Article

Journal of Humanistic Psychology
1–31

DOI: 10.1177/0022167816686263
journals.sagepub.com/home/jhp


Imaginative Role-Playing as a Medium for Moral Development: Dungeons & Dragons Provides Moral Training

Jennifer Cole Wright[1], Daniel E. Weissglass[1], and Vanessa Casey[1]

Abstract

This study investigates the use of imaginative role-play games to sponsor positive development in young adult moral reasoning. Twelve college students participated in six approximately 4-hour gaming sessions using a customized game system based on Dungeons & Dragons™ (D&D, 1974, 4th ed.). The games contained embedded social/moral dilemmas (e.g., whether to torture a prisoner for information) that participants encountered and had to work through as a group. Significant growth in moral development, as measured with the Defining Issues Test and the Self-Understanding Interview was demonstrated in the gaming groups, but was not replicated in two control groups, who did not participate in the gaming sessions. This suggests that imaginative role-play gaming structures can function as an engaging, interactive "moral training ground," a medium that promotes moral development, and highlights the difference between antisocial and prosocial violence.

Keywords

imaginative role-playing games, moral reasoning, moral development

[1]College of Charleston, Charleston, SC, USA

Corresponding Author:
Jennifer Cole Wright, Department of Psychology, College of Charleston, 57 Coming Street, Charleston, SC 29424, USA.
Email: wrightjj1@cofc.edu

There has been considerable public discussion about the impact of "gaming"—both in the form of imaginative role-playing and video games—in adolescents' and young adults' lives, the dominant concern being that they promote antisocial and/or immoral behavior. These concerns are not without empirical support. For example, violent fantasy play in children has been found to correlate with poor cognitive measures, antisocial behaviors, lower empathy, and greater conflict with friends (Dunn & Hughes, 2001) and young boys who play violent video games display more aggression toward physical objects during free-play and interpersonal aggression during social conflicts (Irwin & Gross, 1995). Adolescents who play violent video games are more likely to endorse norms condoning physical aggression (Krahé & Möller, 2004); exposure to video-game violence predicts later physical aggression (Möller & Krahé, 2009), and aggressive behavior and violent video game playing are mutually reinforcing, leading to more aggressive behavior over time (Slater, Henry, Swaim, & Anderson, 2003).

While the bulk of these negative findings have involved video games specifically, imaginative role playing games—like Dungeons & Dragons (D&D; Gygax & Arneson, 1974)—have also been the subject of controversy. Some argue that they are dominated by violent fantasies and lead to antisocial behavior (Grant & Leithart, 1988; Schnoebelen, n.d.). They have also been held responsible for abductions, runaways, suicides, and murders. The controversy even led to the creation of a film ("Mazes and Monsters," 1982, which was based on Raffe, 1981, but see also Dear, 1984; Waters, 2004) that depicted the alleged dangers involved with role-playing games. These concerns have also affected public policy: recently, D&D materials were confiscated from a prisoner in Wisconsin on the grounds that it would ". . . lead to gang behavior and fantasies of escape" (J. Schwartz, 2010) and the Israeli Defense Force developed a policy of refusing high security clearance to D&D players on the grounds that they were easily influenced and that the hobby indicated a "weak personality" (Greenberg, 2005).

Yet despite public concern, there have also been a range of studies that have failed to find a connection between different forms of gaming and negative outcomes. Specifically, researchers failed to find a relationship between video games and violence—whether in the form of increased hostility in teens (Ferguson et al., 2016), decreased prosocial behavior (Tear & Nielsen, 2013), or reductions in empathy (Ferguson et al., 2015). Nor have solid links been found between the increased popularity of violent video games (measured in sales) and more serious forms of aggression, such as aggravated assault and homicides—indeed, if anything, increased sales was found to precede decreases in serious violence (Markey, Markey, & French, 2015).

Likewise, there is little empirical evidence for the negative effects of imaginative role-playing games. Studies have found no evidence for increased antisocial behaviors or emotional instability in imaginative role-players (Simon, 1987, 1998). Furthermore, others have claimed that the game has therapeutic value—for example, Blackmon (1994) used D&D as a form of treatment for a suicidal youth, arguing that such gaming structures provide patients with the opportunity to "explore their mental dungeons and slay their psychic dragons" (p. 631).

We are interested specifically in whether imaginative role-playing games can function as a medium for moral development. Given what is known about cooperative pretend play and role-playing in general, there is reason to think it can. For one, cooperative pretend play allows children to engage in the co-construction of shared social meaning and understanding (Farver, 1992; Howes, 1992; Verba, 1993) and the autonomous negotiation of social rules (Curran, 1999; DeVries & Kamii, 1975; Rakoczy, 2008). Pretend play is associated with positive emotional expression/regulation and social interactions, reflecting a pattern of prosocial behavior (Fein, 1981; Garvey, 1990) and increased social competence (Uren & Stagnitti, 2009). And, due to the paradoxical nature of pretend play, children must explain the situation and distinguish between fantasy and reality, facilitating mental-state awareness and perspective taking (Hughes & Dunn, 1997; Lillard, 1993), which is associated with reduced egocentricity and increased empathy (DeVries & Kamii, 1975; Li, 1985; Papastathopoulos & Kugiumutzakis, 2007; Sutherland, 1985). Like cooperative pretend play, imaginative role-playing games generate communities of players that have to work together to achieve the goals, maintain/protect the values, and uphold the commitments generated/identified by the group. This encourages morally relevant interaction at two levels: first, the group members must cooperate and otherwise behave in ways that are supportive of and loyal to their fellow-group members and second, to the extent that the game itself involves morally relevant decision making (e.g., should we try to negotiate peacefully with members of an out-group or just attack them?), it requires a collective discussion and negotiation of social and moral norms and active moral decision making within the context of the game.

Both these have been shown, in nonimaginative formats, to facilitate moral development. For example, studies have shown that active discussion, perspective taking, and role-playing with respect to social/moral dilemmas with one's peers can lead to improved moral decision making (Arbuthnot, 1975; Blatt & Kohlberg, 1975; Comunian & Gielen, 2006; Lind, 2000; Mason & Gibbs, 1993; Matefy & Acksen, 1976; Self, Olivarez, & Baldwin, 1998; Walker, 1980). And studies conducted with school-based "just

communities," where students are encouraged to work together in groups to deliberate about and resolve issues that arise in their schools, have shown that student-driven democratic deliberation results in the development and defense of shared norms and the adoption of personal responsibility for the goals, commitments, and values of one's group (Power, 2004; Power & Higgins-D'Alessandro, 2008; Power, Higgins, & Kohlberg, 1989).

Studies have also found positive developmental effects for video-game playing (Ferguson, 2010). Sherer (1994, 1998) found that computerized simulation games facilitated moral development in adolescents along several dimensions. And Gentile et al. (2009; see also, Saleem, Anderson, & Gentile, 2012a, b) found that children and adolescents who frequently play video games with prosocial content (e.g., helping others) behaved more prosocially in the moment (under both observational and experimental conditions) and 3 to 4 months later. While this research is promising, it is limited in scope—for example, the prosocial games used did not control for the level of violence (e.g., fighting)—and no one that we know of has explored D&D as a potential moral training ground.

The flexibility and range of gaming structures like D&D make them exceptional instructive tools and a natural vehicle for moral development (Matefy & Acksen, 1976; Sherer, 1998). Games in general are developmentally powerful, teaching new paradigms of thought, principles of logic, and cooperative practices (Piaget, 1948; Sherer, 1998). Imaginative fantasy games like D&D provide the additional benefit of allowing players to experience social interactions that go beyond their normal range of experiences—for example, giving them opportunities for large-scale diplomatic solutions, economic transactions, and missions of mercy. Such games create opportunities for the players to actively work through morally relevant scenarios, many of which they are not likely to encounter in their daily lives, helping to activate different levels of moral understanding (Narvaez & Bock, 2002; Narvaez & Lapsley, 2009).

Players must act in concert with others, creating opportunities for ethical dialogue and debate—something that has been shown to foster development in moral decision making by helping people to shift from "personal interest"–centered reasoning to more principled (postconventional) moral reasoning (Blatt & Kohlberg, 1975; Narvaez & Lapsley, 2009). Role-playing games like D&D may likewise be able to foster development through the exploration of social/moral dilemmas in an imaginative fantasy context. This context allows for a richer engagement, one in which characters come alive with personalities and life-narratives are developed, narratives that include the interweaving of positive and negative moral attributes and within which the moral dilemmas encountered become less hypothetical and more realistic and

concrete. This not only brings to the surface the underlying moral schemas most salient for the individual players—schemas that function as lenses through which players interpret and negotiate the scenarios they encounter—but it also provides a rich and meaningful context within which to explore the consequences of these schematic perspectives, providing the potential for shifts in perspective and comprehension (Narvaez, 2001; Narvaez & Bock, 2002; Narvaez, Gleason, Mitchell, & Bentley, 1999).

Imaginative role-playing also allows for the development of and interaction with embodied "heroes/heroines" and "villains/villainesses" whose narratives evolve during the course of the game, allowing the players to explore how particular character traits (virtues and vices) interact with features of a given environment to produce morally relevant actions—including whether those actions, when they involve violence, count as prosocial (e.g., fighting to save innocent lives) or antisocial (e.g., fighting to wipe out a village to take over their land). Starting around adolescence, young adults often grapple with understanding the relationship between violent actions such as fighting and heroism (McCrary, 1999) and exploring "hero/heroine" narratives has been found to facilitate shifts in perspective in their interpretation/understanding not only of what constitutes a "hero/heroine" (White & O'Brien, 1999) but also how those qualities are reflected in their own life narratives (Conle & Boone, 2008).

Recent research in moral development has used personal life narratives to identify the role of people's value-orientations in their moral functioning. This research suggests that for most of us valuing the promotion of our own self-interest and valuing the promotion of other's interests often come into tension with one another, with the former typically dominating the other. For moral exemplars, on the other hand, these two "opposing" value-orientations become reconciled—and, thereby integrated into one coherent motivational structure (Frimer, Walker, Dunlop, Lee, & Riches, 2011). College students who displayed morally appropriate behaviors also displayed a greater degree of value-orientation integration (Frimer & Walker, 2009). In other words, these studies suggest that mature moral functioning is not achieved through the devaluing of one's own self-interests relative to the interests of others, but rather through the achievement of an "enlightened self-interest," which involves the integrated pursuit of both sets of interests (Frimer et al., 2011; Frimer & Walker, 2009).

Imaginative role-playing games require players to make decisions that promote both their own (and their characters') self-interests at the same time as promoting/protecting the interests of their imaginative teammates, alongside the often competing interests of other characters encountered during the gaming sessions. In addition, it requires players to develop and maintain a

unique individual character identity, while at the same time co-creating a meaningful group identity that possesses its own evolving characteristics. Insofar as the gaming experience allows them to practice the balancing of their own character's interests with those of the other characters in the game in order to achieve (morally relevant) mutually beneficial ends, it seems ideally placed to help promote the sort of personal agency and community value integration that facilitates moral development.

The recreational nature of role-playing games provides an additional benefit. Research examining the effectiveness of training programs has found that those structured around "intrinsically motivating activities" are by far the most effective and that the intrinsic motivation of enjoyment prevents attrition and motivates matriculation into a program (Ward, Hodges, Starkes, & Williams, 2007). At the same time, people are less guarded and more open to change during game-play. Together, these factors make imaginative gaming ideal for introducing different perspectives (Sherer, 1998).

With this in mind, we hypothesized that participating in an imaginative role-playing game that contained embedded social/moral dilemmas would foster participants' moral development, beyond the level of development we might expect through education and maturation (Rest & Thoma, 1985). This study represents a first attempt to explore this hypothesis. More specifically, we expected to see two things: (1) some degree of advancement in participants' moral reasoning, as reflected in a reduction in lower level schema reasoning and/or an increase in mid- and higher level schema reasoning (as measured by the Defining Issues Test–2 [DIT-2]) and (2) a shift in participants' value-orientation away from their own "unmitigated" self-interest and toward the interests of others—and, at least to some degree, a sign of the integration of these competing interests (as measured by the Self-Understanding Interview [SUI]).

Method

Participants

For the game condition, two groups of participants were selected: one during the fall semester (4 males, 2 females; all Caucasian; 1 freshman, 3 sophomores, and 2 juniors) and another during the spring semester (4 males, 2 females—with 1 male participant having to withdraw after the first session, leaving 3 males and 2 females; 1 African American, 4 Caucasian; 1 freshman, 1 sophomore, 1 junior, and 2 seniors). Combined together, 43% of the males and 75% of the females in the gaming group were underclassmen (freshmen/sophomores). Of the gamers, three from the fall semester and three from the

spring semester had some previous experience playing role-playing games (e.g., D&D), the others had none.

There were also two nongaming groups in the fall (3 males, 9 females; all Caucasian; 2 freshman, 2 sophomores, 4 juniors, and 4 seniors) and two in the spring (8 females; 2 African Americans, 6 Caucasian; 2 freshman, 3 sophomores, 2 juniors, and 1 senior). Combined together, 33% of the males and 47% of the females in the nongaming group were underclassmen (freshmen/sophomores).

All participants were undergraduates at a southern university that were recruited by campus e-mail and posted advertisements and received financial reimbursement for their participation (the gaming participants received $200 for the semester, the nongaming participants either $20 or $50, depending on the group).

Materials

All gaming participants were provided with a 30-page instruction booklet, which contained a discussion of the gaming rules, a map and the background history of the fantasy world involved, and a breakdown of the characteristics necessary for developing a gaming character. During the gaming session, all participants used a standard D&D 20-sided die (which was used to introduce an element of randomization) and a "battle map" was used during gaming combat encounters.

All gaming and one set of nongaming group participants also engaged in weekly online journaling, which asked them open-ended questions either about that week's gaming experience (gaming group) or about that week's college experience (nongaming group). Specifically, the gaming participants were asked questions about (1) their level of enjoyment and engagement in the game, (2) their relationships with their own (how they feel about their character) and with other characters in the game, (3) specific positive/negative encounters with other characters they had during the game, and (4) session-specific questions. The nongaming participants were asked questions designed to mirror as closely as possible those asked of the gaming students, so they were asked questions about (1) their level of enjoyment and engagement in their classes and daily life, (2) their relationships with themselves (how they feel about themselves) and with their friends and family, and (3) specific positive/negative encounters with other people they had during the week. In short, the journaling sessions for both groups were designed to encourage participants to reflect on themselves and their relationships with others, either within the context of the game (as their characters) or the broader context of college life. The second nongaming group did not participate in the weekly journaling.

In addition, all three groups completed surveys that included the measures discussed below both at the beginning (presurvey) and at the end (postsurvey) of the semester. Both groups committed in writing to complete their journals and surveys in a private location, free from distractions as a part of their contract to participate in the study and then reconfirmed the time/location of the completion of their surveys and weekly journals at the time of completion. We also monitored participants' IP addresses, to verify that they were using their own private computers to complete the online materials (not computers located in public locations, such as the college library).

Measures

Moral Reasoning

Moral reasoning was measured using the DIT-2 (Bebeau & Thoma, 2003; Rest, Narvaez, Thoma, & Bebeau, 1999), the reliability and validity of which has been well established (for details, go to http://ethicaldevelopment.ua.edu/about-the-dit.html). The DIT-2 provides scores on several different levels of moral reasoning: the *Personal Interest* schema (23-score), which measures people's tendency to focus on personal interests and the maintenance of relationships when making moral decisions; the *Maintaining Norms* schema (4P-score), measuring the focus on maintaining the "status quo" (i.e., existing norms, laws, roles, and organizational structures); the *Postconventional* schema (P-score), measuring the focus on consensus-producing procedures, protecting rights, and society-transcending moral ideals; and the N2-score, measuring the degree to which people prioritize higher level reasoning (P-score) and deprioritize lower level reasoning (23-score).

Moral development, according to this view, involves a reduction in Personal Interest schema reasoning, where one's cognition is dominated by one's own personal interests, and an increase (around adolescence) in Maintaining Norms schema reasoning, which involves an appreciation for the importance of social norms/rules and cooperation, and ultimately the use of Postconventional schema reasoning, which uses principled reasoning that incorporates universally shared ideals and full reciprocity.

In addition to scores on the specific schemas people employ, the DIT-2 also provides a Type score, indicating the developmental profile people's moral reasoning best exemplifies. It includes not only which schema is most dominant in their reasoning but also whether their reasoning is "consolidated" or "transitional" (i.e., clearly distinguishes between the schema-typed items available to them or not). For example, people who display consolidated Postconventional reasoning are more developmentally advanced than people who display transitional Postconventional reasoning.[1]

The DIT-2 was administered to all participants both at the beginning of the semester, before the gaming and/or journaling sessions began, and then again at the end of the semester. We administered the DIT-2 through an online survey that included the DIT-2 along with a variety of other questionnaires (we did this to mask the purpose of the survey) and then their answers were transferred to the DIT-2 bubble-sheets and sent in for coding by the Bebeau & Thoma (2003). The online version of the DIT-2 was designed to look as much like the paper version of the DIT-2 as possible. Participants were required to fill the surveys out in a private location (using their own personal computers), free from distractions.

Value Orientation

We used the SUI (Frimer & Walker, 2009), which is a newly developed adaptation of work by Damon and Hart (1988), McAdams (2001), and S. H. Schwartz (1992), to gather participants' qualitative narratives about themselves, their lives, and their values. As a part of the pre- and postsurvey (gathered at the same time as the DIT-2), we asked participants to answer 15 questions (see Appendix A).

These qualitative responses (on average between 23 and 59 words per question) were coded separately by the first author and another research assistant, according to the Values Embedded in Narrative coding manual (which reports overall Cohen's kappas [κs] of .70 for their interviews—ranging between .57 and .79 for each coded value—can be found here: http://www.jeremyfrimer.com/research-downloads.html; Frimer, Walker, & Dunlop, 2009), for evidence of agency and community values within their narratives. In particular, we used the Promoting Interests Scheme, which measures S. H. Schwartz's (1992) value-orientations of "self-enhancement" (agency) and "self-transcendence" (community). *Self-enhancement* coded for the presence of two values (*power*/*achievement*) related to people's motivation to enhance/promote their own interests (which manifests in narrative themes of desire for social power, dominance, material wealth, and achievement); *Self-transcendence* coded for the presence of two values (*universalism*/*benevolence*) related to people's motivation to enhance/promote the interests of others (which manifests in narrative themes of benevolence, interpersonal concern, social justice, and ecological preservation).

We coded for the presence of all four of these values (1 = *present*, 0 = *absent*) in each question. Under the rare circumstances that more than one distinct example of a value appeared in the same question, we coded for that value more than once (e.g., if a participant cited both their competitiveness and their love of material possessions, this would be coded as a "2" for the

value of "power"). We then combined the scores for each value across all 15 questions to create a composite score for each value. Finally, we combined the "power/achievement" value scores to generate a Self-enhancement (agency) score and the "benevolence/universalism" for a Self-transcendence (community) score. Our interrater coding reliability was strong, ranging from $\alpha = .73$ to .90. Examples of coding are included in Appendix B.

When Self-enhancement and Self-transcendence were both scored for in the same question, this was coded as their *Integration* score (their level of integration of agency and community). This gave us tallies for the frequency with which participants expressed agency, community, and integrated values. To further explore the degree to which they displayed an integration of agency and community values, we calculated a *Conditional Probability* score (Frimer et al., 2009), which divided their Integration score by their total values score, indicating the degree to which the participants integrated their agency and communion values relative to the number of opportunities that they had to do so. We also calculated a *Deviation* score (Frimer et al., 2011, Note 6), which subtracted participants' Integration score from their expected integration (the expected integration being participants' overall levels of agency and community multiplied together and divided by the number of questions). Finally, we created an *Unmitigated Agency* score, which subtracted participants' Integration score from their Self-enhancement score (Frimer & Walker, 2009).[2]

Procedure

Participants were gathered through advertisements e-mailed through student list-serves and posted across campus. For the gaming part of the study, students were informed that the project was to study "group and individual decision making and identity formation in imaginary role-play contexts" and were invited to attend an evening informational session. At the session, they were given a book detailing the game rule set and the fictional world. A custom rule set was used to minimize the significance of prior gaming experience and to make it possible for new players to master the system quickly. The system used was based on a simplification of the rules used for D&D 4th edition, with changes made to ensure that inexperienced players would be able to participate and to avoid infringement on the intellectual property of Wizards of the Coast™. Participants were informed that the fictional world of the game would have them becoming members of the Northfield Adventuring Company (Northfield being the largest city north of Co-Ul, the capital of the Co-Ul Empire in the magic world of Aetherun), hired as independent contractors to perform tasks that required their "special talents."

Everyone interested in participating in the study submitted a developed character proposal online by a given deadline, which involved the development of a gaming character along the eight parameters established in the instruction booklet (race, nationality, religion, statistics, class, background, equipment, appearance). As an example, options available for "race" were Dragonborn, Dwarf, Eladrin, Elf, Half-elf, Hafling, Human, and Tiefling. Statistics involved characteristics such as strength, grace, toughness, awareness, intelligence, and presence. Class involved the choice of power source: martial arts, divine, arcane (magic), and stealth. Character classes were designed to be of equal power, and all characters were of the same level at all times to prevent power differentials from presenting a complicating hierarchy. Formal alignments were not used, though players were encouraged to play characters who perceived themselves as "good" under guise of the game master believing that evil characters typically produce bad stories.

The character proposals received were rated along their integration into the world background and their ability to fulfill tactical roles missing in the party construction, blind to participant identity. To maximize the diversity of party structure, characters with qualities already chosen by other members were not considered. From the remaining candidates, the best fitting group of characters for the game were chosen and then informed of their acceptance. The gaming session schedule was then determined (on the basis of participant and experimenter availability). The gaming sessions for both semesters were conducted on Saturdays in the first author's research lab. There were six 4-hour long gaming sessions each semester. The second author served as the D&D gaming master, running each of the sessions so that they included encounters with several predetermined social/moral dilemmas. Some of the dilemmas participants encountered were (1) Do we delay completing a job we've been paid to do in order to help a plague stricken village? (2) Do we torture a prisoner for information that may save lives later on? (see Appendix C for a transcript excerpt of this dilemma being encountered in one of the gaming sessions), (3) How do we treat creatures of lower intelligence than us? (4) What should happen to a man who provided information to bandits in order to provide medicine for his wife? (5) Is native inhabitance a sufficient claim for land ownership?

Lunch was provided for the gaming participants during every gaming session. Gaming sessions were videotaped by a digital camera set up behind a one-way mirror, and audiotaped by a digital recorder in the room in which the sessions took place. Before the first gaming session (and after the last), the participants were e-mailed a link to the online survey that included the DIT-2 and the SUI, in addition to a few "filler" surveys designed to help mask the purpose of the survey. In addition, each week after the gaming session, they

were sent a link for the online journal, which they were required to fill out before the next gaming session began (the details of which were described above).

Students not accepted as or able to be gamers were offered the chance to participate in the nongaming group (they were told it was a different study). These students made up a large percentage of our nongaming group. The remainders were contacted in the same way as the gaming students—through e-mails sent out on student list-serves and through posted advertisements on campus. For the nongaming part of the study, students were informed that we were collecting information about "the attitudes, reasoning, and reflection" of students' college experiences and that they could sign up for either a "survey only" study, which would involve filling out an online survey at the beginning and end of the semester ($20), or a "survey + journaling" study, which would involve filling out an online survey at the beginning and end of the semester and engaging in weekly online journaling sessions ($50). Participants signed up by sending in an e-mail to the research lab, after which they were sent all the necessary survey links by e-mail.

Results

Given the small sample size of our gaming and nongaming groups, our analyses were a bit underpowered (the recommended sample sizes ranged from 15 to 25 per group). Thus, we decided to report results with p values slightly elevated above the norm ($\alpha < .06$) as long as they also had medium to large effect sizes (Cohen's $d = .5+$; see Moore & McCabe, 1998). To improve the power of our inferential tests, we pooled the data from the two gaming groups together and the nongaming groups were also collapsed into a single nongaming condition because we found no significant pre/post differences between the two groups.

Moral Dilemma Participation

Though the qualitative analysis of the 48 hours of intervention audio/video coding is ongoing, there are a few interesting facts that we can report here. The first is that the participants who had the highest presurvey Postconventional reasoning scores (Ms > 50) were the active discussants (i.e., were most strongly involved in the moral debates). Interestingly, those who showed the most dramatic pre-to-post change in their Post conventional reasoning scores (range 16 to 25 points) and their Type category (2s to 6/7s) were also very active discussants. Our least active discussants actually showed no change to a decrease in their Postconventional reasoning (range 0 to −20 points).

At this early stage of coding, we do not yet know the differences between the participants in their moral language usage when debating the morally appropriate thing to do, though there is clear appeals to (and questioning of) expert and religious authority, as well as appeals to personal autonomy. There are also frequent appeals to utilitarian justifications for action/nonaction. There is also very little evidence of refusal of responsibility, downplaying of evidence, dehumanization—though there is some use of euphemistic language in participants' attempts to make hard moral decisions (e.g., killing individuals suffering from plague to prevent it spreading to other villages) more palatable. More definitive details about the qualitative aspects of these moral dilemma debates will be forthcoming once we have acquired the necessary resources to complete the coding.

Moral Reasoning (DIT-2)

First, a difference score for each DIT-2 measure was created, which was calculated by subtracting their presurvey (beginning of semester) score from the postsurvey (end of semester) scores. This allowed us to examine the relative change in moral reasoning over the course of the semester and to test whether it was greater in the gaming condition than in the nongaming conditions. It also helped to control for initial differences in the presurvey DIT-2 values between the gaming and nongaming conditions—in particular in their Personal Interests scores, which were higher (though not significantly so) for the gaming group than the nongaming group—suggesting a possible self-selection bias, though for which group it would be difficult to say.

Independent-sample *t* tests were then conducted on the difference scores, revealing a significant difference between the two groups in their Personal Interests difference scores, with the gaming group showing a greater reduction in the use of personal interest reasoning than the nongaming group. The pre-to-post difference effect sizes (Cohen's *d*) for the shift away from personal interest reasoning was 1.1 for the gaming group and .2 for the nongamers. There was also a significant difference between the groups in their Maintaining Norms difference scores, with the gaming group showing an increase in the use of norm maintenance reasoning, while the nongaming group showed a (nonsignificant) decrease. The pre-to-post change effect size into norm maintenance reasoning was .5 for the gaming group.

There was no difference between the two groups in either their Postconventional and N2 difference scores—it would appear that both groups experienced comparable amounts of growth in their Postconventional reasoning (Table 1 & Figure 1). However, an examination of the difference

Table 1. Independent-Sample Comparison of Pre- and Post-DIT Scores.

Group	Pretest DIT *M*	Pretest DIT *SE*	Posttest DIT *M*	Posttest DIT *SE*	Difference (Post-Pre) *M*	Difference (Post-Pre) *SE*	*t*	*d*
Personal Interests								
Gaming group (*N* = 11)	34.1	3.4	22.0	3.0	**−12.1**	**2.7**		
Nongaming (*N* = 20)	24.2	2.6	22.3	2.3	**−1.9**	**2.1**	**2.9***	**1.1***
Maintaining Norms								
Gaming group (*N* = 11)	22.0	5.0	28.4	2.4	**6.4**	**4.1**		
Nongaming (*N* = 20)	27.3	2.1	23.1	2.2	**−4.2**	**1.9**	**2.7***	**0.9***
Postconventional								
Gaming group (*N* = 11)	39.6	4.5	43.9	3.0	4.3	3.9		
Nongaming (*N* = 20)	43.2	3.3	48.6	3.7	5.4	3.1	0.2	0.1
N2_Score								
Gaming group (*N* = 11)	35.2	4.4	38.8	4.3	3.6	3.8		
Nongaming (*N* = 20)	43.1	4.3	51.1	4.1	8.0	4.5	0.7	0.3

Note. DIT = Defining Issues Test.
*$p < .06$; medium effect size = .50+.

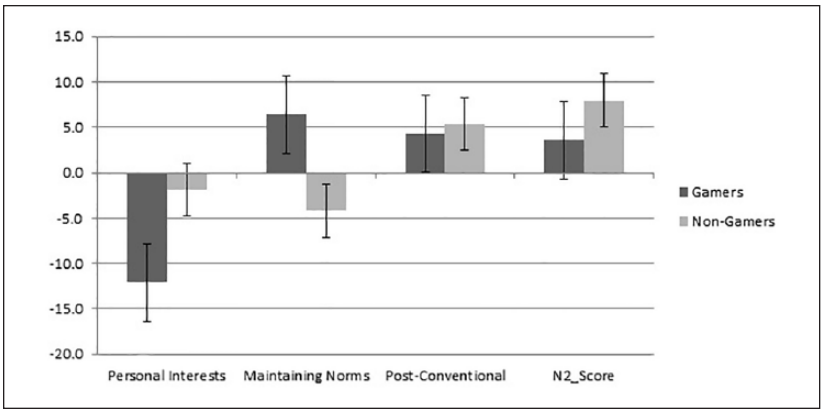

Figure 1. Posttest–pretest differences in Defining Issues test (DIT) for gamers and nongamers.

in developmental Type between the presurvey and postsurvey DIT-2s revealed that, while only 24% of the nongaming group made a transition

into a Postconventional Type (6/7) from a lower Type (1-5), 56% of the gaming group did. The gaming group shifted from only 4 participants (36%) classified as Type 6/7 for the pretest DIT-2 to 9 participants (82%), while the nongaming group shifted from 13 participants (65%) to 17 participants (85%). The Wilcoxon test revealed this shift to be significant for the gaming group, $Z(11) = -2.4$, $p = .025$, but not for the nongaming group, $Z(20) = -1.6$, $p = .10$, suggesting that the gaming participants did actually experience more postconventional development than the nongaming participants.

Value Orientation (SUI)

We used independent-sample *t* tests to compare participants' pre- and postsurvey Self-enhancement (agency), Self-transcendence (community), and Integrated scores across the gaming and nongaming groups. This revealed that the gaming group had a higher presurvey Self-enhancement score than the nongaming group,[3] but this difference was no longer present in the postsurvey—while the gaming group's Self-enhancement score decreased between the pre- and postsurvey, it increased for the nongaming group, and this difference was significant. In addition, the nongaming group also showed a reduction in their Self-transcendence scores, while the gaming group did not. This means that the gaming group's value-orientation displayed a similar shift as was seen in their moral reasoning. Specifically, the gaming group showed a shift away from their own personal interests, as seen in the decrease of both their use of Personal Interests reasoning and the promotion of their own self-interests. The nongaming group, on the other hand, displayed a shift toward the promotion of their own self-interests and away from the promotion of others' interests (Tables 2 and 3; Figure 2).

Interestingly, when measured in terms of frequency, the gaming group also showed higher levels of both presurvey and postsurvey integration than the nongaming group. And paired-sample *t* tests comparing the presurvey to postsurvey differences in Integration scores for both groups revealed that the gaming group (but not the nongaming group) showed a reduction in their Integration scores (Tables 2 & 3; Figure 2). This finding runs contrary to our original hypothesis: Though it does show the gaming group to be higher in their level of integration, this does not appear to be a function of the gaming (and, indeed, they display a decrease—not an increase—in integration at the end of the study).

Table 2. Independent-Sample Comparison of Pre- and Post-SUI Scores.

Value	Group	Pretest *M*	Pretest *SE*	*t*	*D*	Posttest *M*	Posttest *SE*	*t*	*d*	Diff (Post–Pre) *M*	Diff (Post–Pre) *SE*	*t*	*d*
Self-enhance	Gaming (*N* = 11)	**10.12**	**1.5**			8.88	0.9			**−1.24**	**1.5**	**1.2**	**0.5***
	Nongaming (*N* = 20)	**6.00**	**1.0**	**2.3***	**0.8***	7.27	1.4	1.0	0.4	**1.27**	**1.3**		
Self-transcend	Gaming (*N* = 11)	3.82	1.0			2.59	0.6			−1.23	1.0	0.1	0.0
	Nongaming (*N* = 20)	3.36	0.8	0.4	0.1	2.00	0.7	0.6	0.2	−1.36	1.2		
Integration	Gaming (*N* = 11)	**3.12**	**0.6**			**1.94**	**0.3**			−1.18	0.6	0.7	0.3
	Nongaming (*N* = 20)	**1.45**	**0.5**	**2.1***	**0.8***	**1.00**	**0.5**	**1.6**	**0.6***	−0.45	0.8		
Integration (CP)	Gaming (*N* = 11)	0.18	0.0			**0.14**	**0.0**			−0.04	0.0	0.2	0.1
	Nongaming (*N* = 20)	0.12	0.5	1.0	0.4	**0.07**	**0.0**	**2.1***	**0.8***	−0.05	0.1		
Expected integration	Gaming (*N* = 11)	0.39	0.1			0.22	0.0			−0.17	0.1	1.1	0.4
	Nongaming (*N* = 20)	0.17	0.1	**1.9**	**0.8***	0.13	0.1	**1.3**	**0.5***	–0.04	0.1		
Deviation scores	Gaming (*N* = 11)	2.73	0.5			1.70	0.3			−1.03	0.6	0.6	0.2
	Nongaming (*N* = 20)	1.28	0.5	**1.9**	**0.8***	0.87	0.5	**1.6**	**0.6***	−0.41	0.7		

Note. SUI = Self-Understanding Interview.
*$p < .06$; medium effect size = .50+.

Table 3. Paired-Sample Comparison of Pre-SUI and Post-SUI Scores.

		Gaming group *t*	Gaming group *d*	Nongaming group *t*	Nongaming group *d*
Self-enhancement	Presurvey				
	Postsurvey	0.8	0.2	1.0	0.3
Self-transcendence	Presurvey				
	Postsurvey	1.2	0.4	**1.2**	**0.6***
Integration	Presurvey				
	Postsurvey	**1.9***	**0.6***	0.6	0.3
Integration (CP)	Presurvey				
	Postsurvey	1.0	0.3	0.8	0.4
Unmitigated Agency	Presurvey				
	Postsurvey	0.03	0.0	**1.5**	**0.5***
Expected integration	Presurvey				
	Postsurvey	**2.2***	**0.6***	0.5	0.2
Deviation scores	Presurvey				
	Postsurvey	**1.7**	**0.6***	0.6	0.3

Note. SUI = Self-Understanding Interview.
*$p < .06$; medium effect size = .50+.

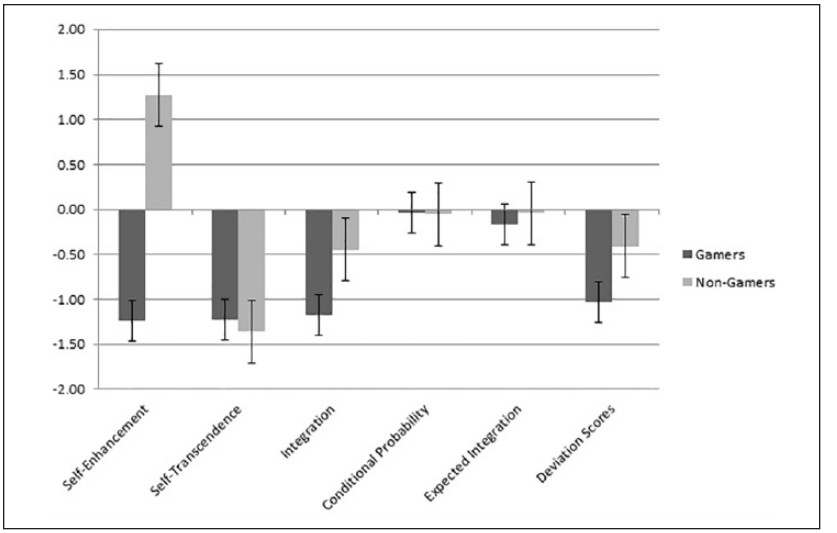

Figure 2. Posttest–pretest differences in Self-Understanding interview (SUI) for gamers and nongamers.

Of course, this reduction could be a side-effect of a parallel reduction in their Self-enhancement scores—with fewer expressions of agency values, there would likewise be fewer opportunities for integration. And this interpretation finds support in an examination of the Conditional Probability score. The gaming group showed greater postsurvey integration (relative to their opportunity to do so) than the nongaming group. Even more important, not only did the gaming group have higher Deviation scores (i.e., a higher level of integration than was expected) than the nongaming group in both the pre- and postsurveys, but their degree of integration was also significantly higher than expected in both the pre- and postsurveys, while the nongaming groups' degree of integration was only higher than expected in their presurvey—by the postsurvey, their level of integration was not different from expectation (Table 4). What is more, comparing the Unmitigated Agency scores for both groups revealed that, while the level of unmitigated agency increased for the nongaming group, it remained stable for the gaming group (Table 3).

Discussion

The shift in Personal Interests and Maintaining Norms reasoning scores, alongside the shifts in value orientation, indicates that the imaginative

Table 4. Comparison of Actual With Expected Integration.

		M	*SE*	*t*	*d*
Gaming: Presurvey	Actual	3.12	0.60		
	Expected	0.39	0.09	**5.1***	0.6
Gaming: Postsurvey	Actual	1.94	0.33		
	Expected	0.22	0.03	**5.7***	0.6
Nongaming: Presurvey	Actual	1.45	0.51		
	Expected	0.17	0.05	**2.7***	0.3
NonGaming: Postsurvey	Actual	1.00	0.52		
	Expected	0.13	0.06	1.8	0.1

*$p < .06$; medium effect size = .50+.

role-play gaming group experienced a degree of moral growth not displayed by the nongaming group. At the heart of this growth is the gaming group's display of less interest in low-level (personal interest) moral reasoning and values. While the gaming group (especially those without previous gaming experience) showed a higher level of personal-interest reasoning and value orientation at the beginning of the study than did the nongaming group, by the end of the gaming sessions, they were on par. The upward shift in norm maintenance reasoning indicates that the gaming group also used more mid- to high-level moral reasoning than the nongaming group, displaying a shift away from concern for their own interests and individuality to an increased concern for their connection to others through shared group norms and values. Finally, both groups displayed comparable upward movement in their postconventional reasoning, with the gaming group displaying a greater shift into a postconventional developmental category than the nongaming group.

Of course, the increase in moral integration we had hypothesized did not materialize. While the gaming group did display—and maintain—a higher level of integration (both in absolute and relative terms) than the nongaming group, they did so from the beginning, suggesting that the gaming itself did not increase it. Yet while we found no evidence that integration increased as a function of the gaming experience, we *did* find evidence that (unlike the nongaming group) the gamers' level of integration and unmitigated agency remained stable. This suggests that the gaming experience may have served a protective, rather than a developmental, function—namely, one of buffering the gamers' integration from a natural backward shift experienced by the nongaming participants. As Frimer and Walker (2009) discuss, the tension between agency and community values

ultimately requires a developmental resolution, one trajectory of which leads to unmitigated agency. It is possible that gaming provided a buffer against this outcome, especially during a life-stage when people are particularly vulnerable—recent studies suggest that college students are particularly vulnerable to ego-inflation, self-esteem, and narcissism, and that the rates of narcissism, as measured by the Narcissistic Personality Inventory, have increased over time (Twenge & Crocker, 2002; Twenge, Konrath, Foster, Campbell, & Bushman, 2008).

In summary, our findings—though preliminary—support the contention that imaginative role-playing games can serve as an enjoyable medium for promoting (and protecting) moral growth. In particular, gaming that involves the encounter of morally relevant situations appears to facilitate a shift away from concern for one's own personal interests and toward the interests of others, both in one's reasoning about moral scenarios and in the expression of one's values. In addition, gaming may also facilitate stronger development in postconventional reasoning, especially for individuals who are developmentally immature (relative to their relevant demographic group).

While the reason why the gaming group displayed an initially higher personal interest reasoning and value-orientation (as well as less postconventional development) than the nongaming group is unclear[4] it nonetheless suggests that imaginative gaming structures may be particularly effective as interventions for "at-risk" youth, who typically display lower levels of moral reasoning and higher disregard for the interests of others. We are working with a local nonprofit organization that serves at-risk children and adolescents to test this hypothesis.

The impact of imaginative role-play gaming structures on adult moral development is consistent with the skill model of virtue ethics (Annas, 1995; Narvaez & Lapsley, 2009), which treats virtue as something that can only be developed through practice. Imaginative role-playing games can serve as a form of moral practice—the gaming group made greater advancements while gaming than the nongaming group did without it. These findings are consistent with general themes in skill acquisition (Ericsson & Ward, 2007). Finally, this study demonstrates that the presence of violence, in the form of fighting and intergroup conflict, is not always a negative thing—that, when encountered and used with potentially prosocial motives (fighting against evil forces), or even within the context of genuine moral dilemmas (using torture on an enemy to gain important information), it can promote (or at least not interfere with) moral growth.

Of course this study had important limitations. For one, it examined the influence of imaginative role-playing games in an "unmediated" context only, so we do not yet know whether the same effects could be achieved through an interactive, online format (such as an online version of D&D)—though previous research on the potential prosocial effects of online games (Gentile et al., 2009; Saleem et al., 2012a, 2012b) suggests that it could, especially if the format allowed for (1) real-time interaction with team members and (2) a meaningful integration of game play and moral content (Raphael, Bachen, Lynn, Baldwin-Philippi, & McKee, 2010). In addition, our study had a small sample size and unequal gender distribution. Though most studies have shown no gender differences in DIT-2 results, some have shown gender differences in student populations (Herington & Weaven, 2008). Also, for practical reasons, it was not possible to randomly assign participants to either the gaming or the nongaming group, making the design of the study not purely experimental (though few real-world interventions are). This means we can only draw our conclusions with caution. Future research will be needed to address these limitations. Nonetheless, our findings provide preliminary evidence that imaginative role-playing games can function as an engaging, interactive "moral training ground" capable of promoting moral development.

Appendix A

1. How would you describe yourself?
2. Do you have a job and/or go to school?
3. Which of your activities are most important to you?
4. Do you have any habits or unique ways of doing certain things?
5. Who are the most significant people and/or groups in your life?
6. What are the favorite things you have or own?
7. What's important to you in terms of your physical characteristics?
8. What are your major roles and responsibilities?
9. What are the most important psychological aspects of who you are?
10. Given that you change from year to year, how do you know it's still always you?
11. How did you get to be the kind of person you are now?
12. How do you know that you're unique or different from everybody else?
13. Is there anything else that defines you or is important to who you are?
14. What do you like most about yourself?
15. In the future, what sorts of things do you most want to do with your life?

Note. Questions 1 to 13 come directly from Frimer and Walker (2009), Questions 14 and 15 were added.

Appendix B

	Presurvey	Postsurvey
How would you describe yourself?	Nonintegrated agency: I would describe myself as an 18 year old freshman in college. I am hoping to go to medical school one day and become a doctor. I am from North Carolina and love keeping myself busy.	Integrated agency + community: I would describe myself as hard-working, smart, dedicated, kind and have a good idea of what I want in life. I want to save lives and make the world a better place.
In the future, what sorts of things do you most want to do with your life?	Nonintegrated agency: I would like to become a doctor or something in the medical field.	Integrated agency + community: I want to be able to help others in an environment that helps me find more out about myself and tests me everyday.
In the future, what sorts of things do you most want to do with your life?	Nonintegrated agency: I want to be successful, maybe as a counselor.	Integrated agency + community: I want to be a part of things that matter to me and to others as much as I can. I want to make a difference, be it large or small. I want to feel as though what I am doing matters.
What do you like least about yourself?	Nonintegrated agency: "The actions and decisions in my past that I see as mistakes, so I strive to correct and improve them."	Integrated agency + community: My failures in either decision or action that have led to the determent or disappointment of myself and that can impact others.
What do you like most about yourself?	Nonintegrated agency: My ability to draw decently. My knowledge of certain obscure things.	Integrated agency + community: How much I try to not be a mean person to others.
What do you like most about yourself?	Nonintegrated agency: My sense of humor. My ability to make people laugh is what gains me the most friends. Without it, I wouldn't have much to go on.	Integrated agency + community: My friendliness and loyalty to others. My ability to make others happy.
What do you like most about yourself?	Nonintegrated agency: My ability to make friends easily.	Integrated agency + community: I like the fact that I am very understanding of others. I try to be helpful and considerate. I like having lots of friends.
What do you see as your most important roles and responsibilities?	Nonintegrated community: I believe my most important role is to be a decent human being. To not let down my family.	Integrated agency + community: It's important that I try to be a good student and loyal friend. I want to be successful and to help others.
What do you see as your most important roles and responsibilities?	Nonintegrated agency: The one thing that I try to take as seriously as possible is school. Although I'm still not entirely sure of what I want to do with my life, I figure I have to at least keep up my GPA.	Integrated agency + community: I feel like I have a responsibility, to my family, my community, and to myself, to do well in school and, hopefully, find something worthwhile to do with my life. I Beyond that, I can't really think of anything in particular.

Appendix C

Background

The group of player controlled characters—called the party from here on—had been commissioned via their employer to investigate raiding on major trade routes. The harassment along this route cost the Trade Guild, a powerful guild of merchants, a great deal of money and also effectively isolated a small city. The Trade Guild feared that the isolation of the small city, called Haven, was the true motivation for the raids, particularly noting the extreme regularity with which certain goods—primarily weapons and armor—were captured by the raiders. In accordance with their commission, the party traveled as caravan guard on a dummy shipment intended to draw out the raiders. They were told that capturing a prisoner would result in a substantial bonus to their pay.

The party—in the guise of caravan guards—was ambushed by a group of goblin raiders. Goblins are a nonhuman race of sentient creature—complete with known cultural practices, religious systems, and a unique native tongue. Goblins are typically considered to be of subhuman intelligence, and the sophistication and organization involved in that attacks was noteworthy given this assumption. The party successfully defended the caravan, and captured several prisoners. They conducted a field interrogation, threatening violence if information was withheld. The goblin leader—known as "Little Boss"—asked that his warriors be freed, and offered himself as a willing prisoner in their stead. The party consented.

The party arrived at Haven, and reported to the Trade Guild. They reported to a contact that had been established when they were hired. On hearing of their success in capturing a prisoner, he sent guards to bring the prisoner in. The guards returned with two sacks, one containing "LittleBoss," and the other containing a smaller (and lower ranking) goblin named "Zok-Zok" that had been captured by the party some time before. Since his capture, one character had adopted Zok-Zok as something like a pet. This character belongs to Player C in the transcript below.

Once the prisoners were brought in, another man was called in. This man—named Jerem—demonstrated significant authority over their contact. This transcript begins with Jerem noting the prisoners.

NOTE: Each line of dialogue includes the speaker and the audience to which the comment is directed. I use party to interchangeably refer to the group of players and the characters that they control, trusting that it is clear which is being spoken to. The GM is the Game Master, the person responsible

for providing the players with responses from the game world, a role taken on by one of the authors. Jerem is a character controlled by the GM, called an NPC—nonplayer character. His lines are differentiated from the GM's to make it clear when the GM is speaking to describe the world, enforce rules, etc. and when the GM is speaking as a character in the world. After the transcript, there is a brief sketch drawing attention to points of particular interest in this exchange.

START TRANSCRIPTION

GM to Party: *paraphrased* Jerem lifts the bags that contain the goblins

Jerem to Goblins: Oh, you're a little one [directed at ZokZok]. All the same. Ah. And you're a big one[to "Little Boss"]. All the more.

GM to Party: He motions for two chairs to be brought forward, where they are both set down, and then tied in.

Jerem to Party: I don't know if you particularly want to be present for this part, but—

GM to Party: He says as he lays down a large, fine bag which he was carrying over one shoulder.

Party Undirected: Oh gosh . . . *Groaning* . . . I knew it [player recognize that Jerem intends to torture the prisoners.]

Player A to GM and Party: I'm going to stay for this.

Party to Player A: Man, you really hate goblins . . .

Player B to Jerem: What do you hope to find out? We already interrogated the big one . . . and the little one.

Jerem to Player B: I will find out everything they know about everything I want to learn.

GM to Party: He cracks his wrist a little bit, and begins to look for [indistinct]

Player B to Jerem: I suggest you start with the big one, the little one is not very helpful.

Jerem to Player B: Well, that's less to get through, then.

Player C Undirected: Oh!

Player A to Player C: Step in [indistinct]. Your little pet is about to be tortured.

Player C to Jerem: Will you please just let him go? Don't kill him, please don't.

Player B to Jerem: She's [indistinct] somewhat attached to the little one. I don't understand it either.

Jerem to Party: I will do what I can to leave his mind intact.

Player C to GM: I start crying a little bit.

Player A to Jerem: Listen buddy, the little one is not very well informed. He doesn't know anything. He's a peon at most. Just some little servant, he doesn't know diddly squat. If you are going to get any information, it is going to be out of the big one, let us keep the little one.
GM to Player A: Roll [to determine the success of his plea]
Player A to GM: 6 [out of 20, a low roll]
Player B to Jerem: Keep in mind, also, that . . . if we are to investigate these goblins, we need someone to lead us to them that's in somewhat good physical condition.
GM to Player B: Roll
Player B to GM: 8 [out of 20, a low roll]
Jerem to Party: I'll make it quick, and then I will return him to you, I will do as little harm as possible.

END TRANSCRIPTION
This marks the end of the discussion about the presented moral dilemma—whether it is appropriate to torture prisoners of war for information, and whether it is appropriate to hand prisoners over if you know that they will be tortured. Note similarities to the Milgram experiment—the presence of an authority forced compliance without compulsion, merely through insistence. The characters were free to refuse to turn over the prisoners, and could resort to violence to defend them with reasonable expectations of success (with a high enough roll)—indeed, had the characters chosen not to turn over the goblin/complete the contract (which would have prevented the suffering), they would have lost only the bonus payment offered for a living goblin captive. However, as in the Milgram studies, the circumstance described limited the perceived freedom of the characters and players.

Further note the importance of special relationships in their moral reasoning. Zokzok is protected not because it is wrong to torture a sentient being, but because he has a special relationship to the group. This special relationship persisted through the rest of the game.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. See Bebeau and Thoma (2003) for information on the validity and reliability information on the DIT-2.
2. See Frimer and Walker (2009) for information on the validity and reliability of SUI coding (using the Values Embedded in Narrative coding manual).
3. Though the cell sizes are too small for robust analyses, the gamers without previous experience appeared to have higher pretest Self-enhancement scores than the gamers who had played D&D before: *M*s = 8.2 versus 4.2, *SE*s = 0.6-1.0, respectively, $t(9) = 2.4$, $p = .038$. There were no other pre–DIT-2/post–DIT-2 or SUI differences between them.
4. One suggestion, provided by an anonymous reviewer, is that the difference in financial incentive amounts offered for the gaming versus the nongaming studies might have attracted a more "selfish" type of student. Or, as another anonymous reviewer pointed out, it could also have something to do with the higher percentage of males in the gaming group (compared with the control group), since other studies have found males (esp underclassmen) to have lower moral reasoning scores than females. Whatever the reason, the higher score appears to have been driven more by the gamers without previous D&D experience than those with, so it was not likely to have been a function of playing D&D.

References

Annas, J. (1995). Virtue as a skill. *International Journal of Philosophical Studies*, *3*, 227-243.

Arbuthnot, J. (1975). Modification of moral judgment through role playing. *Developmental Psychology*, *11*, 319-324.

Bebeau, M. J., & Thoma, S. J. (2003). *Guide for DIT-2*. St. Paul, MN: Center for the study of ethical development, University of Minnesota. Retrieved from http://ethicaldevelopment.ua.edu/selected-publications.html

Blackmon, W. D. (1994). Dungeons & Dragons: The use of a fantasy game in the psychotherapeutic treatment of a young adult. *American Journal of Psychotherapy*, *48*, 624-632.

Blatt, M. M., & Kohlberg, L. (1975). The effects of classroom moral discussion upon children's level of moral judgment. *Journal of Moral Education*, *4*, 129-181.

Comunian, A., & Gielen, U. (2006). Promotion of moral judgment maturity through stimulation of social role-taking and social reflection: An Italian intervention study. *Journal of Moral Education*, *35*, 51-69.

Conle, C., & Boone, M. (2008). Local heroes, narrative worlds and the imagination: The making of a moral curriculum through experiential narratives. *Curriculum Inquiry*, *38*, 7-37.

Curran, J. M. (1999). Constraints of pretend play: Explicit and implicit rules. *Journal of Research in Childhood Education*, *14*, 47-55.

Damon, W., & Hart, D. (1988). *Self-understanding in childhood and adolescence*. New York, NY: Cambridge University Press.

Dear, W. (1984). *The dungeon master: The disappearance of James Dallas Egbert III*. Boston, MA: Houghton Mifflin.

DeVries, R., & Kamii, C. (1975). *Why group games? A Piagetian perspective*. Retrieved from ERIC database (ED110159)

Dunn, J., & Hughes, C. (2001). "I got some swords and you're dead!": Violent behavior, antisocial behavior, friendship, and moral sensibility in young children. *Child Development*, *72*, 491-505.

Ericsson, K. A., & Ward, P. (2007). Capturing the naturally occurring superior performance of experts in the laboratory. *Current Directions in Psychological Science*, *16*, 346-350.

Farver, J. M. (1992). Communicating shared meaning in social pretend play. *Early Childhood Research Quarterly*, *7*, 1493-1503.

Fein, G. G. (1981). Pretend play in childhood: An integrative review. *Child Development*, *52*, 1095-1118.

Ferguson, C. J. (2010). Blazing angels or resident evil? Can violent video games be a force for good? *Review of General Psychology*, *14*, 68-81.

Ferguson, C. J., Barr, H., Figueroa, G., Foley, K., Gallimore, A., LaQuea, R., . . . Garza, A. (2015). Digital poison? Three studies examining the influence of violent video games on youth. *Computers in Human Behavior*, *50*, 399-410. doi:10.1016/j.chb.2015.04.021

Ferguson, C. J., Trigani, B., Pilato, S., Miller, S., Foley, K., & Barr, H. (2016). Violent video games don't increase hostility in teens, but they do stress girls out. *Psychiatric Quarterly*, *87*, 49-56. doi:10.1007/s11126-015-9361-7

Frimer, J. A., & Walker, L. J. (2009). Reconciling the self and morality: An empirical model of moral centrality development. *Developmental Psychology*, *45*, 1669-1681.

Frimer, J. A., Walker, L. J., & Dunlop, W. (2009). *Values Embedded in Narratives (VEiN) coding manual, release 1.0*. Unpublished manuscript.

Frimer, J. A., Walker, L. J., Dunlop, W., Lee, B., & Riches, S. (2011). The integration of agency and communion in moral personality: Evidence of enlightened self-interest. *Journal of Personality and Social Psychology*, *101*, 149-163.

Garvey, C. (1990). *Play*. Cambridge, MA: Harvard University Press.

Gentile, D. A., Anderson, C. A., Yukawa, S., Ihori, N., Saleem, M., Ming, L. K., . . . Sakamoto, A. (2009). The effects of prosocial video games on prosocial behaviors: International evidence from correlational, longitudinal, and experimental studies. *Personality and Social Psychology Bulletin*, *35*, 752-763.

Grant, G., & Leithart, P. (1988). *A Christian response to Dungeons and Dragons* (2nd ed.) [Brochure]. Retrieved from http://www.garynorth.com/freebooks/docs/pdf/a_christian_response_to_dungeons_dragons.pdf

Greenberg, H. (2005, February 28). Army frowns on Dungeons and Dragons. *Ynet*. Retrieved from http://www.ynetnews.com/articles/0,7340,L-3052074,00.html

Gygax, G., & Arneson, D. (1974). *Dungeons & Dragons*. Lake Geneva, WI: TSR.

Herington, C., & Weaven, S. (2008). Improving consistency for DIT results using cluster analysis. *Journal of Business Ethics*, *80*, 499-514.

Howes, C. (1992). *The collaborative construction of pretend: Social pretend functions*. Albany: State University of New York Press.

Hughes, C., & Dunn, J. (1997). "Pretend you didn't know": Preschoolers' talk about mental states in pretend play. *Cognitive Development*, *12*, 477-499.

Irwin, A. R., & Gross, A. M. (1995). Cognitive tempo, violent video games, and aggressive behavior in young boys. *Journal of Family Violence*, *10*, 337-350.

Krahé, B., & Möller, I. (2004). Playing violent electronic games, hostile attributional style, and aggression-related norms in German adolescents. *Journal of Adolescence*, *27*, 53-69.

Li, A. K. (1985). Toward more elaborate pretend play. *Mental Retardation*, *23*(3), 131-136.

Lillard, A. S. (1993). Pretend play skills and the child's theory of mind. *Child Development*, *64*, 348-371.

Lind, G. (2000). The importance of role-taking opportunities for self-sustaining moral development. *Journal of Research in Education*, *10*(1), 9-15.

Markey, P. M., Markey, C. N., & French, J. E. (2015). Violent video games and real-world violence: Rhetoric versus data. *Psychology of Popular Media Culture*, *4*, 277-295. doi:10.1037/ppm0000030

Mason, M., & Gibbs, J. (1993). Role taking opportunities and the transition to advanced moral judgment, *Moral Education Forum*, *18*(3), 3-19.

Matefy, R. E., & Acksen, B. A. (1976). The effect of role-playing discrepant positions on change in moral judgments and attitudes. *Journal of Genetic Psychology*, *128*, 189-200.

McAdams, D. P. (2001). *Coding autobiographical episodes for themes of agency and communion*. Unpublished manuscript, Foley Center for the Study of Lives, Northwestern University.

McCrary, J. H. (1999, November 17-19). *Children's heroes and heroines: Developing values manifested through artwork*. Paper presented at the Annual Meeting of the Mid-South Educational Research Association, Point Clear, AL.

Möller, I., & Krahé, B. (2009). Exposure to violent video games and aggression in German adolescents: A longitudinal analysis. *Aggressive Behavior*, *35*, 75-89.

Moore, D., & McCabe, G. P. (1998). *Introduction to the practice of statistics* (3rd ed.). Gordonsville, VA: W. H. Freeman.

Narvaez, D. (2001). Moral text comprehension: Implications for education and research. *Journal of Moral Education*, *30*, 43-54.

Narvaez, D., & Bock, T. (2002). Moral schemas and tacit judgement or how the Defining Issues Test is supported by cognitive science. *Journal of Moral Education*, *31*, 297-314.

Narvaez, D., Gleason, T., Mitchell, C., & Bentley, J. (1999). Moral theme comprehension in children. *Journal of Educational Psychology*, *91*, 477-487.

Narvaez, D., & Lapsley, D. K. (2009). Moral identity and the development of moral character. In D. Medin, L. Skitka, D. Bartels & C. Bauman (Eds.), *Psychology of learning and motivation series: Vol. 50. Moral cognition and decision making* (pp. 237-274). Amsterdam, Netherlands: Elsevier.

Papastathopoulos, S., & Kugiumutzakis, G. (2007). The intersubjectivity of imagination: The special case of imaginary companions. In S. Bråten (Ed.), *On being moved: From mirror neurons to empathy* (pp. 219-233). Amsterdam, Netherlands: John Benjamins.

Piaget, J. (1948). *The moral judgment of the child*. Glencoe, IL: Free Press.

Power, F. C. (2004). Moral self in community. In D. K. Lapsley & D. Narvaez (Eds.), *Moral development, self and identity* (pp. 47-64). Mahwah, NJ: Lawrence Erlbaum.

Power, F. C., Higgins, A., & Kohlberg, L. (1989). *Lawrence Kohlberg's approach to moral education*. New York, NY: Columbia University Press.

Power, F. C., & Higgins-D'Alessandro, A. (2008). The just community approach to moral education and the moral atmosphere of the school. In L. Nucci & D. Narvaez (Eds.), *Handbook of moral and character education* (pp. 230-248). Mahwah, NJ: Lawrence Erlbaum.

Raffe, R. (1981). *Mazes and Monsters*. New York, NY: Delacorte Press.

Rakoczy, H. (2008). Taking fiction seriously: Young children understand the normative structure of joint pretense games. *Developmental Psychology*, *44*, 1195-1201.

Raphael, C., Bachen, C., Lynn, K. M., Baldwin-Philippi, J., & McKee, K. A. (2010). Games for civic learning: A conceptual framework and agenda for research and design. *Games and Culture: A Journal of Interactive Media*, *5*, 199-235.

Rest, J. R., Narvaez, D., Thoma, S. J., & Bebeau, M. J. (1999). DIT2: Devising and testing a revised instrument of moral judgment. *Journal of Educational Psychology*, *91*, 644-659.

Rest, J. R., & Thoma, S. J. (1985). Relation of moral judgment development to formal education. *Developmental Psychology*, *21*, 709-714.

Saleem, M., Anderson, C. A., & Gentile, D. A. (2012a). Effects of prosocial, neutral, and violent video games on children's helpful and hurtful behaviors. *Aggressive Behavior*, *38*, 281-287.

Saleem, M., Anderson, C. A., & Gentile, D. A. (2012b). Effects of prosocial, neutral, and violent video games on college students' affect. *Aggressive Behavior*, *38*, 263-271.

Schnoebelen, W. (n.d.). *Straight talk on Dungeons and Dragons* [Article]. Retrieved from http://www.chick.com/articles/dnd.asp

Schwartz, J. (2010, January 26). Dungeons & Dragons prison ban upheld. *New York Times*. Retrieved from http://www.nytimes.com/2010/01/27/us/27dungeons.html

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, *25*, 1-65.

Self, D., Olivarez, M., & Baldwin, D. (1998). The amount of small-group case-study discussion needed to improve moral reasoning skills of medical students. *Academic Medicine*, *73*, 521-523.

Sherer, M. (1994). The effect of computerized simulation games on the moral development of youth in distress. *Computers in Human Services*, *11*, 81-95.

Sherer, M. (1998). The effect of computerized simulation games on the moral development of junior and senior high-school students. *Computers in Human Behavior*, *14*, 375-386.

Simon, A. (1987). Emotional stability pertaining to the game of Dungeons & Dragons. *Psychology in the Schools*, *24*, 329-332.

Simon, A. (1998). Emotional stability pertaining to the game Vampire: The Masquerade. *Psychological Reports*, *83*, 732-734.

Slater, M., Henry, K., Swaim, R., & Anderson, L. (2003). Violent media content and aggressiveness in adolescents: A downward spiral model. *Communication Research*, *30*, 713-736.

Sutherland, M. B. (1985). Early imagining and the development of empathy. *Scottish Educational Review*, *17*(1), 33-39.

Tear, M. J., & Nielsen, M. (2013). Failure to demonstrate that playing violent video games diminishes prosocial behavior. *Plos ONE*, *8*(7), 1-7. doi:10.1371/journal.pone.0068382

Twenge, J. M., & Crocker, J. (2002). Race and self-esteem: Meta-analyses comparing Whites, Blacks, Hispanics, Asians, and American Indians and comment on Gray-Little and Hafdahl (2000). *Psychological Bulletin*, *128*, 371-408.

Twenge, J. M., Konrath, S., Foster, J. D., Campbell, W. K., & Bushman, B. J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the Narcissistic Personality Inventory. *Journal of Personality*, *76*, 875-902.

Walker, L. (1980). The cognitive and perspective-taking prerequisites for moral development. *Child Development*, *51*, 131-139.

Ward, P., Hodges, N. J., Starkes, J. L., & Williams, A. M. (2007, December). The road to excellence: Deliberate practice and the development of expertise. *High Ability Studies*, *18*, 119-153.

Waters, D. (2004). What happened to Dungeons & Dragons? *BBC News*. Retrieved from http://news.bbc.co.uk/2/hi/uk_news/magazine/3655627.stm

White, S. H., & O'Brien, J. E. (1999). What is a hero? An exploratory study of students' conceptions of heroes. *Journal of Moral Education*, *28*, 81-95.

Uren, N., & Stagnitti, K. (2009). Pretend play, social competence and involvement in children aged 5–7 years: The concurrent validity of the Child-Initiated Pretend Play Assessment. *Australian Occupational Therapy Journal*, *56*, 33-40.

Verba, M. (1993). Construction and sharing of meanings in pretend play among young children (M. Sinclair, Trans.). In M. Stambak & H. Sinclair (Eds.), *Pretend play among 3-year-olds* (pp. 1-29). Hillsdale, NJ: Lawrence Erlbaum.

Author Biographies

Jennifer Cole Wright is an associate professor of Psychology at the College of Charleston, USA. Her area of research is moral development and moral psychology more generally. Specifically, she studies meta-ethical pluralism, the influence of individual and social "liberal vs. conservative" mind-sets on moral judgments, and young children's early moral development. She has published articles on these and other topics in *Cognition, Mind & Language, Journal of British Developmental Psychology, Journal of Experimental Social Psychology, Oxford Studies in Experimental Philosophy, Journal of Moral Education, Philosophical Psychology, Journal of Cognition and Culture, Personality and Individual Differences, Social Development, Personality & Social Psychology Bulletin*, and *Merrill-Palmer Quarterly*. She coedited, with Hagop Sarkissian, *Advances in Experimental Moral Psychology* and is currently coauthoring a book titled *Virtue Measurement: Theory and Application* with Nancy Snow. When she is not writing, she is usually busy warping young minds in the classroom, brainstorming experiments in her lab, or satisfying her lust for travel by backpacking across Europe or SE Asia—or sometimes just trekking (with the help of a fuel-efficient car) across the United States.

Daniel E. Weissglass is a doctoral candidate in the Philosophy Department at the Graduate Center of the City University of New York. His primary research focuses on the intersection of philosophy and the cognitive sciences, including moral psychology. He also has an interest in game studies, and is a member of the Board Gamers Anonymous podcast.

Vanessa Casey is currently a registered representative with Nationwide Retirement Plans. Her scope of research is ethical and moral development. After earning her Bachelors in Psychology in 2009, she pursued and completed her Masters of Counseling in 2014. Vanessa's personally preferred poisons include engaging with concepts in leadership, training and development, multisystemic counseling, and financial planning. When she is off-the-clock, she loves to coach others, play video games, play disc golf, and write.