This was particularly important when weighing up whether to kill a character that many players liked, the boss Mr Feros, to save three unknown ‘random people’ [I]. Only in a few instances did players express doubts about the outcomes of choices (2.5%) or concerns about a lack of consequences for choices (0.6%), which is significant given the ‘importance of consequences’ for helping to make in-game choices meaningful for players (Iten et al., 2018, p. 341; cf. Nay & Zagal, 2017).

Players also took self-interested considerations into account (11.1%). Focussing on benefits (8.4%) was much more common than worrying about potential costs (2.6%) such as getting caught for stealing (*“say they found out, I’d lose my job”* [I]). Players considered both what would benefit them personally (*“I guess it’s...selfish because I’m...thinking about me, but...it would have less of an impact ... on me if I... didn’t see that”* [C]) and their character Frankie (*“I was saving money in the game”* [I] so that Frankie could visit their mum). Appeals to personal benefit were common in the case of the non-moral choice to accept a free sausage sandwich (e.g. *“It’s free food”* [I]).

Finally, a narrative basis (8.4%) was the least common theme, even though players were specifically asked about this (see Appendix 1). This result fits with the overall pattern of the data as a narrative basis to a choice requires the player to distance themselves from the moral content of in-game choices and instead see the game as an interesting story they play (*“I just chose...what would make the story...more interesting rather than...anything else”* [C]) or the choices of Frankie as not really their own choices to make (*“I really want to do it, but ... if I was embodying that character, I wouldn’t make that decision”* [C]).

Overall, in response to RQ2 we found, first, that most players seemed to engage in reflective play by applying their moral compass to the moral choices they had to face in the game and, second, that the intuitiveness of the morality meter seemed to have little or no impact on this as the meter did not prevent players from engaging with the game’s content.

Findings and Limitations

Some key findings of our study are as follows:

- The intuitiveness of the morality meter had an important impact on the participants' attitudes towards the meter. When the meter was intuitive, participants were more inclined to treat the 'meter as a moral guide' that prompts reflection. When the meter was counter-intuitive, participants were more likely to treat the 'meter as a score'. As such, an intuitive meter seems to encourage more reflective play and a counter-intuitive meter seems to encourage more reactive play. This suggests that if the game designer's goal of using a morality meter is to encourage moral reflection, it is important to ensure that the meter is morally intuitive.
- Just under half of the morality meter codes used were for participants talking about either ignoring or rejecting the meter. This fits with theoretical claims that some people do not like having their choices categorised and judged by developers (see §2). However, [Table 2](#) shows us that regarding the meter 'as a moral guide' and 'as a score' (53%) was only a slightly more commonly used theme than 'ignoring' and 'rejecting' the meter (47%). Thus, the number of times players talked about taking the meter into account (as a guide or score) and the number of times they talked about failing to take the meter into account (ignoring or rejecting it) were similar.
- When people engaged with the 'meter as a score', it was not always as a score to be maximised. Instead, there were a range of strategies observed, from exploration, to balancing, to being slightly above neutral, to maximising the meter one way or the other.
- When people saw the 'meter as a moral guide', many were influenced by it (it was a 'nudge'), but they did not simply follow it blindly as they tended to rely on more direct moral considerations.
- The intuitiveness of the meter did not have a large impact on the themes that participants raised to explain why they made their in-game choices. While the meter was important for some players who saw it 'as a guide' or 'as a score', it was not the only factor that influenced their explanations of their in-game choices. The meter did not prevent players from engaging deeply with the content of the game, as can be seen by the similar frequency of themes being raised irrespective of the meter's intuitiveness (see [Table 5](#)) and the similarly high frequency of moral and emotional themes participants used to explain their choices in both conditions.
- Players do not always adopt a purely reflective or reactive approach to every choice. Sometimes they ignore the morality meter, sometimes they take it into account but do not necessarily follow it, and sometimes they simply follow it. Players can adopt a mix of reactive and reflective approaches depending on the type of decision at stake, the difficulty of the decision and the intuitiveness of

the meter score for that choice. Some players followed the meter for less important decisions, whereas others found it more useful for harder decisions.

- Our findings agree with other research that most players opt to pursue ‘good’ or ‘right’ choices in video games, at least on their first play through (see §2). Moral reasons and concerns were the most common type of theme seen in our interviews. Most players played the game seriously and engaged with the moral content of the game. Most did not play in a ‘carefree manner’ but instead played on the basis of their own moral principles or how they think they would act in real life.

Limitations and Future Research

The limitations of this study are the representativeness of the sample (mainly 20-year-old students at a suburban Australian university) and the sample size (25 participants). Our data are based on participants’ self-reporting of their attitudes towards the meter and the basis of their in-game choices. These post hoc justifications may or may not match the actual grounds of participants’ choices, given the evidence around confabulation and post hoc rationalisation (Greene, 2008). Further, *The Great Fire* is a visual novel game in a realistic setting that encourages moral engagement through both its content and presentation. Future research could examine how well the findings from our study generalise to other types and genres of games. Future research could also explore how changing the *quantity* the meter moves in response to different choices (i.e. murder gets more negative points than stealing) or the meter *starting point* (i.e. the player’s character starts with a negative or positive moral orientation) impacts players’ choices and their relationship with the morality meter, and compare the reflectiveness of players in a version of the game without morality meters to versions with intuitive and counter-intuitive morality meters. Finally, future work could examine the implications that our findings have for related debates, such as those around the gamer’s dilemma (Ali, 2015; Luck, 2009), that focus on how players regard the morality of their in-game choices.

Conclusion

Morality meters are an important part of many ethically notable games. However, they have been subject to sustained theoretical criticisms. To date there has been little empirical verification of these criticisms. To address this gap, we explored how participants respond to an intuitive and counter-intuitive morality meter and how this impacts the types of explanations they give for their in-game moral choices. While many of the theoretical criticisms made of morality meters were echoed by some participants in our study, the overall picture that emerges from our data is more nuanced. Some participants saw the ‘meter as a score’ but not necessarily one to be maximised, whereas others saw the meter more ‘as a moral guide’ or nudge but not something to blindly follow. Some did not like having their actions judged by the

meter or reduced to simplistic binaries, whereas others found that the meter's moral advice encouraged further moral reflection. Overall, this suggests that players' attitudes towards morality meters in games are complex, context sensitive and variable throughout gameplay. This study helps to provide useful context for discussions around the use and criticisms of morality meters in games and contributes to our understanding of how players approach and make a variety of moral choices in gaming contexts.

Appendix I

Interview Schedule

General feedback [No RQ]

1. Can you tell me about your overall experience of the game? What parts did you like or dislike?

Overall [RQ1 and RQ2]

2. What factors influenced your decisions in the game?
3. Were you trying to make 'good' ethical choices?
4. Were you ever tempted to do something that you knew was wrong?
5. Were any of the decisions particularly easy or difficult?
6. Do you feel happy with the choices you made in the game?

The eight key choices [RQ2]

7. Who decided to eat the sausage? What motivated your choice?
8. Who decided to steal money from Mick? Or Andy? Why?
9. What is the difference between these two cases?
10. Who decided to kick the dog? Why?
11. Who decided to pick heads or tails in the coin flip? Why?
12. Who decided to pull the lever to save the three orphans or do nothing and let Moira live? Why?
13. Who decided to kick the chair and kill their boss or do nothing and have three others die? Why?
14. What is the difference between these two cases?
15. Who decided to kill Harry? Who decided to turn him over to the police? Why?
16. Who is responsible for the deaths in the game? Why?

About the morality meter [RQ1]

17. Were your choices influenced by the morality meter?
18. Were you trying to achieve a particular result on the meter?

19. How did it feel to have your decisions assessed by the meter?
20. Were you happy with the overall result you got on the morality meter?
21. Whose voice is behind the meter?

About Frankie [RQ2]

22. How would you describe Frankie's character?
23. Did you ever make choices because you felt that they would be in character for Frankie?

About the other characters [RQ2]

24. Were there any particular characters in the game you liked or disliked?
25. Did your feelings for these characters affect any choices regarding them?

About the narrative [RQ2]

26. Did you ever do something because it felt narratively appropriate?
27. Do you feel that the game ever pressured you into making a certain decision?

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Footnotes

1. The game can be played at <https://moralityplay.itch.io/the-great-fire>
2. During playtesting, when asked why he chose to shoot Harry at the end of the game, one player remarked that the name of the town was "Mayhem" and so he didn't place much trust

in its legal system to deliver justice. This was a remarkable example of justifying a major moral choice based on what we (as designers) had considered an inconsequential narrative flourish.

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