



Do pro-social video games promote moral activity?: an analysis of user reviews of *Papers, Please*

Beatriz Cabellos¹ · Juan-Ignacio Pozo¹ · Kevin Marín-Rubio² ·
Daniel L. Sánchez¹

Received: 14 February 2022 / Accepted: 21 April 2022 / Published online: 10 May 2022
© The Author(s) 2022

Abstract

Video games are the digital entertainment resource most in demand by young people, which has led an increasing number of education experts to study their possible benefits. In particular, in this research, we set out to identify the potential of ‘Papers, Please’ to promote moral learning. Thus, we have tried to identify those objectives that go beyond the success in the video game and could favor moral learning. For this purpose, we have investigated what types of moral discourses arise from playing ‘Papers, Please’, a video game where you adopt the role of a customs inspector in a totalitarian state who must obtain the necessary money to fund their family. To do this, we analyzed the moral content of 1,560 player reviews. Results showed that only 4.94% of the reviews presented Moral Intuitions (moral content), which occurred more in the players who had played longer and had declared more Negative Emotions. As for the analysis of the Moral Intuitions, results showed that the players mainly made references to Care for both Family and Immigrants and point out the Authority of the State. However, Fairness/Cheating is less represented, despite the many events related to Immigrant discrimination. Through Exploratory Factor Analysis, we identified three dimensions, one of them pragmatic, oriented to success in the video game, and the others aimed at epistemic aspects beyond the objectives of the video game and that delve into the moral aspects of the game events. Hence, although spontaneous video game use is oriented toward pragmatic goals, ‘Papers, Please’ can guide players to think about the morality of the video game. Nevertheless, if we want to favor moral learning with ‘Papers, Please’, it is necessary to promote epistemic goals aimed at the explicitation of the morality that underlies the video game. To this end, we propose the application of scaffolding that favors these objectives.

Keywords Moral Intuition · Video game · Pragmatic goals · Epistemic goals · Learning

✉ Beatriz Cabellos
beatriz.cabellos@uam.es

Extended author information available on the last page of the article

1 Introduction

1.1 Video games and attitudinal learning

Video games (VG) are one of the digital entertainment resources most in demand by young people, being the cultural industry that produces the most economic benefits worldwide (AEVI, 2019). Young people dedicate a lot of time to their use, and this has meant that increasingly more experts have considered the implications that they have on cognitive, affective, and social development, as well as their possible educational potential (Boyle et al., 2016; Clark et al., 2016; Mayer, 2019).

One of the most controversial areas regarding the consequences of using VG is social learning. For example, Anderson et al. (2010), through a meta-analytic review of 130 studies based on over 130,000 participants, identified that violent VG are a risk factor for developing aggressive behavior, cognition, and affect. In the same way, there are related to a decrease in empathy and pro-social behavior. Another more recent meta-analysis by Prescott et al. (2018), in which 24 studies with over 17,000 participants were included, confirmed that exposure over time to violent games increases aggressive behaviors (see also Addo, et al., 2021; Coyne & Stockdale, 2021; Medeiros, et al., 2020; Zhang et al., 2021). However, other studies do not identify such behavioral changes in the use of violent VG (López-Fernández et al., 2021; Ferguson & Wang, 2021; Goodson et al., 2021). This fact evidences that the literature is alarming about these negative effects of VG unnecessarily.

In contrast to this tendency to somehow associate violent VG with negative effects, some authors have similarly studied that the use of pro-social VG produces positive effects on social learning. For example, Passmore and Holder (2014) reviewed studies that identified that pro-social VG favor *priming* that increases these pro-social attitudes. On the other hand, Krčmar and Cingel (2016) found that those who played more VG with moral content made greater reference to these aspects. But not only that, Sofia and Klimenco (2019) also evidenced that those players who had more experience using VG in general identified easier moral content. Based on these results that highlight the potential of VG for these positive learning, movements such as *Games for change* are working for the creation and use of VG that deal with real-world issues, foster empathy, and drive social change (Burak & Parker, 2017). In this sense, they develop the *White papers surveying the impact landscape of XR* (Games for change, 2020) from which different initiatives aimed at this social change are enunciated through the creation of VG that favor empathy such as *1000 Cut Journey* or *Becoming Homeless: A Human Experience*, in which it is a question of reflecting respectively on racism and homelessness.

From these results, we can conclude that VG promote different attitudes depending on the type of activity they require from the player. While learning positive attitudes is promoted in pro-social VG, the results of anti-social attitudes are promoted by violent games. However, it is noteworthy that these results do

not appear to be conclusive. It is not clear if pro-social or anti-social VG promote an attitudinal change permanently. In the same way, there is no evidence that VG favor a real moral change that supports the new behaviors, which makes us wonder in this work about such questions.

Knowing the possible benefits of these resources for pro-social learning is above all relevant to the area of education. Organizations such as UNESCO (2017) highlight the importance of promoting the culture of peace and non-violence, valuing cultural diversity, and learning to live together in equality and inclusion in schools. Unfortunately, the teaching of values is insufficient in schools (Bourke et al., 2020; Gill & Thompson, 2021; Gómez, 2017). On the one hand, this is due to the lack of importance attached to attitudinal learning in the classroom, and on the other hand, the lack of teacher training in promoting such learning.

The teaching of values at school has been traditionally carried out through artificially created situations such as role-playing or the use of moral dilemmas in the best of cases (Puig & Martín, 1998; Schein, 2020). However, the most frequent method is to observe mere reproductive teaching of theoretical content or behaviors (Rossini and Peiró-i-Gregòri, 2015). In any case, all these activities lack connection with the real experiences of students, which makes it difficult to transfer them to real contexts (Cuhadar & Kampf, 2014).

Nevertheless, VG can deal with these limitations and consequently favor moral learning (Darvasi, 2016). By their characteristics, they have the potential to reduce this lack of contextualization. While moral education tends to promote Abstract, Amodal, and Arbitrary learning (Pozo, 2017), by teaching abstract moral principles often disconnected from students' personal experience, the teaching through VG favors an embodied learning that seems necessary to transform students' values (Georgiou & Ioannou, 2019; Lindgren & Johnson-Glenberg, 2013; Pozo, 2017). From the 4E cognition perspective (Pozo, 2017; Rowlands, 2010) VG favor an *embodied* experience in an avatar or character, which turns the player into an *enactive* agent, who learns through their actions in the VG. Moreover, these actions are *embedded* in a given context, which allows us to immediately verify the consequences of these actions and to be mediated or *extended* in a symbolic device (with its dynamics, narratives, etcetera).

These intrinsic characteristics favor that within the closed system of the VG itself, situations can arise that lead players to become aware of the moral consequences of their decisions. In this way, the embodied activity deployed in the VG can help players to understand themselves situated in society and thus determine the limits of their social behaviors (Sicart, 2011).

However, this awareness cannot be achieved thanks only to the intrinsic characteristics of VG. This type of goal, which can be defined as pragmatic goals (Cabellos et al., 2021a; Author, under review), by focusing only on succeeding in the game mechanics, does not help players to pay attention to events in the game that may be of moral interest, nor encourage them to reflect upon them. Therefore, the transference of the game experience to other off-line contexts is hindered. This means players do not view the game as a moral activity (Formosa et al., 2016).

In this sense, other authors (Barzilai, 2017; de Aldama & Pozo, 2020; Cabellos et al., 2021a) highlight the importance of promoting an epistemic approach, aligned

with the explanation of the morality that underlies the events and behaviors conducted, intending to allow them to deepen the values underlying their behaviors. In other words: it is necessary to start from these initial behaviors to make explicit the moral decisions taken in the game and thus have the opportunity to reconstruct their morality (Cuhadar & Kampf, 2014).

From our position, it is needed to promote mechanisms that allow the reconstruction of the representations that the game activates. For this, we must incorporate scaffoldings that guide us toward epistemic goals that promote reflection or moral reasoning about the game events, activating the players' morale. In this way, it is intended that players modify their experience in the VG and new ways of representing moral events are promoted. This mechanism could make up for the limited results obtained in research about learning with VG, which tend to point to factual learning (Boyle et al., 2016; Clark et al., 2016; Mayer, 2019) or immediate spontaneous behaviors (Passmore & Holder, 2014).

1.2 Is 'Papers, Please' a moral VG?

One of the most studied commercial VG as a resource to promote pro-social learning is '*Papers, Please*,' developed by Pope (2013). In this VG, the player assumes the role of a customs inspector in a fictitious totalitarian state, in which they will receive different regulations that must be complied with in terms of whether to allow the entry of migrants from different countries. Once a game day is over, you receive a certain amount of money, depending on the number of people served, and the number of mistakes made when reviewing the documentation that immigrants provide. This income is the economic sustenance of the worker's family, which is necessary to keep them alive and continue the game. Therefore, the pragmatic goal of the game, aimed at achieving success in it, will be to try to do our job as well as possible to avoid a fatal outcome. However, as the game progresses, there is an opportunity to earn extra money by engaging in illegal activities. In addition, many immigrants will begin to relate the difficult circumstances that force them to cross the border, which may come to condition the decision making, according to the moral criteria of the player. These circumstances offer an ideal breeding ground for the appearance of other types of goals: the epistemic goals, aimed at moral reasoning on the events that have occurred.

In this way, '*Papers, Please*' presents us with the dilemma of taking care of the family, being an exemplary worker at the service of the state, or protecting immigrants.

However, we must not forget that the dynamics of the VG itself are oriented towards the player putting himself in the shoes of an official in an oppressive totalitarian state in which immigrants are threats to our survival and that of our own family.

1.3 Does 'Papers, Please' really promote pro-social learning?

As we have noted, '*Papers, Please*' has been considered a pro-social VG in the sense that it is an interactive critique of a totalitarian state that oppresses its workers and mistreats immigrants trying to cross the border (Formosa et al., 2016).

However, some empirical studies question whether this VG promotes pro-social learning. For example, Peña et al., (2018); Peña and Hernández Pérez, (2020) investigated whether playing ‘Papers, Please’ influenced attitudes towards immigration, obtaining negative results in all dimensions. These studies revealed that players who positioned themselves as customs inspectors, which is what the game promotes, had more negative attitudes towards immigrants. This fact would be in line with those results that we expect from using ‘Papers, Please’ with a pragmatic objective; having to put oneself in the shoes of the customs officer and focus on getting money to keep the family alive and consequently to have success in the VG. In this way, it is promoted that the players anchor themselves in the role of the customs inspector and only pay attention to the aspects that have relevance to this character, which means that the taking of perspective regarding the situation of immigrants is not considered. In this sense, Chen and Koek (2020) corroborate this idea. These authors identified that those people who played the role of customs inspector worsened their attitudes toward immigrants. However, those who positioned themselves from the perspective of immigrants improved their positions toward them.

However, these studies coincide in that they were conducted with samples in which playing conditions were delimited by the researcher, which is not an accurate representation of how players use this VG. We consider that to get a true understanding of VG potential, we should pay attention to spontaneous play that is done freely over time. Therefore, as Farber and Schrier (2017) suggest, to determine whether critical consciousness is promoted, empirical research on game reception in real contexts is required. In this sense, McKernan (2019) went to a forum to analyze the reviews identified about the VG ‘Papers, Please’. This analysis was carried out from a sociological perspective, looking at how much attention was devoted to socio-political issues and specifically how immigration-related issues were discussed. In this work, using a similar methodology, based on analyzing spontaneous play, we will analyze the potential of the VG to promote moral learning. Specifically, we want to identify if this spontaneous game can go beyond the pragmatic game of success in the VG and reach an epistemic potential that guides reflection on those moral events that make players rethink the actions conducted.

1.4 How do we analyze the moral content of the discourses on ‘Papers, Please’?

To achieve this objective, we have relied on Haidt’s (2001) conceptualization of Moral Intuition. This intuition consists of an evaluative feeling about a moral judgment that is carried out without any conscious reasoning. It is an effective, stable thought that allows us to make quick judgments, similar to the functioning of the system I (Kahneman, 2011) or implicit mind (Pozo, 2017). From our perspective, the pragmatic goals of VG favor the activation of this system I. Haidt also points out that these moral judgments sometimes require a more elaborate justification which is identified with Moral Reasoning, which is more reflective, slower, and requires greater cognitive effort, similar to system II (Kahneman, 2011) or explicit mind (Pozo, 2017). For Haidt, this reasoning is carried out to justify to others the Moral Intuition. From our position, favoring epistemic

goals through scaffolding can promote this Moral Reasoning due to the necessity of making explicit the morality that underlies the VG. However, in the same way, this scaffolding also favors a greater activation of Moral Intuitions since it emphasizes this moral aspect (de Aldama, 2020), which is not present in the design of ‘Papers, Please’.

Likewise, Moral Intuitions refer to different moral aspects. According to Haidt (2012), there are five Moral Foundations present in all societies that have prevailed over others due to their adaptive power to the environment. They constitute the moral support of all individuals to a greater or lesser extent.

These five Moral Foundations (Care/Harm, Fairness/Cheating, Loyalty/Betrayal, Authority/Subversion, and Sanctity/Degradation) present positive and negative poles. According to Haidt, evolution would have favored the individuals who showed a better balance between these poles, with a better adaptation to the environment and survival. Thus, all moral manifestations of people would be explained by these fundamentals.

Moral Intuitions are activated as emotional responses to situations that require moral judgment. Therefore, moralizing an action has its origin in an emotional response. Haidt (2012), in this sense, points out some of the Emotions underlying these Moral Foundations. However, he does not make an exhaustive review of them. A complete classification of these possible emotional responses is proposed by Liew and Turtle (2016) who, from the analysis of 15,553 tweets, identified 28 Emotions which are presented in Table 1, and that would represent the emotional range experienced by the human.

In this paper, we try to identify, through a blog of a VG platform, the reviews with moral content extracted from a set of player reviews of ‘Papers, Please.’ To do so, we focus on the Moral Intuitions identified. Likewise, all the reviews were coded according to the Playing time, and the Emotions that appeared in them.

On the other hand, the Moral Intuitions were analyzed in detail. For this purpose, we consider the Moral Foundations related to these Emotions and the Topics, the Social systems, and the Behaviors manifested during the VG use. Likewise, we identify the perspective adopted by the player in his/her comments. We studied the frequency of these codifications, how they were related to each other and whether they were grouped in different dimensions that could be related to the pragmatic and epistemic objectives from which you can play to ‘Papers, Please’. Specifically, we set ourselves the following objectives:

Table 1 List of emotions (Liew & Turtle, 2016)

Admiration	Doubt	Hate	Pride
Amusement	Excitement	Hope	Regret
Anger	Exhaustion	Indifference	Relaxed
Boredom	Fascination	Inspiration	Sadness
Confidence	Fear	Jealousy	Shame
Curiosity	Gratitude	Longing	Surprise
Desperation	Happiness	Love	Sympathy

- Objective 1. To identify if the Moral Intuitions in the ‘Papers, Please’ reviews are related to the Playing time and the type of Emotions that are made explicit.
- Objective 2. To analyze the Moral Intuitions through the categories of analysis.

Objective 2.1. To identify how often the categories of analysis were referred to in the reviews with Moral Intuitions.

Objective 2.2. To identify how the categories of analysis were related among them.

Objective 2.3. To analyze whether the categories of analysis were grouped into latent variables that could be explained from the proposed theoretical framework and to check how the reviews with Moral Intuitions were organized around them.

2 Material and methods

2.1 Task and procedure

To carry out the proposed study, we accessed the users’ reviews on the Steam platform about ‘Papers, Please’. Steam is the digital store that mainly supplies this VG in Spain, and therefore, one of the platforms that most specific reviews of ‘Papers, Please’ provide in our language. Informed consent was not necessary since Steam data is public and keeps the anonymity of its participants (Bourgonjon, et al., 2015; de Wildt and Aupers, 2020; Fiesler & Proferes, 2018; Mo & Coulson, 2008).

We downloaded all the reviews of users in Spain from the time of publication of the game (August 8, 2013) to June 5, 2020. We obtained a total of 1,560 analyzable reviews. Next, in Fig. 1, we show how the data were organized and objectives 1 and

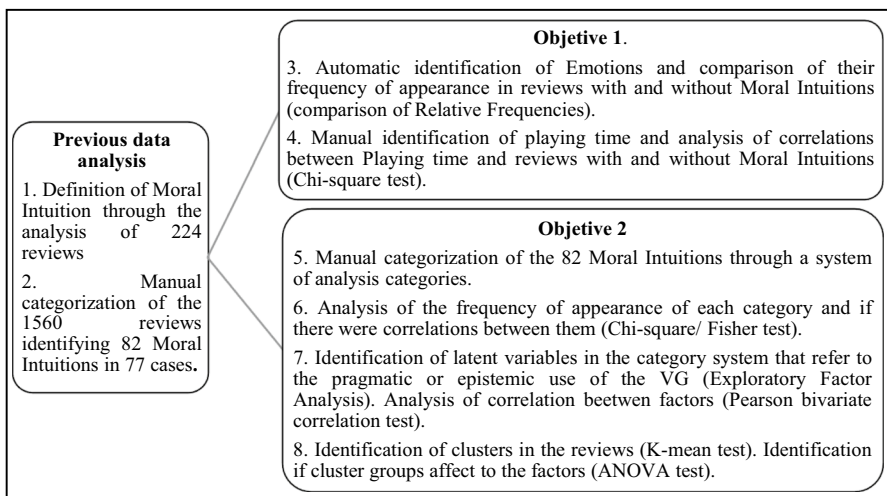


Fig. 1 Synthesis of the methodology carried out for the objectives of the study

2 were carried out. Also, in the next paragraph, we detail all these methodological aspects.

We classified these 1,560 reviews according to the presence of moral content. For this purpose, two of the authors analyzed the first 224 references. From this first analysis, we reached the agreement that to identify moral content, at least one Moral Intuition (Haidt, 2001) had to be present. This category was operationalized as any explicit moral evaluation (something is "good" or "bad") in the VG. Likewise, we also consider such as Moral Intuition the pieces of text which included Emotions linked to a moral event. An example of these conditions can be found in the following table (Table 2).

Finally, we obtained a total of 82 Moral Intuitions in 77 cases. These 77 cases, as proposed in objective 1, were contrasted with the remaining 1,483 (without Moral Intuitions) in terms of playing time and the emotions they presented, using the complete list developed by Liew and Turtle (2016). Both data were obtained from the Steam metadata and analyzed by automatic methods.

Next, to carry out objective 2, we analyzed in detail the 82 Moral Intuitions from the design of a system of categories that would allow us to probe into the data obtained. For its design, we used deductive and inductive methods. Based on a preliminary version (Cabellos et al., 2021b), we re-defined the categories and carried out an interjudge agreement with three authors taking 18% of the Moral Intuitions. We obtained a Kappa agreement of 0.83. These categories can be reviewed in Table 3. In Appendix Table 6, we have included a review example for each category.

As we have already mentioned, Moral Intuition requires the activation of Emotions. To analyze what these Emotions were, we reused the Emotion list of Liew and Turtle. However, in a first exploratory analysis, we identified that the occurrence of these Emotions could be reduced to a few categories without the need to work with the 28. Thus, we created new, more broad categories that could more adequately group Emotions. We distinguished three types of Positive Emotions (Fun, Empathy, and Sympathy), five Negative Emotions (Despair, Doubt, Indifference, Sadness, and Regret), and a category of

Table 2 Examples of justification of Moral Intuitions

Examples	Justification for the Moral Intuition
<i>I would describe the experience with one word, hard. On many occasions, you must decide between a kind stranger, who seems a great person or having savings in case you have a difficult day, and you cannot buy food for your family. I think the game aims to make you feel the injustice that many people in the world are subjected to, and it achieves it</i>	The reference to "injustice or hard" refers to an evaluation of the moral event, in this case, a negative valorization
<i>If they manage to stir us and we make the mistake of letting them pass, we will be fined, and we may even change the reality of the country</i>	The emotion "stir" refers to a moral conflict in the game

Table 3 Final analysis categories

Dimensions	Categories		
Moral Foundations	Care/Harm	Care	
		Harm	
	Fairness/ Cheating	Fairness	
		Cheating	
	Loyalty/ Betrayal	Loyalty	
	Betrayal		
Moral Foundations	Authority/ Subversion	Authority	
		Subversion	
	Sanctity/ Degradation	Sanctity	
		Subversion	
Emotions	Positive	Fun	
		Empathy	
		Sympathy	
	Negatives	Despair	
		Doubt	
	Indifference		
	Sadness		
	Repentance		
Moral reasoning	Nonspecific		
Social system	Moral reasoning		
Social system	Social system involved	Family	
		State	
		Immigrants	Victim
			Threat
Conduct adopted	Conflict		
		Pro-social	
		Anti-social	
Topics	In the game	Welfare and security	
		Bureaucracy	
		Power of the nation	
		Inequality	
		Crimes	Briberies
		Illegitimacy	
		Cheating at the border	
Observer type	Transfer		
		Customs inspector	
		Third-person	

Table 4 Moral Foundations and their definitions (based on Haidt, 2012)

Moral Foundation	Definition
Care/ Harm	Sensitivity to suffering and need. It makes us despise cruelty and want to care for those who suffer
Fairness/ Cheating	Sensitivity to facts that show differences between diverse groups and people. It makes us despise cheaters
Loyalty/ Betrayal	Sensitivity and protection toward the people who form a group with the same interests and goals. It makes us despise those who are a threat to our group
Authority/ Subversion	Sensitivity to rank or status; makes us aware if someone is behaving according to their status
Sanctity/ Degradation	Sensitivity to that which may be harmful to the body or soul

Nonspecific Emotions that included emotional reactions without specifying what type.

Likewise, these Moral Intuitions were classified according to the Moral Foundations pointed out by Haidt (2012) in his Moral Foundation Theory: Care/Harm, Fairness/Cheating, Loyalty/Betrayal, Authority/Subversion, Sanctity/Degradation. For our analysis, we have started from the definitions proposed by this author, which we summarize in Table 4.

Finally, these Moral Intuitions could be justified by reflection or Moral Reasoning, so we established a category referring to this process.

On the other hand, as we have pointed out, in ‘Papers, Please’ there are three Social systems affected by the actions we take: the Family, the State, and the Immigrants. Allowing Immigrant border crossing will not only affect this Social system but will also have negative consequences on our relationship with the State, impacting also negatively on the welfare of our Families. Likewise, accepting other sources of income will also have a positive impact on Family welfare. However, it again worsens our relationship with the State and maybe can affect the integrity of the Immigrants. For this reason, not only is it interesting to analyze the emergence of these social systems but also to identify the Conflicts among the parties.

Additionally, we consider that in this VG the appearance of Immigrants can be interpreted in 2 diverse ways: They can be understood as Victims who suffer discrimination and inequality or as Threats that condition the security and equality of the members of the destination country (Benson, 2013).

On the other hand, Moral Intuitions are related to the acts carried out in the VG. However, these acts will not always aim to promote good but will sometimes result in behaviors that harm others. For this reason, we also distinguish whether the behavior carried out can be considered Pro-social or Anti-social. In this sense, we take the definition of González-Portal (2000) which highlights that pro-social behavior implies all positive social behavior with or without altruistic motivation. Likewise, we define anti-social behavior as those behaviors that have destructive consequences or harm others.

Another aspect to consider is the topics that are dealt with within ‘Papers, Please’. These topics have the potential to context the Moral Intuitions identified. To identify these topics, we played ‘Papers, Please’ and consulted studies that had analyzed this VG in-depth (e.g., Formosa et al., 2016). We identified the topics: Welfare and

Security, Bureaucracy, Power of the Nation, Inequality, and Crime (which could refer to Bribery, Illegitimacy, or Cheating at the border). Likewise, these topics can be extrapolated to real contexts. In this sense, we consider it necessary to identify the Transference that the players make of the game events, which implies more complex processing.

Finally, we added a category that would allow us to identify the role from which the review was written, and differentiated whether the players wrote as the Customs Inspector or a Third-person observer.

2.2 Data analysis

As we showed in Fig. 1, to carry out objective 1, the Moral Intuitions of the 1,560 reviews were manually identified. Once the reviews with and without Moral Intuitions were identified, we proceeded to record the number of emotions of the reviews through automatic analysis. For this purpose, we used Liew and Turtle's list of emotions and their derived words. Then, we compared the Relative Frequency (RF) of the cases with references to Emotions in the reviews with Moral Intuitions ($N=77$ cases) with the RF of Emotions in the cases without Moral Intuitions ($N=1483$). The differences between these Relative Frequencies ($_{RFdif}$) were also contrasted. Likewise, we identified the type of Emotions according to whether they were Positive, Negative, or Nonspecified. Again, we compared each type of Emotion with the cases with and without Moral intuition.

We also analyzed whether the Playing time affected the number of Moral Intuitions. For this purpose, the Playing time was coded as a dichotomous variable, considering a Playing time under 10 h or 10 h or more. We think spending more than 10 h playing implies knowing the mechanics of the VG and being able to deepen into the events of 'Papers, Please'. The Chi-square test was used to identify the differences between the Playing time and the reviews that did or did not present Moral Intuitions.

As for objective 2, each Moral Intuition was coded as an independent case and analyzed manually using the categories designed. The data were coded as dichotomous variables, considering the option of belonging to the category or not. We analyzed the frequency for these categories (objective 2.1) and the relationships between them through contingency tables (objective 2.2). For this purpose, we used Chi-square and calculated the Adjusted Standardized Residuals (ASR) to determine the positive or negative relationship between categories. However, we have only explained the main correlations using the corrected standardized residuals which were equal to or above 4. Besides, all categories with a sample size of less than 10 were excluded from this second analysis (Loyalty, Betrayal, Sanctity, Degradation, Moral reasoning, Inequality, and Transfer). Likewise, the Positive emotions (Fun, Empathy, and Sympathy) and Negative emotions (Regret, Despair, Doubt, Indifference, and Sadness) were analyzed together in each emotional pole. Cheating at the border, Illegitimacy, and Briberies were analyzed as Crimes. Nevertheless, despite these groupings, sometimes, the 20% of expected frequencies were lower than 5. In these cases, the Fisher statistic was used. We also point out that the crossover

between the different Moral Foundations was controlled for the presence of conflict, since in this case, we are interested in identifying the confrontation between fundamentals.

Subsequently, an Exploratory Factor Analysis (EFA) was carried out to identify if the categories from which we analyzed the reviews were grouped according to some latent variable (objective 2.3). From our position, we believe that these categories could be grouped according to pragmatic, related to the success in the VG, or epistemic goals, which would be more related to the moral events that follow in 'Papers, Please'. For this purpose, we introduced the following categories of analysis: (1) Conflict, (2) Negative Emotions (3), Positive Emotions, (4) Nonspecific Emotions, (5) Anti-social, (6) Pro-social, (7) Third-person observer, (8) Customs inspector, (9) State, (10) Family, (11) Immigration, (12) Welfare and Security, (13) Bureaucracy, (14) Inequality, (15) Crimes, and (16) Power of the Nation. The Moral Foundations were not introduced as it would mean enlarging the model excessively. The criterion assumed to carry out the EFA is that for each variable introduced there should be at least 5 cases (Gorsuch, 1983). As we have 82 Moral Intuitions, the ideal was not to exceed 16 variables in our model, which would have been inevitable by adding these categories. The criterion taken to exclude the Moral Foundations was they are related to Social systems. The State represents Authority/Subversion and Loyalty/Betrayal; the Family represents Care/Harm and Loyalty/Betrayal, and Immigration represents Care/Harm and Fairness/Cheating while Sanctity/Degradation is hardly represented in the analyzed reviews.

The EFA led us to exclude the Third-person observer category as it was complementary to the Customs inspector's perspective category. The Kaiser–Meyer–Olkin (KMO) test was performed to check the adequacy of the data to the EFA. For factor extraction, we performed a Parallel Analysis. We used the WLSMV estimator and Geomin oblique rotation as well as tetrachoric correlations, suitable for dichotomous variables. Likewise, reliability analyses were carried out on the categories representing these factors, using the Omega statistic. Then, a Pearson bivariate correlation between the factors was performed to identify if there was any relationship between them. Finally, a K-means cluster analysis was carried out to group the reviews with Moral Intuitions obtained and thus investigate how players approach moral content in the VG. For this aim, we used the results of the EFA. We used NVivo for the coding; SPSS for the Chi-square and Fisher test, the K-means cluster analysis, and Pearson bivariate correlations; Mplus for the EFA and R studio for obtaining the results of the KMO test, the parallel analysis, and the reliability of the scales.

3 Results

3.1 Objective 1. To identify if the Moral Intuitions in the 'Papers, Please' reviews are related to the Playing time and the type of Emotions that are made explicit.

We identified 77 from 1560 cases that contained Moral Intuitions, accounting for 4.94% of all reviews. Therefore, the game does not promote moral activity in most of the players even though the content of the game events is chiefly moral.

Next, the frequency of Emotions expressed by the players was analyzed in the cases in which Moral Intuitions appeared and in those in which they did not. Proportionally, as expected, a higher frequency of Emotions was observed in the reviews that presented Moral Intuitions ($n=73$, $RF=0.95$) than in those that did not ($n=320$, $RF=0.22$) ($RF_{dif}=0.73$). In particular, the differences for Negative Emotions between reviews with Moral Intuitions ($n=44$, $p=0.57$) and those without ($n=201$, $RF=0.14$) were greater ($RF_{dif}=0.44$) than the difference between Positive Emotions for cases with Moral Intuitions ($n=23$, $RF=0.30$) and without Moral Intuitions ($n=115$, $RF=0.08$) ($RF_{dif}=0.20$). For Nonspecific Emotions, the differences between cases with Moral Intuitions ($n=6$, $p=0.08$) and without Moral Intuitions ($n=4$, $RF=0.003$) were the smallest ($RF_{dif}=0.08$).

We also identified whether there were differences between the Emotions that was most frequently manifested for reviews with and without Moral Intuitions. It was observed that for Positive Emotions the reviews without Moral Intuitions had more references to Hope ($n=41$, $RF=0.03$), Amusement ($n=18$, $RF=0.012$). However, when Moral Intuitions were present there were more references to Confidence ($n=6$, $p=0.08$) than Amusement ($n=4$, $RF=0.05$) and Hope ($n=4$, $RF=0.5$). In the case of Negative Emotions, in the reviews without Moral Intuitions, the most frequent emotions were Boredom ($n=81$, $RF=0.05$), followed by Doubt ($n=56$, $RF=0.04$) and Sadness ($n=45$, $RF=0.3$). While for the reviews with Moral Intuitions, Doubt ($n=18$, $RF=0.23$) appeared most frequently, followed by Boredom ($n=10$, $RF=0.13$) and Sadness (n

On the other hand, we also analyzed whether the frequency of Playing use was related to the reported Moral Intuitions. It was observed that those who played for less than 10 h reported fewer Moral Intuitions than those who played longer ($\chi^2=4.86$, $p=0.028$), which seems to indicate that there is a certain tendency to consider more moral content when players play more.

3.2 Objective 2. To analyze the Moral Intuitions through the categories of analysis

3.2.1 Objective 2.1. To identify how often the categories of analysis were referred to in the reviews with Moral Intuitions

Once these general aspects of the total reviews were identified we analyzed the type of moral activity promoted by ‘Papers, Please’ through a detailed analysis of the 82 Moral Intuitions. Examples for each category can be found in Appendix Table 6.

The most prevalent fundamentals were Care/Harm (43.90%) and Authority/Subversion (34.15%), and to a lesser extent, Fairness/Cheating (21.95%), Loyalty/Betrayal (15.85%), and Sanctity/Degradation (6.10%). If we look at the poles to which each of them refers, we observe that the positive moral pole is predominant over the negative one except for Fairness and Cheating. This can be explained by the lack of coherence in most of the laws that are put in place to control cross-border Immigrants. In addition, it should be noted that these Moral Foundations conflicted

most of the time (82.93%), showing the number of moral dilemmas present in the game. However, despite referring to these Conflicts, there were hardly any reviews that morally justified the Moral Intuitions that were made, with Moral Reasoning being almost non-existent (2.44%).

The most frequently appearing Emotions were Negative (48.78%) followed by Nonspecific (14.63%) or Positive (14.64%), with Doubt being the most frequent Emotion (28.05%). Doubt is related to the need to make decisions in the game but to a lesser extent, these decisions are presented as other Emotions which are more defining of the choices made (all of them with frequencies below 10%, except for Despair with 13.41%).

On the other hand, the players referred to Immigrants (47.46%) more as Victims (23.17%) than as Threats (13.41%), which suggests an awareness of the situation they were facing. The State was also frequently pointed out (42.68%) and it is the Family that had the least presence in the discourse (29.27%). This is explained by its lack of presence in the VG beyond the pragmatic objective of keeping the Family alive to continue playing. The players pointed out mostly Pro-social behaviors (42.68%). However, there was also a high Anti-social behavior presence (21%). When we look at the VG Topics, we see that the players highlighted mainly Welfare and Security (42.68%) as well as Bureaucracy (37.80%), but Crimes (21.95%) were of lesser importance for them. Of Crimes, Bribery was the most mentioned (12.20%), and the Power of the nation (18.29%) and Inequality (9.76%) were the least mentioned topics.

These game Topics are transferable to real-life events. Nevertheless, the Transfer of VG events to other real-life contexts was low (8.54%). This fact may be since players of 'Papers, Please', in general, put themselves in the role of the Customs inspector (73.17%), and only 28.05% of the reviews were written as a Third-person observer of the VG events. These frequencies can be consulted in detail in Appendix Table 7.

3.2.2 Objective 2.2. To identify how the categories of analysis were related among them

For an in-depth analysis of how these Moral Intuitions were constructed, we analyzed the correlations among the categories. When players pointed out the Authority, it was related to State ($\chi^2_{1; 0.95} = 20.13$, $p = 0.000$, $ASR = 4.5$) and Subversion was discussed more frequently than expected when referring Cheating ($p = 0.004$, $ASR = 4.00$). When Care was discussed, players tended to talk about the Family ($\chi^2_{1; 0.95} = 15.96$, $p = 0.001$, $Z_{R(\text{corrected})} = 4.00$) or Immigration considered as a Victim ($p = 0.000$, $Z_{R(\text{corrected})} = 4.1$). Finally, Cheating was also related to Inequality ($p = 0.000$, $ASR = 6.5$).

Players' Moral Intuitions also presented other relationships that differed from the Moral Foundations, which may be of interest. When talking about the Family topics such as Welfare and Security ($\chi^2_{1; 0.95} = 39.18$, $p = 0.000$, $ASR = 6.3$) appeared. On the other hand, players who referred to Immigrants tended to talk

about topics such as Welfare and Security ($\chi^2_{1; 0.95} = 18.49, p = 0.000, ASR = 4.2$) and Bureaucracy ($\chi^2_{1; 0.95} = 21.88, p = 0.000, ASR = 4.7$).

3.2.3 Objective 2.3. To analyze whether the categories of analysis were grouped into latent variables that could be explained from the proposed theoretical framework and to check how the reviews with Moral Intuitions were organized around them

Finally, an EFA was carried out to identify if the category systems could be explained through some latent variable. The fit of the data to the EFA was good (KMO=0.64) and the parallel analysis showed higher values than expected for 3 factors. Table 5 shows how the factors were distributed according to the significant weights as well as the reliability obtained. All factorial weights for each category can be consulted in Appendix Table 8.

As can be seen, factor 1 includes the categories that refer to Conflict and Anti-social Behavior. The category Positive Emotions appears inversely. Therefore, this factor, which we named "Moral issues in the VG", is referred to the dilemmas posed in the game and the morally questionable behaviors carried out to succeed in it, which explains the lack of Positive Emotions. However, this factor includes neither the Social systems nor the Topics which are dealt with in the VG.

Factor 2 is characterized by Negative Emotions with a low frequency of Non-specified Emotions. Likewise, the State is underrepresented while the Family and the Welfare and security are highly represented. This leads us to name this factor "Worried about their own" since it seems to be related to protection and care for the Family, which explains the high frequency of Negative Emotions. From

Table 5 Analysis categories of each factor

Factors	Categories	Est	S.E	P	(ω)
Factor 1	Conflict	0.69	0.19	0.000	0.71
	Positive emotions	-0.62	0.22	0.005	
	Anti-social behavior	0.71	0.22	0.001	
Factor 2	Negative emotions	0.76	0.12	0.000	0.75
	Non-specific emotions	-0.61	0.19	0.002	
	State	-0.63	0.16	0.000	
	Family	0.81	0.21	0.000	
	Welfare and security	0.53	0.21	0.010	
Factor 3	Customs inspector	0.57	0.16	0.000	0.86
	State	0.51	0.16	0.001	
	Family	0.83	0.17	0.000	
	Immigration	0.95	0.14	0.000	
	Welfare and security	1.00	0.14	0.000	
	Bureaucracy	0.82	0.16	0.000	
	Inequality	0.54	0.21	0.012	
	Crimes	0.50	0.16	0.002	
	Power of the nation	0.72	0.12	0.000	

our perspective, this factor is specifically oriented towards the pragmatic goals of protecting the family to be successful in the VG. Finally, factor 3 is characterized by the references written from the role of the Customs inspector in which reference is made to the 3 Social systems as well as to all the Topics dealt with by the VG. This factor, therefore, would be the most "Analytical" of all, referring to the three Social systems and showing interest in all the events arising in the game. This type of grouping is oriented to aspects beyond the success of the game by considering the Topics and the people involved.

A correlational analysis was carried out between factors in which a positive relationship was found between factor "Moral issues in the VG" and factor "Analytical" ($r=0.443$). Likewise, a negative relationship was observed between the factor "Moral issues in the VG" and the factor "Worried about their own" ($r=-0.340$). This result is striking since both the factor "Moral issues in the VG" and the factor "Analytical" are the two factors that coincide in aspects of the game that go beyond the pragmatic aspects of the game.

However, both the "Analytical" factor and the "Moral issues in the VG" factor present major differences that have led us not to consider the option of making a 2-factor grouping. As can be seen, the factor "Moral issues in the VG" goes beyond the goals of the game touch upon to moral aspects do not necessary to have success in it. However, this factor does not make the Topics and Social systems in the game explicit. On the other hand, the factor "Analytical" focuses more on these aspects but leaves aside the emotional and evaluative aspects that underlie the game events. Therefore, they reflect two different but complementary ways of epistemic VG use.

In this sense, a 2-center cluster was made with the factorial data, identifying the relationships concerning the 3 factors (see Fig. 2). The first cluster was composed of 39 reviews that had higher scores on the "Moral issues in the VG" and "Analytical" factors but lower scores on the "Worried about their own" factor. Therefore, it was given the name "Orientation toward the epistemic". In contrast, cluster 2, formed by 43 reviews, scored much lower on the factor "Moral issues in the VG" and "Analytical" but higher on the "Worried about their own" factor. This cluster was named "Orientation towards the pragmatic".

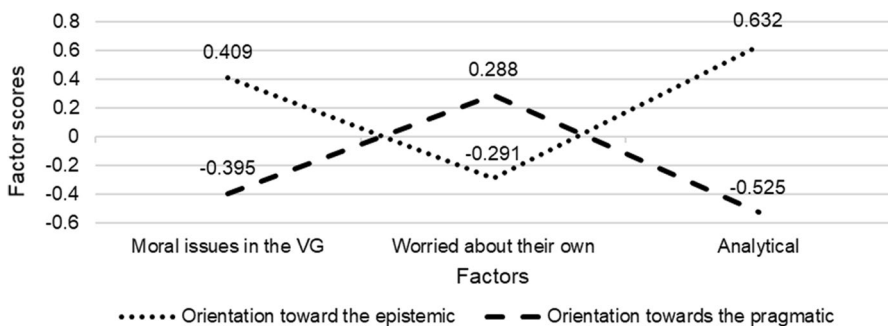


Fig. 2 Relationship between the 2 types of reviews identified with the 3 factors obtained

4 Discussion

The results obtained show that only 4.94% of the reviews registered by the users reported Moral Intuitions. Comparing this data with studies such as those carried out by Peña et al., (2018); Peña and Hernández Pérez, 2020) or Chen and Koek (2020), it can be observed that in our work, unlike in the aforementioned studies, it does not seem that ‘Papers, Please’ itself generates this moral activity in most players.

These differences may be due to the methodology used in these studies. Both Peña et al., (2018); Peña and Hernández Pérez, 2020) and Chen and Koek (2020) obtained various changes in players’ attitudes through quasi-experimental studies in which they compared different game conditions in a closed context. However, we analyzed spontaneous play. Therefore, we consider that studies such as ours provide results that are more oriented to what this VG offers by itself from a moral point of view.

Only 4.94% of the reviews included Moral Intuitions and this is due to this VG not being focused on these moral issues. ‘Papers, Please’ puts the player in the role of a customs inspector who does not need to question anything to do their work well. Therefore, the VG, instead of promoting moral reasoning through the events that occurred, establishes dynamics that are oriented to the mere bureaucratic function in which the unfair treatment received by immigrants is not relevant (Peña et al., 2018; Peña and Hernández Pérez, 2020). Nevertheless, this research focuses on the few people who did question the morals that appear in ‘Papers, Please’.

Firstly, when comparing people who referred to moral aspects with those who did not, certain differences in the emergence of Emotions were evident. In both cases, Emotions were raised, although, as expected, in the case of players who raised Moral Intuitions, the appearance of Emotions was more frequent. This is justified, as Haidt (2012) points out, by the fact that these emotions promote moral activation. However, what is noteworthy in this regard is that different patterns in emotional activation were found. Players who expressed more Negative Emotions also referred to more Moral Intuitions. This may lead us to think that these Negative Emotions more easily activate the players’ morale. As Aguado (2005) points out, negative emotions favor more critical processing of the information received and therefore may have encouraged attention to these moral aspects of the VG that are not promoted by the game objectives.

Another notable difference was how the frequency of Playing use also had an impact on the number of Moral Intuitions reported. Those who played more frequently reported more Moral intuitions in their reviews. This is in line with the results obtained by Krcmar and Cingel (2016), who identified that those who played more VG made more references to the moral aspects identified in *Fallout 3*. From our position, we consider that playing ‘Papers, Please’ longer time could favor players to set goals beyond the objectives of the game, which is necessary to identify the underlying morality. Thus, it can be explained that more experienced players can go beyond these pragmatic goals of success in the VG and get a deeper moral understanding of the VG.

However, there are certain limitations we should point out in these results. On the one hand, in a study such as this one, we cannot be sure that spending more time playing 'Papers, Please' is a factor that affects questioning the moral events of it. The relationship could be the reverse: when a moral conflict arises, a greater interest in the game could be generated which led to playing more time. In this sense, we propose studies that could correct these limitations in their design by asking players about the reasons that led them to continue playing. On the other hand, another important limitation of these results has been the extraction of metadata from a platform such as STEAM. We only had access to the number of hours played, the year in which the review was written, and whether they liked the game. Therefore, we also propose that studies should consider variables that may have an impact on the use of a VG such as 'Papers, Please'.

Likewise, these moral aspects of the VG were also analyzed from the design of some analysis categories. In this sense, we identified that the most frequent Moral Foundations were Care/Harm and Authority/Subversion, which is also consistent with the most mentioned Topics of the game, Welfare and Security, and Bureaucracy. The VG aims to obey the laws imposed on us by the State (Authority/Subversion and Bureaucracy) to Care for our Family and thus it does not suffer the consequences of not earning enough money (Care/Harm and Welfare and Safety). On the other hand, the discreet presence of the Fairness/ Cheating is striking. As we have already seen, 'Papers, Please' continuously shows the injustices to which Immigrants are subjected. However, questioning this aspect goes beyond the goals proposed by the game, which by its mechanics are reduced to the two most mentioned fundamentals. Therefore, even though injustice is a recurring topic in the VG, not much attention is paid to it. However, when we identify references to social systems, there are many references to Immigrants, especially such as Victims. There are also abundant mentions of the State, being the Family the least mentioned. This fact contrasts with the previous results and again shows that, although Immigrants are very present in the game, as their problems are dehumanized, the Moral Foundation of Fairness/Cheating, which is the one that should prevail most in this group, is not sufficiently activated.

As for the Emotions mentioned in the game, the most prevalent is Doubt. The moral Conflicts presented in 'Papers Please' force the player to Doubt the decisions made. However, more specific Emotions are scarce, which is in line with the pragmatic goal of the game. The VG does not activate enough moral Emotions about the events evidenced. This lack of deepening in the moral events is also evidenced by the lack of Moral Reasoning observed. Only 2.44% of the Moral Intuitions justified the moral decisions taken. Likewise, in the same line, the low Transfer that was made from the events of the VG to real-life stands out.

One of the aspects that may affect this lack of depth in the events of 'Papers, Please' is the role assumed in the VG. It was observed that when the discourse was analyzed, most players put themselves in the role of the Customs inspector instead of in the role of a Third-person observer. This is justifiable because Papers, Please is a first-person VG. This kind of VG favors a high degree of immersion and empathy with the character through embodiment but makes it difficult to gain perspective on the VG events, as observed in the low occurrence of

the Transfer category. This lack of perspective also affects being critical of the events evidenced, as noted by Cohen (2001) or Darvasi (2016). This fact is in line with the results already mentioned about the improvement in attitudes about immigration when playing in the third person (Chen & Koek, 2020).

In terms of the relationships between the categories analyzed, the relationship between the Authority and the State stands out. The players identify that the VG is contextualized in a totalitarian state in which there is no room for diversity of thought. The laws imposed by the State must be respected, or the consequences will be fatal. This fact does not clash with Family Care, which can be exercised by complying with the rules imposed by the State. However, the challenge of the VG arises at this point because it is not easy to keep the Family alive. As the game progresses, the rules of the State become stricter, which implies less income and explains the relationship between Family and Welfare and Security.

The need for Care is also evident when the Victims of the game appear, the Immigrants. The players are aware of the importance of the Welfare and security of these people, despite being those who, through bureaucracy, execute discriminatory laws towards them. This fact makes the players feel that Immigrants are Victims, and the Moral Foundation of Care arises in their discourse. The players are aware that it is necessary to care for this disadvantaged group, which comes into Conflict with the rules. That is why Injustice is also related to Inequality and leads to Subversion. Somehow, this demonstrates the potential of the VG to contemplate the Immigration issue, although the goals of the game are different. This may also explain the high occurrence of references to Pro-social behaviors. However, although there are such references, on the whole, we consider that this Pro-social use is not real, as can be evidenced by the lack of reviews toward the problems suffered by the Immigrants in the game related to Fairness/Cheating. Therefore, these Pro-social aspects may have been overrepresented by certain social desirability (Edwards, 1957; Lönnqvist et al., 2011).

Finally, to complete the analysis of the results, we would like to explain the EFA carried out. This analysis identified three dimensions that could fit in gaming styles considered pragmatic, oriented more towards the mechanics of the game, or epistemic, oriented towards the moral aspects of the game.

The factor "Worried about their own" highlighted the Welfare and security of the Family focused on success in the game. Therefore, from our perspective, this factor is specifically oriented to the pragmatic goals proposed by the VG in which moral references are justified by the VG goals and not by moral activation.

However, the other two factors identified were more interesting. One of these factors, "Moral issues in the VG" was focused on the moral problems or Conflicts that arise in the game. These aspects may be related to an intrinsic moral activation which could indicate a certain tendency to epistemic activation since this factor refers to aspects beyond the goals of the VG. However, the Topics and Social systems where these moral issues appear are not made explicit. At this point, the "Analytical" factor would come into play. This factor includes these Themes and Social systems but excludes the reviews related to the Conflict and Emotions they may arouse, presents in the "Moral issues in the VG" factor. Both of them appear highly correlated which is indicative that they are complementary

and would compose the requirements that, from our perspective, are needed to promote moral learning.

However, at this point, we consider it important to emphasize that the EFA was carried out with an exploratory objective since the sample size is too small to make conclusive statements. It would be interesting to carry out studies that corroborate whether ‘Papers, Please’ is used from a pragmatic perspective oriented to success in the game or whether it can favor epistemic uses oriented to the explicitness of the players’ morals and reflect on them. Likewise, the EFA only considered the references previously categorized as moral. In this sense, to investigate what types of uses can be carried out with this VG, it is necessary to consider the aspects pointed out by all players. As we have seen, most of the references we obtained were oriented toward the pragmatic contents of VG, thus it is relevant to consider them in new studies.

On the other hand, the cluster analysis allowed us to classify the reviews that presented moral aspects. This analysis showed that 39 reviews (almost 50% of the 82 references analyzed with Moral Intuitions) scored higher on the epistemic factors and lower on the pragmatic one. However, we should not forget that these reviews made up only 4.94% of the total number of comments obtained initially so this approach to the game was the minority.

5 Conclusions

From the results obtained, we can conclude that the common user does not tend to be oriented towards the moral aspects of the VG. However, our analysis also shows that ‘Papers, Please’ can be a useful resource to promote moral learning. The VG itself can activate the Emotions of the players, usually Negative, which is essential to carry out moral judgments about the events that occurred (Haidt, 2012). In addition, the spontaneous game of ‘Papers, Please’ shows that these moral aspects are also aroused by the high frequency of Conflicts or the reference to the Care of Immigrants when they are considered Victims.

Nevertheless, if we want to promote this moral learning, it is necessary to promote these aspects. As can be seen in the work of Chen and Koek (2020), simply by putting players in the role of the immigrant, attitudes towards them improve. But we go further. From our point of view, if we want to promote moral learning in the players it is necessary to favor additional mechanisms that facilitate their explicitness and reconstruction. In this sense, Barzilai and Blau (2014) have worked on the potential of the scaffolding in VG, achieving improvement in monetary management using a VG in which the profits of a restaurant were managed. This idea has also been carried out by our research team for the teaching of physics with the VG Angry Bird (de Aldama, 2020). For this, external scaffolds were added to focus the VG goals on the effect of force and the angle of position when launching the Angry birds with the slingshot, achieving greater learning in the students who used scaffolding than those who only received traditional training for the same concepts. For this reason, we propose to include these scaffoldings in ‘‘Papers, Please’’ but, in this case, focused on the moral aspects of the VG. In this sense, from the research team,

we are already working on the design of a scaffolding that allows the explicitation of these moral events that appear in the VG. This scaffolding consists of selecting the cases of the game in which respecting the rules implies discriminating or even endangering the lives of immigrants and posing questions that oblige players to argue the reason for their actions and whether they are justifiable from a moral point of view. In this way, it is intended that students reflect and reconstruct their morals.

In short, 'Papers, Please' correctly represents the situation of abuse and discrimination faced by the characters in the game and specifically by the immigrants but does not favor the explicitness and moral questioning of the moral decisions made in most cases. From our perspective, this fact can be extrapolated to most commercial VG. However, the embodiment and action possibilities that VG favor make them really interesting resources for learning. It is for this reason that we highlight the importance of starting from these intrinsic characteristics of VG but favoring an epistemic approach. For this, the development of scaffolding that focuses on these moral aspects is essential. In this way, we call for research on VG to cover the importance of favoring these uses that promote players to rethink their morality.

Appendix

Appendix 1

Table 6 Examples for each category of analysis

Dimensions	Categories		Examples
Moral Foundations	Care/Harm	Care	Our family members may get sick. Do we save part of our salary on food to buy medicine for them?
		Harm	I watched my uncle, my mother-in-law, and my son dies of influenza before accepting bribes from terrorist groups trying to free the country from the oppressive government. No remorse
	Fairness/ Cheating	Fairness	'Papers, Please' brings out the worst and the best in us, tempting us both to help people cross the border
		Cheating	I think the game aims to make you feel the injustice that many people in the world are subjected to , and it succeeds
	Loyalty/ Betrayal	Loyalty	And what is really interesting about this title are the situations in which you have to choose between being an upright worker and loyal to the country or being a bit more permissive or succumbing to bribes or even helping a revolutionary and anti-establishment organization
		Betrayal	Do we accept bribes from now on , or will we have to let go of some of our loved ones for being the perfect patriots?
	Authority/ Subversion	Authority	If you do your job well (because you are being watched), you will earn the minimum wage to keep you and your family alive for another day
		Subversion	In the skin of a customs agent, our mission is to decide who enters your country, and who does not. To do this, we will have to consider the guidelines that we send from the ministry being aware that we can skip them in favor of more humanitarian actions
	Sanctity/ Degradation	Sanctity	'Papers, Please' brings out the worst and the best in us, tempting us both to help people cross the border and be a ruthless civil servant who prides themselves on a job well done
		Degradation	Some of them test your humanity, greed, gullibility, sense of justice, or patriotism
Emotions	Positive	Fun	What's more fun than separating families at the border of a xenophobic country while your family freezes to death in an unheated apartment? NOTHING
		Empathy	Specific characters with different characteristics of their own, some of them test your empathy "little bit" towards others , telling you to let them pass, followed by certain problems they have (which I wouldn't like to tell you)
		Sympathy	I would describe the experience in one word, hard. On many occasions, you have to decide between a kind stranger, who seems like a great person or having savings in case you have a difficult day, and you cannot buy food for your family

Table 6 (continued)

Dimensions	Categories	Examples
	Negatives	<p>Despair If you get into the characters, you may become desperate to get money to support your family well</p> <p>Doubt At the worst times, we will be tempted to accept bribes in our position as civil servants. What should we do?</p> <p>Indifference ‘Papers, Please’ forces us to work faster and faster and become increasingly cold to the raw stories of those who wish to enter Arstotzka in search of a better life</p> <p>Sadness Your family is important, but it hurts to deny help to others</p> <p>Repentance It makes you take decisions for which you feel guilty or bad about yourself due to the repercussions they have</p>
	Nonspecific	Many times, you will pass up people even if they have EVERYTHING wrong with them because they will give you some reward, out of obligation, or simply touch your heart
Moral reasoning	Moral reasoning	Tremendously addictive. It can make you obfuscate and absorb you in that post and feel pity if when someone is presented with an emotional speech, you are forced to reject their entry due to a defect in the documentation. But if you let it pass, you will be sanctioned. And if you get sanctioned, you stop making money. And if you don’t make money, your mother-in-law dies
Social system	Social system involved	<p>Family Put morale aside. Keep your family alive</p> <p>State Will you generate a revolution to bring the country to a better place, or will you be loyal to your favorite Orwellian government?</p> <p>Immigrants Victim Raising issues that we never imagined could make us think, we must deal with rejecting immigrants who tearfully beg for a stamp of approval as an escape from a country where their death is certain or separating families because some have the right documentation and others do not</p> <p>Threat Will you let this woman fleeing from the mafia who does not have a valid passport pass through because you feel sorry for her, and pay a fine for failing the registration because you have taken pity on her...or are you suspicious because she may be a terrorist or a forger?</p>
	Conflict	A man who is persecuted by a murderer asks you for political asylum even though his papers are not in order, do you ignore the penalty on your salary that this entails, or do you categorically do your job by condemning him to his fate?

Table 6 (continued)

Dimensions	Categories	Examples	
Conduct adopted	Pro-social	Within the first hour of play, I was already feeling the pressure not to fail my inspections and to bring enough money home so that my family would not go hungry or cold	
	Anti-social	What's more fun than separating families at the border of a xenophobic country while your family freezes to death in an unheated apartment? NOTHING	
Topics	In the game	Welfare and security	In the first hour of the game, I already felt the pressure of not failing my inspections and bringing enough money home so that my family would not go hungry or cold . After a few days, the rent of the house goes up, and you need to get some extra income
		Bureaucracy	The moment you stamp the first stamp on a citizen's passport , you feel you are part of an unpleasant authoritarian machine that, despite being fictitious, has all the weight of those that existed, exist, and, unfortunately, will exist
		Power of the nation	To do so, we will have to consider the guidelines sent to us by the ministry , being aware that we can skip them in favor of more humanitarian actions
		Inequality	I think the game aims to make you feel the injustice that many people in the world are subjected to , and it succeeds
	Crimes	Bribery	If someone who does not meet the entry requirements offers you a deal in exchange for you letting them in , would you do it?
		Illegitimacy	What is interesting in this title are the situations in which you have to choose between being an upright worker and loyal to the country or being a little more permissive or succumbing to bribes or even helping a revolutionary and anti-establishment organization
		Cheating at the border	But not everything is so simple: there will be those who will try to trick you to enter for not very laudable purposes , such as prostitution, terrorism, or escape from a crime
Transfer	The historical context that parodies this is an exact copy of the cold war and the Berlin Wall , a world divided into 2, being slaves on one side and the other, and where we have a very precarious position. We are protagonists and co-protagonists in the various short stories of each civilian seeking to cross the border		
Observer type	Customs inspector	Raising issues that we never imagined could make us think, we must deal with rejecting immigrants who, with tears in their eyes, beg us for a stamp of approval to escape from a country where their death is certain or even to separate families because some have the correct documentation and others do not	

Table 6 (continued)

Dimensions	Categories	Examples
	Third-person	[...] Under this "innocent" premise lies a game that will make you think more than once about double morals , what is right and what is wrong, how empathetic you must be, and how much it costs to be so

Appendix 2

Table 7 Frequency of occurrence of each analysis category

Categories of analysis			Frequency	%
Moral Foundations	Care/Harm	Total	36	43.90
		Care	28	34.15
		Harm	15	18.29
	Fairness/ Cheating	Total	18	21.95
		Fairness	10	12.20
		Cheating	11	13.41
	Loyalty/ Betrayal	Total	13	15.85
		Loyalty	12	14.63
		Betrayal	3	3.66
	Authority/ Subver- sion	Total	28	34.15
		Authority	18	21.95
		Subversion	16	19.51
	Sanctity/ Degrada- tion	Total	5	6.10
		Sanctity	4	4.88
		Degradation	1	1.22
Emotions	Positive	Total	12	14.63
		Fun	5	6.10
		Empathy	2	2.44
		Sympathy	7	8.54
	Negatives	Total	40	48.78
		Despair	11	13.41
		Doubt	23	28.05
		Indifference	6	7.32
		Sadness	5	6.10
	Nonspecific	Repentance	3	3.66
			12	14.63
Moral reasoning			2	2.44
Social system	Social system involved	Family	24	29.27
		State	35	42.68
		Immigrants	Total	39
		Victim	19	23.17
		Threat	11	13.41
		Conflict	68	82.93
Conduct adopted	Pro-social	35	42.68	
	Anti-social	21	25.61	

Table 7 (continued)

Categories of analysis			Frequency	%
Topics	In the game	Welfare and security	35	42.68
		Bureaucracy	31	37.80
		Power of the nation	15	18.29
		Inequality	8	9.76
		Crimes	Total	18
		Bribery	10	12.20
		Illegitimacy	9	10.98
		Cheating at the border	9	10.98
		Transfer	7	8.54
	Observer type	Customs inspector	60	73.17
Third person		23	28.05	

Reviews could be represented in several categories, and they were exclusive in no case. Sometimes the reviews could not be coded in the subcategories due to a lack of information.

Appendix 3

Table 8 Factor weights for each of the categories introduced in the EFA for each of the factors

	F1			F2			F3		
	Est	S.E	P	Est	S.E	P	Est	S.E	P
Conflict	0.69	0.19	0.000	-0.36	0.22	0.106	0.01	0.02	0.609
Negative emotions	0.35	0.20	0.073	0.76	0.12	0.000	-0.01	0.02	0.485
Positive emotions	-0.62	0.22	0.005	0.02	0.14	0.890	0.09	0.25	0.722
Non-specific emotions	-0.22	0.24	0.358	-0.61	0.19	0.002	-0.04	0.20	0.851
Anti-social behavior	0.71	0.22	0.001	-0.01	0.11	0.951	0.04	0.24	0.868
Pro-social behavior	0.17	0.21	0.430	-0.22	0.19	0.233	0.29	0.17	0.101
Customs inspector	0.06	0.21	0.770	-0.11	0.20	0.590	0.57	0.16	0.000
State	0.03	0.07	0.720	-0.63	0.16	0.000	0.51	0.16	0.001
Family	0.03	0.11	0.780	0.81	0.21	0.000	0.83	0.17	0.000
Immigration	-0.43	0.23	0.061	0.01	0.02	0.805	0.95	0.14	0.000
Welfare and security	-0.02	0.06	0.730	0.53	0.21	0.010	1.00	0.14	0.000
Bureaucracy	-0.40	0.22	0.066	-0.09	0.19	0.637	0.82	0.16	0.000
Inequality	-0.05	0.27	0.840	0.33	0.26	0.199	0.54	0.21	0.012
Crimes	0.13	0.23	0.560	0.11	0.20	0.584	0.50	0.16	0.002
Power of the nation	-0.04	0.19	0.840	0.03	0.18	0.887	0.72	0.12	0.000

Acknowledgements We wish to thank Ricardo Olmos for sharing his statistical knowledge with us. We would like to appreciate Krystyna Sleziak her support in preparing the English version of the paper.

Funding Open Access funding provided thanks to the CRUE-CSIC agreement with Springer Nature. This work has been supported by the Ministry of Science and Innovation of Spain [PID2020-114177RB-I00].

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Addo, P. C., Fang, J., Kulbo, N. B., Gumah, B., Dagadu, J. C., & Li, L. (2021). Violent video games and aggression among young adults: The moderating effects of adverse environmental factors. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 17–23. <https://doi.org/10.1089/cyber.2020.0018>
- AEVI (2019). *Anuario 2018. La industria del videojuego en España* [2018 yearbook. The VG industry in Spain]. Retrieved from http://www.aevi.org.es/web/wp-content/uploads/2021/04/AEVI_Anuario_2020.pdf. Accessed 2022/05/04
- Aguado, L. (2005). *Emoción, afecto y motivación* [Emotion, affection and motivation]. Alianza editorial.
- Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., Rothstein, H. R., & Saleem, M. (2010). Violent VG effects on aggression, empathy, and prosocial behavior in Eastern and Western countries: A meta-analytic review. *Psychological Bulletin*, 136(2), 151–173. <https://doi.org/10.1037/a0018251>
- Barzilai, S. (2017). “Half-reliable”: A qualitative analysis of epistemic thinking in and about a digital game. *Contemporary Educational Psychology*, 51, 51–66. <https://doi.org/10.1016/j.cedpsych.2017.06.004>
- Barzilai, S., & Blau, I. (2014). Scaffolding game-based learning: Impact on learning achievements, perceived learning, and game experiences. *Computers & Education*, 70, 65–79. <https://doi.org/10.1016/j.compedu.2013.08.003>
- Benson, R. (2013). *Shaping immigration news*. Cambridge University Press.
- Bourgonjon, J., Wever, B. D., Soetaert, R., & Valcke, M. (2015). Players “ perspectives on the positive impact of video games. *New Media and Society*, 1(1), 1–18. <https://doi.org/10.1177/1461444815569723>
- Bourke, M., Kinsella, W., & Prendeville, P. (2020). The implementation of an ethical education curriculum in secondary schools in Ireland. *Education Sciences*, 10(1), 14. <https://doi.org/10.3390/educsci10010014>
- Boyle, E. A., Hainey, T., Connolly, T. M., Gray, G., Earp, J., Ott, M., Lim, T., Ninaus, M., Ribeiro, C., & Pereira, J. (2016). An update to the systematic literature review of empirical evidence of the impacts and outcomes of computer games and serious games. *Computers & Education*, 94, 178–192. <https://doi.org/10.1016/j.compedu.2015.11.003>
- Burak, A., & Parker, L. (2017). *Power play: How video games can save the world*. Martin's Press.

- Cabellos, B., Sánchez, D. L., & Pozo, J. I. (2021a). Do future teachers believe that video games help learning?. *Technology, Knowledge and Learning*. <https://doi.org/10.1007/s10758-021-09586-3>
- Cabellos, B., L. Sánchez, D., Marín, K., & Pozo, J. I. (2021b). Moral reflection with VG: an approach through spontaneous play with Papers, Please. *INTED2021 Proceedings*, pp 1697–1705. <https://doi.org/10.21125/inted.2021.0384>
- Chen, V. H. H., & Koek, W. J. D. (2020). Understanding flow, identification with game characters and players' attitudes. *ACM International Conference Proceeding Series*, 1–4. <https://doi.org/10.1145/3402942.3409784>
- Clark, D. B., Tanner-Smith, E. E., & Killingsworth, S. S. (2016). Digital games, design, and learning: A systematic review and meta-analysis. *Review of Educational Research*, 86(1), 79–122. <https://doi.org/10.3102/0034654315582065>
- Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication & Society*, 4, 245–264. https://doi.org/10.1207/S15327825MCS0403_01
- Coyne, S. M., & Stockdale, L. (2021). Growing up with Grand Theft Auto: A 10-year study of longitudinal growth of violent video game play in adolescents. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 11–16. <https://doi.org/10.1089/cyber.2020.0049>
- Cuhadar, E., & Kampf, R. (2014). Learning about conflict and negotiations through computer simulations: The case of PeaceMaker. *International Studies Perspectives*, 15(4), 509–524. <https://doi.org/10.1111/insp.12076>
- Darvasi, P. (2016). Empathy, perspective and complicity: How digital games can support peace education and conflict resolution. *UNESCO MGIEP*. Retrieved from https://d1c337161ud3pr.cloudfront.net/files%2Fa4d791cb-792e-4a9a-a0da-554141d4ef08_Working%20Paper%203.pdf. Accessed 2022/05/04
- de Aldama, C., & Pozo, J. I. (2020). Do you want to learn physics? Please play angry birds (but with epistemic goals). *Journal of Educational Computing Research*, 58(1), 3–28. <https://doi.org/10.1177/0735633118823160>
- de Wildt, L., & Aupers, S. (2020). Pop theology: Forum discussions on religion in video games. *Information, Communication & Society*, 23(10), 1444–1462. <https://doi.org/10.1080/1369118X.2019.1577476>
- Edwards, A. L. (1957). *The social desirability variable in personality assessment and research*. Dryden Press.
- Farber, M., & Schrier, K. (2017). The Limits and strengths of using digital games as empathy machines. *UNESCO MGIEP*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000261993>. Accessed 2022/05/04
- Ferguson, C. J., & Wang, C. J. (2021). Aggressive video games are not a risk factor for mental health problems in youth: A longitudinal study. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 70–73. <https://doi.org/10.1089/cyber.2020.0027>
- Fiesler, C., & Proferes, N. (2018). “Participant” perceptions of Twitter research ethics. *Social Media + Society*, 4(1), 1–14. <https://doi.org/10.1177/2056305118763366>
- Formosa, P., Ryan, M., & Staines, D. (2016). Papers, Please and the systemic approach to engaging ethical expertise in video games. *Ethics and Information Technology*, 18(3), 211–225. <https://doi.org/10.1007/s10676-016-9407-z>
- Games for change. (2020). *XR for Social Impact: A Landscape Review*. Council on the Arts.
- Georgiou Y., & Ioannou A. (2019). Embodied Learning in a Digital World: A Systematic Review of Empirical Research in K-12 Education. In P. Díaz, A. Ioannou, K. Bhagat & J. Spector (Eds.). *Learning in a Digital World. Smart Computing and Intelligence*. Springer. https://doi.org/10.1007/978-981-13-8265-9_8
- Gill, S., & Thompson, G. (2021). Ethical education. Towards an ecology of human development. *International Journal of Ethics Education*, 6, 209–211. <https://doi.org/10.1007/s40889-020-00108-w>
- Gómez, E. L. (2017). Educación en valores [Education in values]. *RAITES*, 3(6), 69–89. Retrieved from <http://www.itc.mx/ojs/index.php/raites/article/view/720/667>. Accessed 2022/05/04
- González-Portal, M. D. (2000). *Conducta prosocial: Evaluación e Intervención* [Prosocial behavior. Assessment and intervention]. Morata.
- Goodson, S., Turner, K. J., Pearson, S. L., & Carter, P. (2021). Violent video games and the P300: No evidence to support the neural desensitization hypothesis. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 48–55. <https://doi.org/10.1089/cyber.2020.0029>
- Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). Lawrence Erlbaum.

- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814–834. <https://doi.org/10.1037/0033-295X.108.4.814>
- Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. Vintage.
- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
- Krcmar, M., & Cingel, D. P. (2016). Moral foundations theory and moral reasoning in VG play: Using real-life morality in a game context. *Journal of Broadcasting & Electronic Media*, 60(1), 87–103. <https://doi.org/10.1080/08838151.2015.1127246>
- Liew, J. S. Y., & Turtle, H. R. (2016). Exploring fine-grained emotion detection in tweets. *Proceedings of the NAACL Student Research Workshop*, 73–80. <https://doi.org/10.18653/v1/N16-2011>
- Lindgren, R., & Johnson-Glenberg, M. (2013). Emboldened by embodiment: Six precepts for research on embodied learning and mixed reality. *Educational Researcher*, 42(8), 445–452. <https://doi.org/10.3102/0013189X13511661>
- Lönnqvist, J.-E., Paunonen, S., Nissinen, V., Ortju, K., & Verkasalo, M. (2011). Self-Enhancement in military leaders: Its relevance to officer selection and performance. *Applied Psychology: An International Review*, 60, 670–695. <https://doi.org/10.1111/j.1464-0597.2011.00452.x>
- López-Fernández, F. J., Mezquita, L., Etkin, P., Griffiths, M. D., Ortet, G., & Ibáñez, M. I. (2021). The role of violent video game exposure, personality, and deviant peers in aggressive behaviors among adolescents: A two-wave longitudinal study. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 32–40. <https://doi.org/10.1089/cyber.2020.0030>
- Mayer, R. E. (2019). Computer games in education. *Annual Review of Psychology*, 70, 531–549. <https://doi.org/10.1146/annurev-psych-010418-102744>
- McKernan, B. (2019). Digital Texts and Moral Questions About Immigration: Papers, Please and the Capacity for a VG to Stimulate Sociopolitical Discussion. *Games and Culture*, 1–24. <https://doi.org/10.1177/1555412019893882>
- Medeiros, B. G. D., Pimentel, C. E., Sarmet, M. M., & Mariano, T. E. (2020). “Brutal Kill!” Violent video games as a predictor of aggression. *Psico-USF*, 25(2), 261–271. <https://doi.org/10.1590/1413-82712020250205>
- Mo, P. K., & Coulson, N. S. (2008). Exploring the communication of social support within virtual communities: A content analysis of messages posted to an online HIV/AIDS support group. *Cyberpsychology & Behavior*, 11(3), 371–374. <https://doi.org/10.1089/cpb.2007.0118>
- Passmore, H. A., & Holder, M. D. (2014). Gaming for good: VG and enhancing prosocial behaviour. In J. Graham (Ed.), *VG: Parents' Perceptions, Role of Social Media and Effects on Behavior*, January (pp. 141–166). Nova Science Publishers.
- Peña, J., & Hernández Pérez, J. F. (2020). Game perspective-taking effects on willingness to help immigrants: A replication study with a Spanish sample. *New Media & Society*, 22(6), 944–958. <https://doi.org/10.1177/1461444819874472>
- Peña, J., Hernández Pérez, J. F., Khan, S., & Cano Gómez, Á. P. (2018). Game Perspective-Taking Effects on Players' Behavioral Intention, Attitudes, Subjective Norms, and Self-Efficacy to Help Immigrants: The Case of “Papers, Please.” *Cyberpsychology, Behavior, and Social Networking*, 21(11), 687–693. <https://doi.org/10.1089/cyber.2018.0030>
- Pope, L. (2013). *Papers, Please* [Computer game] Retrieved from: https://store.steampowered.com/app/239030/Papers_Please/. Accessed 2022/05/04
- Pozo, J. I. (2017). Learning beyond the body: from embodied representations to explicitation mediated by external representations. *Infancia y Aprendizaje*, 40(2), 219–276. <https://doi.org/10.1080/02103702.2017.1306942>
- Prescott, A. T., Sargent, J. D., & Hull, J. G. (2018). Metaanalysis of the relationship between violent video game play and physical aggression over time. *Proceedings of the National Academy of Sciences*, 115(40), 9882–9888. <https://doi.org/10.1073/pnas.1611617114>
- Puig, J. M. & Martín, M. J. (1998). *La educación moral en la escuela* [Moral education at school]. Edebé.
- Rossini, V., & Peiró-i-Gregòri, S. (2015). Educación en valores en la escuela italiana y española, desde la perspectiva de educar ciudadanos [Education in values at italian and spanish schools, from the perspective of educating citizens]. *Revista Electrónica Interuniversitaria De Formación Del Profesorado*, 18(3), 113–125. <https://doi.org/10.6018/reifop.18.3.190031>
- Rowlands, M. (2010). *The new science of the mind*. MIT Press.
- Schein, C. (2020). The importance of context in moral judgments. *Perspectives on Psychological Science*, 15(2), 207–215. <https://doi.org/10.1177/1745691620904083>
- Sicart, M. (2011). Against proceduralism. *Game studies*, 11(3). Retrieved from http://www.gamestudies.org/1103/articles/sicart_ap. Accessed 2022/05/04

- Sofia, F. M., & Klimenko, M. A. (2019). Hey! Listen! Just because it's violent doesn't mean it's immoral. *Psychology of Popular Media Culture*, 8(3), 251–258. <https://doi.org/10.1037/ppm0000171>
- UNESCO. (2017). UNESCO moving forward the 2030 Agenda for Sustainable Development. *Sustainable Development Goals*. Retrieved from: <https://en.unesco.org/creativity/sites/creativity/files/247785en> Accessed 2022/05/04
- Zhang, Q., Cao, Y., & Tian, J. (2021). Effects of violent video games on aggressive cognition and aggressive behavior. *Cyberpsychology, Behavior, and Social Networking*, 24(1), 5–10. <https://doi.org/10.1089/cyber.2019.0676>

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Authors and Affiliations

Beatriz Cabellos¹  · Juan-Ignacio Pozo¹  · Kevin Marín-Rubio²  · Daniel L. Sánchez¹ 

Juan-Ignacio Pozo
nacho.pozo@uam.es

Kevin Marín-Rubio
kmrkevin@uoc.edu

Daniel L. Sánchez
daniel.l.sora@protonmail.com

¹ Department of Basic Psychology, Faculty of Psychology, Autonomous University of Madrid, Ivan Pavlov, 6, 28049 Madrid, Spain

² Arts and Humanities Studies, Universitat Oberta De Catalunya, Barcelona, Spain