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Stereotype content of players of violent and non-violent games

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Since the introduction of commercial video games in the 1970s, video game players have attracted the perhaps undeserving but negative stereotype of being unpopular and socially dysfunctional. However, with gamers increasing in numbers that now reach billions worldwide, the contents of gamer stereotypes may be in flux. The current study investigated the content of gamer stereotypes along the dimensions of physical/social attractiveness, warmth, competence, and morality as a function of genre violence level and gamer identity. Male and female participants (656 U.S. and 428 Indian) completed an online survey on the MTurk platform, rating social stereotypes of gamers in high-violence and low-violence genres on 22 adjective pairs and answering questions about gamer identity. Results revealed positive gamer stereotypes, especially in the low-violence genres in both the United States and India. Low-identifiers' stereotypes were less favourable in the high-violence than in the low-violence genres; this tendency diminished among high-identifiers. This study suggests that, whereas once gamers were seen negatively, they are now seen remarkably positively. The implications of such positive views of those engaging in violent gaming are discussed.

Keywords: game genre, gamers, social identity, stereotype content, violence.

Video games, invented in the early 1950s (*10 Oldest Video Games in the World*, n.d.) and commercially introduced to users in the 1970s, have become an everyday household leisure activity today. They are among the fastest-growing industries, expected to achieve a 200 billion U.S. dollar global net worth by 2023 (Clement, 2021a). Notwithstanding how common they may be today, "gamers" have faced, perhaps undeservingly, a fair share of negative stereotypes since their early days (*Hollywood Needs to Stop Stereotyping Gamers*, 2015; *Video Gamer Stereotype*, 2010), for instance, as "isolated, pale-skinned teenage boys sit(ting) hunched forward on a sofa in some dark basement space, obsessively mashing buttons" (Williams, 1997). Are such negative stereotypes of gamers still common in the United States today or found in non-Western societies where video games are becoming equally popular?

Gamer stereotypes in the literature

In a study exploring the emerging stereotypes of online gamers, Kowert et al. (2012) compared *personal* stereotypes (i.e., participants' own beliefs) and *social* stereotypes (i.e., beliefs about societal views) of online gamers. It was found that social stereotypes of online gamers were predominantly negative, including attributes such as unpopular, unattractive, idle, and socially incompetent, although their personal stereotypes were relatively more buoyant. A follow-up study (Kowert et al., 2014) that examined the accuracy of these gamer stereotypes in a large group of "hardcore gamers" (defined as "more involved" players in the original) found that most social stereotypes were consistent with players' observed characteristics, including unathletic, underachieving, and less socially supported. The hardcore gamers also reported increased problem game behaviours and a lower ability to engage socially despite a generally high ability to express and regulate their emotions (Kowert & Oldmeadow, 2013). Stone (2019) also found that gamers' personal stereotypes concerning personality, cognitive abilities, and technical skills were positive, although those concerning social aptitude and physical traits were mainly negative. In sum, previous data from Britain and the United States captured predominantly negative social stereotypes of gamers but less negative and mixed personal stereotypes, especially in cognitive and technical competence. Table 1 summarises the contents of gamer stereotypes in the literature.

The alleged negative stereotypes of gamers as socially inept and physically unattractive may have reflected the tendencies of the earlier gamers, who happened to be predominantly male adolescents (Buchman & Funk, 1996; Dominick, 1984; Griffiths, 1997; Kowert et al., 2012; Michaels, 1993; Phillips et al., 1995; Williams et al., 2008). Williams (1997), for instance, outlines how video gaming initially emerged as an activity targeting children and adolescents and later

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Table 1
Gamer Stereotypes in the Western Literature

Published articles	Gamer stereotype content
Kowert et al. (2012)	Unpopular, unattractive, idle, socially incompetent
Kowert et al. (2014)	Unathletic, underachieving, less socially supported, having problematic play behaviour[a]
Kowert and Oldmeadow (2012)	Unattractive, overweight, loner, obsessive, young, underachiever, isolated, pale, socially inept, lazy, reclusive, introverted, addict, aggressive, immature, awkward[b]
Kowert and Oldmeadow (2013)	Enhanced ability to express and regulate their emotions, but less ability to engage socially[a]
Stone (2019)	Personality traits (*strategic, humorous*, lazy, nerd/geek, *competitive*, *strategic*); Cognitive abilities (*smart and intelligent*, *quick reflexes*, *good analytical skills*); Technical skills (*tech-savvy*); Social aptitude (antisocial, loner, socially awkward, introvert); Physical traits (overweight, sedentary, unkempt, unathletic)

Note. Traits in italics show positive attributes.
[a]Ascribed only to hardcore video game players.
[b]Ascribed generally to Arcade Gamers, Comic Book Enthusiasts, Dungeons and Dragons Players and Geeks.

progressed as an activity for all ages in the West. However, today's video gamers are not restricted to male adolescents, with close to half of the gamer community identifying as female (Brand et al., 2019; Brand & Jervis, 2021; Lopez-Fernandez et al., 2019; Maclean, n.d.; Paaßen et al., 2017; Wasserman & Rittenour, 2019) and encompassing a broader age group—including adults and even senior citizens (Brand et al., 2019; Brand & Jervis, 2021; Griffiths et al., 2003). Moreover, they have broadened to more diverse genres, including digital puzzles, role-playing, word games, music, and dancing games (Manero et al., 2016), to name just a few.

These shifts in gamer demographics and game genres may suggest that the contents of gamer stereotypes shared in society may also have transformed. Nevertheless, research that examines the changing nature of gamer stereotypes is rare. Thus, the present research investigated the contemporary social stereotypes of video gamers in two countries with the largest gamer populations after China: India and the United States.

Stereotype content

Historical evidence suggests that stereotypes do not remain static, but are open to change. The stereotypes of women (Ellemers, 2018), racial minorities, homosexuals (Vaughn et al., 2017), and other marginalised groups have often shown a shift from a negative to a positive direction (Richards & Hewstone, 2001; Schneider, 2003). For instance, the classic Princeton Trilogy Studies (Gilbert, 1951; Karlins et al., 1969; Katz & Braly, 1933) and the subsequent research that traced stereotypes of racial groups in the United States over 75 years have shown that negative racial stereotypes have decreased (e.g., Devine & Elliot, 1995; Madon et al., 2001), at least in public descriptions of racial groups (Bergsieker et al., 2012). Video gamers differ from traditional, stigmatised groups in many respects; for instance, they are not necessarily a disadvantaged group nor an ethnicity- or kin-based social category that may be essentialised. According to the Stereotype Content Model (Cuddy et al., 2007, 2008; Fiske et al., 2002), social stereotypes reflect a target group's presumed intentions to cooperate or compete with other groups (warmth) and their presumed ability to enact those intentions (competence). Outgroup stereotypes thus differ depending on which warmth-by-competence quadrant the group falls in. Paaßen et al. (2017) found gamer stereotypes to be low in warmth and high in competence, similar to male stereotypes, perhaps as they should be, with the majority of gamers originally being boys and men (Buchman & Funk, 1996; Dominick, 1984; Griffiths, 1997; Kowert et al., 2012; Michaels, 1993; Phillips et al., 1995; Williams et al., 2008).

Although extensive research has supported the primacy of the warmth and competence dimensions, morality is another dimension that takes prominence in impressions of individuals and groups (Bocian et al., 2018; Goodwin et al., 2014; Siegel et al., 2017). With the advent of progressively more violent games (Clement, 2022; *First-Person Shooter Games [FPS]*, n.d.; Tonge, n.d.), it seems plausible that morality is becoming a relevant dimension of contemporary gamer stereotypes, especially in high-violence game genres (Brambilla & Leach, 2014).

Gaming and violence

In a content analysis of video games, Smith et al. (2003) found that the majority (68%) of the top 20 popular games across Nintendo 64, Sega Dreamcast, and Sony PlayStation platforms contained at least one act of

violence and that 78% of these actions were considered lethal acts of aggression (Tamborini et al., 2013). Although increasingly popular in entertainment, game violence is simultaneously perceived with disgust and fear by some members of the audience, as evidenced by social outrage against game violence and demands for its legal regulation (see Gonzalez, 2007, and Kohler, 1994, for social outcries against violence in games in the past decades; see Hall et al., 2011, and Ferguson, 2018, for a discussion of the persisting legal debate on gaming violence). Scholars often attribute the media censorship debate to the third-person effect, where "governments and policymakers mistakenly overestimate the effect of media on others, thus enforcing unnecessary regulations in the name of protecting the most vulnerable members of their societies" (Hong, 2015, p. 972). Nonetheless, we cannot deny that increased violence within the gaming space is still negatively perceived by society. Thus, violent games and those who engage in them as entertainment may be perceived as immoral (Lekka & Sakellariou, 2014; Waddington, 2007; Whitty et al., 2011; Young, 2015) and more negatively in general, compared to players of games that are lower in violence. We therefore hypothesised the following:

H1: Gamer stereotypes are more negative (physically and socially less attractive, less competent, less moral, and less warm) toward those who play high-violence genre games than low-violence genre games.

Gamer identification

Another reason for potential changes in social stereotypes of online gamers might concern gamer identity, as stereotypes are tied to group identity. Research on Social Identity Theory (Tajfel & Turner, 1979) and Social Categorization Theory (Turner et al., 1987) has highlighted that social identification promotes a positive in-group perception due to the motivation to self-enhance (Costarelli & Callà, 2007). Consistent with theory, the study above by Kowert et al. (2012) found that those who more strongly identified as gamers, relative to those who identified less, reported more positive social stereotypes of gamers, while Amby et al. (2020) found that those who did not identify as gamers stereotyped gamers as lazy, violent, introverted, and irresponsible, albeit smart. We therefore expected that individuals who identify as gamers would report more positive social stereotypes than non-identifiers.

H2: Gamer stereotypes are more positive among high-identifiers than low-identifiers.

Moreover, with more people identifying as gamers today, increased acceptance of gaming and game content can be seen in society. Indeed, there is likely a societal paradox about game violence where people both celebrate and revile on-screen violence, as highlighted by Tamborini et al. (2013). The split in societal attitudes toward game violence may be due to differences in group identification as gamers, with group identification mitigating the negative perception surrounding violent games. We therefore formulated a third hypothesis as follows:

H3: Gamer stereotypes are more negative toward players of high-violence genre games than low-violence genre games but more so among low-identifiers and less among high-identifiers.

Gaming and cultural differences

India ranked number one worldwide in mobile game downloads in 2020 with a record of 7.3 billion installations (Navani, 2021) and is expected to reach an estimated 510 million online gamers in 2022, an increase of 40% from 365 million in 2020 (Basuroy, 2021). Similar to the United States, Indian gamers are predominantly young (60% below 25 years of age). Relatively new to mass-scale Internet and telecommunication access, PC and mobile phones are more popular gaming modes in India than console gaming which is popular in the United States (Zeiler & Mukherjee, 2021). When comparing prevalent perceptions of gaming/gamers in India and the United States, there appears to be a stronger negative perception of the gaming act as a "waste of time" in India (Snodgrass et al., 2017), where cultural norms for young men are to become husbands and householders by pursuing good educations and professions (Snodgrass et al., 2021). Moreover, Mamun and Griffiths (2021) recently reported case studies on negative psychosocial consequences of gaming (ranging from exam failure to suicide and death) presented by the Indian media. To our knowledge, no prior research has compared gamer stereotypes between India and the United States; however, the literature discussed here implies that gamer stereotypes could be more negative in India than in the United States.

Gaming and gender differences

Compared to men, women generally prefer nonviolent entertainment (Oliver et al., 2000). Research into female gamers has uncovered their preference for role-playing games with lesser notes of violence (Terlecki et al., 2011) and dislike for violent game content compared to male gamers (Hartmann & Klimmt, 2006). According to Przybylski et al. (2009), violence in video games appeals more to males; males have been shown to purchase games with higher ESRB (Entertainment Software Rating Board) ratings for violence than

females. This is a robust finding captured in more recent studies examining female gaming (Lange et al., 2021; Veltri et al., 2014). The literature discussed here implies that women might show more negative stereotypes toward players of highly violent genres than men, which we explored in this study.

The present study

The present study tested the above three hypotheses while exploring potential cultural and gender differences in gamer stereotypes. Several studies have investigated gamer stereotypes in the last decade (e.g., Kowert et al., 2014; Kowert & Oldmeadow, 2013); however, none have examined them according to different violence levels, separate dimensions of stereotypes, or gamer identification levels. With the increasing degrees of variation and complexity in games and gamers, including in the types of games they play, multiple gamer stereotypes could be reflected on different dimensions such as warmth, competence, morality, and physical/social attractiveness. Moreover, despite the popularity of video games, hardly any knowledge is currently available regarding gamer stereotypes among Indians. It seemed timely to compare their gamer stereotypes with Western data and potential gender differences. We operationalised violence levels by using game genres and classifying them into high- versus low-violence categories. Although this operationalisation might be crude due to the various games found within and across highly complex game genres, it would provide at least preliminary data for evaluating this new methodological approach.

Method

Participants

Participants were recruited from Amazon's Mechanical Turk (MTurk) from December 2019 to January 2020. To be qualified to participate in the study, MTurk users had to be more than 18 years of age, English speakers, and familiar with video games. After excluding participants who failed at least two of the three attention checks, the final sample consisted of a total of 1,084 participants: 656 Americans (60.5%) and 428 Indians (39.5%), with a gender breakdown of 745 males (68.7%) and 339 females (31.3%). Ages ranged from 18 to 70 years, with a mean of 31.9 years (SD = 8.35).

Materials

Based on the gamer clustering framework presented by previous literature (see Table 2) and the Digital Australia report's findings on what types of games are played (Brand et al., 2019), seven genres were selected, including Action, Action-Adventure, Role Playing, Simulation, Strategy, Sports, and Other. We provided examples of games from each genre, along with a brief description of the genre's main content. Action specifically included the popular subgenres of platform games, shooter games, fighting games, and survival games. Action-Adventure combined elements of their two component genres. Role-playing games cast the player in a role to progress through a predetermined storyline. The rating for most of the example games in these three genres was M ("Mature 17+," the highest rating; ESRB, n.d.), as they could involve actions ranging from intense violence, mutilation, blood and gore depiction, nudity, sexual themes, crude humour, use of alcohol, and strong language. Games that were not rated M were often given a rating of T ("Teens") and also could contain a high level of violence. Therefore, action, action-adventure, and role-playing were considered highly violent game genres.

Simulations were games that closely simulated aspects of real or fictional reality. The Strategy genre included games focused on careful and skilful thinking and planning to achieve victory. The genre of Sports had video

Table 2
Classification of Game Genres in the Literature

Published articles	Established genres
Adams and Rollings (2010), Rollings and Adams (2003)	Action, Strategy, Role-playing, Sports, Vehicle simulation, Construction and management simulation, Adventure, Artificial life, Puzzle, and Games for girls
Lucas and Sherry (2004)	Strategy, Puzzle, Fantasy/ Role-playing, Action/ Adventure, Sports, Simulation, Racing/Speed, Shooter, Fighter, Arcade, Card/Dice, Quiz/Trivia, and Classic board games
Herz (1997), Kirriemur and McFarlane (2004), Van Eck (2007)	Action, Adventure, Fighting, Puzzle, Role-playing, Simulation, Sports, and Strategy
Manero et al. (2016)	First person shooter, Adventure or thrillers, Singing, dancing or playing, Fighting, Invention or cognitive, Strategy, Sports, racing or simulation, Social and casual, Internet collaborative

games that simulated sports. The Other genre was composed of casual games, party games, programming games, logic/puzzle games, mobile games, trivia games, and board/card games. Since ratings for most of the games in this group were E10+ ("Everyone 10+"; ESRB, n.d.) or T, suggesting suitability for ages 10 up and teens, or E ("Everyone"), with content generally suitable for all ages, including only minimal cartoon, fantasy, or mild violence and infrequent use of mild language, these genres were categorised as low-violence.

The survey included two questions concerning gamer identification: (1) "Do you play digital games (i.e., any kind of game which is accessed through devices such as a PC, Xbox, PS4, Wii, smartphones, PSP, etc.)?" followed by Yes/No; and (2) "Would you consider yourself to be a 'gamer' (i.e., is this part of how you would describe yourself to others)?" followed by Yes/No/Not sure. On the first question, 1,040 (96%) of the sample chose "Yes" (the player group), and the remaining 44 chose "No" (non-player group). On the second question, 900 (86.5%) chose "Yes," 104 (10%) chose "No," and 36 (3.5%) chose "Not sure" in the player group; in the non-player group, these figures were 5 (11.4%), 36 (81.8%), and 3 (6.8%), respectively. We classified 905 (83.5%) participants who chose "Yes" on the second question as high-identifiers and the remaining 179 (16.5%) as low-identifiers. The items on player demographics were adapted from the recommended additional questions for obtaining player demographics in *The Oxford Handbook of Cyberpsychology* (Kaye, 2019).

Following a short description of high-violence game genres (action, action-adventure, role-playing), participants were asked to rate *how most people* view this group of gamers on 22 adjective dimensions. All 1,084 participants responded to these questions, but each rated game genres based on familiarity. The same procedure was repeated for players of low-violence genres (simulation, strategy, sports, other). All participants rated three genres: one high-violence and two low-violence genres or two high-violence and one low-violence genre. Average ratings were calculated and used where two genres from the same classification were rated. See Appendix S1 for the game genres included in the survey.

The instruction said, "Please rate how most people view them; for example, if you believe that people think players who play Action games tend to be very 'kind,' you would choose a point closer to the adjective 'kind' on the following scale. Of course, if you think the gamers are assumed to be 'unkind,' you choose a point closer to that adjective." The instruction was followed by the hypothetical adjective pair Unkind/Kind, between which seven radio buttons were provided for the respondents' selection. Of the 22 adjective pairs used for the actual evaluation, 8 concerned physical appearance and sociality (Masculine/Feminine, Old/Young, Unattractive/Attractive, Overweight/Slim, Lazy/Active, Loner/Sociable, Untidy/Tidy, Unpopular/Popular), 5 concerned warmth (Unfriendly/Friendly, Cruel/Caring, Cold/Warm, Inconsiderate/ Considerate), 4 concerned competence (Incompetent/Competent, Unintelligent/Intelligent, Underachiever/Highflyer, Incapable/ Capable), and 5 concerned morality (Immoral/Moral, Dishonest/Honest, Untrustworthy/Trustworthy, Immature/Mature, Violent/Gentle). The list was based on past research on stereotypes and morality attribution (Brambilla et al., 2011; Dunlop et al., 2012; Lapsley & Lasky, 2001; Walker & Frimer, 2007). The presentation order of the adjective pairs was random for each respondent, but half of the items included the positive pole on the left and the other half on the right (also counterbalanced).

Respondents also indicated their age, gender, marital status, ethnicity, nationality, education level, and employment. Attention checks were embedded within the survey to filter out inattentive participants.

Procedure

MTurk users who were interested and qualified to participate in the study were directed to an online Qualtrics survey, where they first read through the consent form and, if they accepted, then proceeded to answer the survey. Each participant was paid according to minimum wage standards for participating in a 10-min survey. Please note that the present study was approved by the Human Ethics Committee at La Trobe Univeersity (Protocol HEC 19470) and was conducted with informed consent from all participants.

Design

The research design consisted of game genre violence level (high vs. low) and trait type (physical/social vs. competence vs. morality vs. warmth) as within-subjects factors and gamer identity (high vs. low), age (≤30 years vs. >30 years), gender (male vs. female), and nationality (U.S. vs. Indian) as between-subjects factors. Age was included in the design as the older age group may be influenced by traditional gamer stereotypes. The dependent variable was perceived social stereotypes.

Analysis

Social stereotype endorsement was analysed with a mixed-design, six-way factorial analysis of variance (ANOVA) using SPSS (Version 26, IBM Corp., Armonk, NY, USA). Hypothesis 1 would be supported by the main effect of the genre level of violence.

Hypothesis 2 would be supported by the main effect of identity. Finally, Hypothesis 3 would be supported by a Violence × Identity interaction. The Greenhouse–Geisser correction was used to correct the violation of the assumption of sphericity. The pattern of a significant interaction was probed by simple tests applying Bonferroni correction.

Results

The mean stereotype ratings indicated that respondents tended to believe that gamers were positively stereotyped in society. One-sample *t* tests showed that means were significantly higher than the midpoint of the scale (4.0), for competence ($M = 4.53$, $t(1047) = 15.05$, $p < .001$), physical/social attractiveness ($M = 4.45$, $t(1047) = 18.92$, $p < .001$), morality ($M = 4.36$, $t(1047) = 10.89$, $p < .001$), and warmth ($M = 4.23$, $t(1047) = 4.26$, $p < .001$) in the whole sample. The same was true in all four groups based on nationality and gender (see Table 3 for Cronbach's alphas, means, and standard deviations).

The ANOVA showed a significant main effect of violence, $F(1, 1068) = 51.54$, $p < .001$, $\eta_p^2 = .05$. Gamer stereotypes were less positive in the high-violence genres ($M = 4.27$, $SE = .05$) than in the low-violence genres ($M = 4.52$, $SE = .05$), consistent with Hypothesis 1. The identity main effect predicted by Hypothesis 2 was not significant, $F(1, 1068) = 2.31$, $p = .13$, $\eta_p^2 = .002$, although means were in the expected direction (high-identifiers $M = 4.46$, $SE = .03$; low-identifiers $M = 4.33$, $SE = .08$). However, as predicted by Hypothesis 3, the Violence × Identity two-way interaction was significant, $F(1, 1068) = 22.26$, $p < .001$, $\eta_p^2 = .02$; low-identifiers' stereotypes were less positive for the high-violence genre than for the low-violence genre ($M = 4.12$ vs. 4.53, $SE_{dif} = .06$, $t(1068) = 6.87$, $p < .001$), and although the same trend was also significant among the high-identifiers, the difference was only subtle ($M = 4.41$ vs. 4.51, $SE_{dif} = .03$, $t(1068) = 4.17$, $p < .001$) (Figure 1).

The analysis also produced several additional significant effects. To begin with, a significant main effect of trait type was found ($F(1.86, 1983.95) = 59.77$, $p < .001$, $\eta_p^2 = .05$), showing that the stereotype rating was the most positive on the competence dimension ($M = 4.58$, $SE = .06$), followed by physical/social attractiveness ($M = 4.39$, $SE = .04$) and morality ($M = 4.36$, $SE = .05$), and the lowest on warmth ($M = 4.24$, $SE = .06$). Group means indicated that gamer stereotypes were more positive in India[1] ($M = 4.54$, $SE = .07$) than in the United States ($M = 4.25$, $SE = .05$), that males ($M = 4.39$, $SE = .03$) were similar in means to females ($M = 4.39$, $SE = .04$), and that gamer stereotypes were generally more positive among younger participants ($M = 4.54$, $SE = .06$) than older participants ($M = 4.25$, $SE = .06$).[2]

Further, the main effect of violence level was qualified by several significant interaction effects, although not predicted; however, only one effect was larger than the stated cut-off ($\eta_p^2 > .01$) and is reported here. A Violence × Trait interaction ($F(2.75, 2933.71) = 9.27$, $p < .001$, $\eta_p^2 = .01$) indicated that stereotypes were less positive in the high-violence than the low-violence genre, especially for the morality ($M = 4.19$ vs. 4.53, $SE_{dif} = .05$, $t(1068) = 7.38$, $p < .001$) and warmth ($M = 4.07$ vs. 4.41, $SE_{dif} = .05$, $t(1068) = 6.41$, $p < .001$) dimensions, followed by the physical/social dimension ($M = 4.27$ vs. 4.51, $SE_{dif} = .04$, $t(1068) = 6.16$, $p < .001$), and then competence ($M = 4.53$ vs. 4.64, $SE_{dif} = .04$, $t(1068) = 2.96$, $p = .003$).[3]

Discussion

This study examined the contemporary social stereotypes of gamers in high- versus low-violence genres as a function of gamer identification. The study found gamer

Table 3
Stereotype Ratings by Nationality and Gender

	All			U.S.				Indian			
				Males (438)		Females (218)		Males (307)		Females (121)	
	α	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Physical/Social	.70	4.45	0.77	4.39	0.78	4.26	0.81	4.56	0.68	4.70	0.78
Competence	.75	4.53	1.14	4.47	1.15	4.45	1.05	4.63	1.16	4.68	1.19
Morality	.83	4.36	1.07	4.28	1.07	4.27	0.97	4.46	1.12	4.60	1.07
Warmth	.83	4.23	1.19	4.16	1.16	4.18	1.11	4.32	1.27	4.36	1.15

$N = 1{,}084$ for the whole sample, including 438 U.S. males, 218 U.S. females, 307 Indian males, and 121 Indian females.

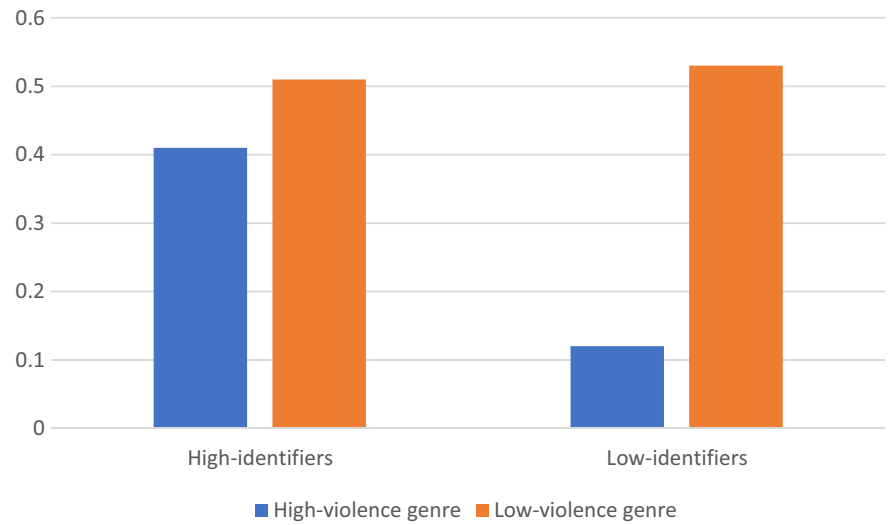

Figure 1 Social stereotypes about gamers by gamer identity (high-identifiers vs. low-identifiers) and genre violence level (high-violence genre vs. low-violence genre) among survey participants (N = 1,040; 905 classified as high-identifiers and 179 as low-identifiers). Scores are deviations from the midpoint of the scale in a positive direction.

social stereotypes to be positive overall, which diverged from previous research that reported a higher prevalence of negative gamer stereotypes (e.g., Kowert et al., 2014). There was, however, some variability in how positive the stereotype contents were, based on the game genre. Consistent with Hypothesis 1, gamer stereotypes in high-violence genres were less positive than those in low-violence genres. This pattern was consistent among male and female respondents in India and the United States. As expected, players of more violent games were seen as less moral, less warm, and physically and socially less attractive than those of less violent games. However, violence level was not associated with perceived competence. We did not find that gamer stereotypes were more positive among high-identifiers than low-identifiers, contrary to Hypothesis 2. However, consistent with Hypothesis 3, gamer stereotypes varied due to violence levels more for low-identifiers than high-identifiers. Interestingly, the less positive stereotypes (collapsed across all traits) vis-à-vis gamers in the high-violence genres were found only among respondents who reported lower identification as gamers (Amby et al., 2020). Those with a higher gamer identification showed only a trend in the same direction, indicating that they did not endorse a belief that gamers in high-violence genres were stereotyped more negatively in society.

To the best of our knowledge, this is the first study to report predominantly positive social stereotypes compared to past studies. A decade ago, Kowert et al. (2012) reported that gamer social stereotypes were predominantly negative in Britain and the United States. On a 7-point scale, they were approximately 6 on "unpopular" and 5.5 on "unattractive," "non-dominant," and "socially incompetent." Those who identified (176) and did not identify (166) as gamers generally agreed on their ratings. Interestingly, these researchers found their participants' personal gamer stereotypes to be much less negative than the corresponding social stereotypes, especially among those who identified as gamers. Nonetheless, a belief that gamers are unpopular remained robust in both groups. Four attributes that contributed to the popularity and social attractiveness ratings in Kowert et al. (2012) were shared in our present study; therefore, evidence is clear that gamer stereotypes were considerably more positive in the present study compared to the past decade.

It may be possible that participants in the present study simply reported a more desirable image of gamers as "shared in society" than they believed privately. However, we think these ratings likely reflect respondents' true beliefs about society's view of gamers for several reasons. First, we found gamer stereotypes were higher on competence and lower on warmth, and thus similar to male stereotypes, consistent with prior research (Paaßen et al., 2017). This was similarly captured in another recent study (Amby et al., 2020), where even non-gamers stereotyped gamers as smart (competent) although lazy and violent. Second, as already discussed, stereotype content for violent genres tended to be more positive among high-identifiers than low-identifiers, revealing a pattern consistent with in-group bias (Tajfel & Turner, 1979; Turner, 1978). Furthermore, we found the contents of the gamer stereotype to be similar for American and Indian groups. Although the

latter's stereotypes were more positive, no systematic societal differences were identified. Slightly more positive stereotypical images about gamers in Indian society may be due to Indian participants being exposed less to the traditional negative gamer stereotypes prevalent in the West. Also, as a developing country, India may consider technology a luxury and think highly of that commodity and its users (i.e., competent). The findings align with the characteristics of the Indian sample on MTurk with an increased possibility that they are computer literate, familiar with English, and less likely to have traditional values. These speculations warrant further in-depth investigation into Indian culture to explore specific cultural nuances.

We acknowledge the growing concerns about MTurk samples (Fleischer et al., 2015; Hauser et al., 2019) and attempted to rectify such limitations by including relevant attention checks within the survey. In addition to concerns about the data quality, using a digital platform to collect data opened the study to participants with a pre-established level of computer literacy which may have created an imbalance in the size of gamer and non-gamer groups. The imbalance in high- versus low-identifiers in the sample may also have implications for the generalisation of our results. We encourage future researchers to develop dedicated methods for recruiting low-identifiers and non-gamers when executing gaming-related studies. Furthermore, as speaking English was a requirement for participation in the study, our participants were sampled from an estimated 10–15% cross-section of the total population of India (Masani, 2012). Thus, it is crucial to acknowledge these sample biases when interpreting the data. We also invite future researchers to examine the impact of violence levels on gamers' perceptions at a personal level (personal stereotypes) and a societal level (social stereotypes). Although the newly added morality dimension performed similarly to warmth in our stereotype measurement, we suggest that morality may become even more important when the focus shifts to transgressive games that include anti-social activities beyond even violent acts, which warrants further examination. Another possible extension of this research would be to explore the stereotypes associated specifically with each gaming genre rather than consolidating them together as in the current study.

Limitations of the current operationalisation of game violence levels also warrant attention. We classified action, action-adventure, and role-playing games as more violent based on the ESRB ratings of the games we provided as examples; however, these genres contain other games, and there is variability in violence levels, both between and within genres. Thus, although we are confident that participants will have perceived these genres differently based on our examples, we suggest that future research manipulate violence levels more explicitly, perhaps concerning specific actions that players of these genres choose to enact. Nevertheless, despite our relatively loose operationalisations, our data showed that gamer stereotypes were less positive in the high-violence genres than the low-violence genres, consistent with our hypothesis.

Potential reasons for the shifts in gamer stereotypes

Some stereotypes are persistent, whereas others are more malleable and thus can shift more rapidly (Haslam et al., 2007). According to the latest report of Digital Australia (DA22), two-thirds of Australians play video games, with most homes having a device for playing video games (Brand & Jervis, 2021), which is a trend prominent across the globe, especially in the United States which is considered to be the leader in the gaming market in terms of revenue (Clement, 2021b). People may have perceived, likely inaccurately, that gaming was a hobby solely for alienated youth; it no longer appears to be the case. Video games may have come out into the living room, with everyone enjoying them. Thus, gamer stereotypes may reflect apparent changes in who plays the games and in what context. From that perspective, changes in gamer stereotypes would seem understandable.

However, what are the implications if there are still aspects of games, such as the opportunity to engage in violent action, that lead to negative stereotypes by non-gamers? Are these negative stereotypes fair? Given the high prevalence of violent games, governments, too, have increasingly expressed concern by creating policies for the gaming industry, and the proper classification of violence in games has been a major part of this process (Maclean, n.d.). Re-examining the debate about the consequences of violence in video games is beyond the scope of this study (see Gentile & Stone, 2005; King & Delfabbro, 2010; Przybylski & Weinstein, 2019); however, our current finding of overall positive stereotypes, including for high-violence genres, has certain implications for future debate. For example, if playing violent video games has any negative effects, even for a subsample of players (perhaps those who violate recommended age ratings), a combination of widespread positive attitudes and supportive norms for behaviour would be problematic. If the games have no negative effects, then efforts to change negative stereotypes by non-gamers seem warranted. Moreover, in line with growing concerns about pathological gaming disorders (see WHO, 2018), considering the frequency of gaming as another factor influencing perceptions may also be warranted (see Aarseth et al., 2017, and Griffiths et al., 2017, on including gaming disorder in the International Classification of Diseases 11). Is there a

threshold where too much gaming, violent or not, leads to more negative stereotypes?

Finally, with gaming entering mainstream sport and entertainment culture and its possible entry into the Olympics, gaming content's implications for gamers' perceptions—and the growing acceptability of highly antisocial content in the virtual sphere—need to be carefully examined. It is high time we as researchers kept up with the developing changes enforced by this pixel mogul.

Conflict of Interest

There are no conflicts of interest to declare.

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Author Contributions

Upekha Pathumi Miriyagalla: Conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; resources; software; visualization; writing – original draft. **Emiko S. Kashima:** Conceptualization; formal analysis; funding acquisition; investigation; methodology; supervision; visualization; writing – review and editing. **Arthur Stukas:** Conceptualization; supervision; visualization; writing – review and editing.

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Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Research Materials Statement

The materials used in this study are available on request from the corresponding author.

Pre-Registration Statement

The study reported in this article was not pre-registered.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website.

End notes

1 A main effect was found for nationality ($F(1, 1068) = 6.99$, $p = .008$, $\eta_p^2 = .007$).

2 Even though analysis found a significant main effect for both nationality and age, due to the effect sizes not meeting the cut-off of >.01, we have refrained from presenting them, acknowledging that in large samples like the present study significant effects with small effect sizes might represent an error/noise.

3 Other significant interactions with low effect sizes include three-way interactions for Violence × Identity × Trait ($F(2.74, 2933.71) = 4.34$, $p < .01$, $\eta_p^2 = .004$), and for Violence × Identity × Age ($F(1, 1068) = 6.79$, $p = .01$, $\eta_p^2 = .006$).

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