

The experience of procedurality: effects and appreciation of persuasive gameplay rhetoric

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EXTENDED ABSTRACT

Persuasive games can be defined from a social science perspective as games that were developed with the primary intention of changing or reinforcing attitudes towards real-world issues, products, services, or brands, in their players. This perspective opens the way to validating games' effects by investigating which attitudes the games are affecting. Although recent advances in the field are showing that some games do indeed change players' attitudes in a more lasting way than other media (Ruggiero 2015), studies on different games do not always come to the same conclusion (van 't Riet et al. 2018). Moving beyond studies of games as indivisible products can help to shed light on dissonant findings by instead investigating and comparing different persuasive mechanisms. Though prior work in this area has identified a host of mechanisms that can be embedded by themselves or in tandem to convey a message (de la Hera Conde-Pumpido 2013), it is perhaps best to start with persuasive strategies that are only viable within games. Procedural rhetoric – the embedding of a message in gameplay systems that allows players to come to their own conclusions based on in-game actions and consequences (Bogost 2007) – is arguably the most well-known of these strategies that was nevertheless yet to be demonstrated empirically.

The current paper describes the results of two experimental studies performed to determine the incremental validity of procedural rhetoric as a mechanism in persuasive games. The first study compared two complete games that mount persuasive arguments with regards to the same topic either by focusing on a strong, linear narrative or on implementing procedural rhetoric to let players trial behaviors in a virtual environment. Rather than manipulating the *inclusion* of procedural rhetoric and thereby possibly causing ripple effects on the experience of playing the game in question, we chose to alter the *strength* of the procedural argument. Both studies also tested a brief persuasive game experience scale meant to provide a more nuanced perspective on the appreciation players have for their experiences with persuasive games. We will briefly describe both studies and outline the conclusions that can be drawn from them.

In the first study, two persuasive games on the topic of teen dating violence were compared to each other and to a commercial control game unrelated to this issue. Their effects on attitudes with regards to the justification of abusive behaviors were

investigated among 262 participants aged 15 and up. The persuasive games were both entries for the annual Life.Love game design challenge (Crecente 2014) that asks designers to develop small games on dating violence without relying on violent gameplay. The experiment showed that while both games affected specific attitudes on acceptance of angry behaviors and self-efficacy in preventing abuse, their effects could not be distinguished. As one game (*Another Chance*, Another Kind 2015) relied on a character-driven narrative while the other (*Power and Control*, Sain 2011) hinged on procedural rhetoric, the lack of any clear difference in effects could be taken to mean persuasive game designers can emphasize different persuasive strategies freely without fear of the game losing its impact.

In the second study, the strength of procedural rhetoric was manipulated. For this study, *My Cotton Picking Life* (Rawlings, 2012), a game that used an expressly dull cotton picking gameplay mechanic to highlight the harsh futility of forced labor in Uzbekistan, was taken as a baseline. Through analytical game design, four different versions were created that (among others) weakened the reflective power of the picking mechanic. After experimental testing with 241 participants and noting attitude change (with regard to the intensity of the work of picking cotton) was halved for the ‘weak argument’ versions, it was clear *My Cotton Picking Life* relied heavily on this mechanic for its message. This was proof of the viability of procedural rhetoric as a persuasive mechanism.

Both studies were also used to test and develop the 10-item Persuasive Game Experience (PERGEX) scale. The PERGEX was designed to provide a nuanced counterpoint to studies of experiences with serious games which predominantly centered on providing ‘fun’ experiences. Consisting of indicators of hedonic and eudaimonic gratification and persuasion knowledge, the PERGEX showed robust scores across the three persuasive games and single control game under study. The persuasive games were evaluated as engaging educational experiences and could be distinguished as providing more or less fun regardless of their effects. Eudaimonic appreciation also positively predicted attitude change as a result of procedural rhetoric for *My Cotton Picking Life*, while hedonic enjoyment was a negative predictor – having more fun with the game coincided with less attitude change.

These studies demonstrate the value of investigating how games can provide different experiences to persuadees. We offered empirical evidence for the generalizable impact of procedural rhetoric while demonstrating that simple fun is not important for these games’ effects. We conclude with useful insights for future research on persuasive effects of games.

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