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White Paper:

**Can a Video Game Make Someone  
Nice?  
The Positive Impact of Prosocial Games**

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## **INTRODUCTION**

As game-based learning grows in popularity, questions arise as to the effectiveness of games to change learner behaviors and attitudes. Often, the question arises, can video games influence attitudes? Can playing a video game improve customer service or even more basically, can playing a video game make someone “nice”? That is a question posed in 2010 by a pair of researchers from Germany and the United Kingdom named Silvia Osswald and Tobias Greitemeyer. They wanted to determine if playing a prosocial game would result in a person exhibiting prosocial behavior outside of the game environment. In other words, could playing a game make a person nicer?

To find the answer, the researchers conducted a number of interesting experiments placing the subjects of the experiments in positions to assist others or not assist them playing a prosocial video game. Two of the experimental results are reported below.

In every instance, the individuals who played a prosocial video game were more willing to help than the people who did not play prosocial games. This has serious implications for organizations that don't just want to create games to provide content knowledge to players but who want to influence the learners to perform in certain ways such as providing positive customer service experiences or positively portraying the values of the organization.

## **EXPERIMENT ONE**

The first experiment was designed to examine the impact of prosocial, aggressive and neutral games on spontaneous, unrequested assistance. The researchers used a common research measure of spontaneous, unrequested assistance; they “accidentally” spill pencils on the floor and observe whether or not the subjects assisted in picking them up.

First Osswald and Greitemeyer randomly assigned subjects ranging in age from 19 to 43 to one of three video game conditions. The prosocial game was Lemmings, in that game the object is to help a group of animals, called Lemmings, get to safety. The basic objective of the game is to guide the lemmings through a number of obstacles to a designated exit and save the required number of lemmings to win. During the entire game, the goal is to save as many lemmings as possible and the behavior of saving lemmings was deemed a prosocial behavior by the researcher.

The aggressive game was Lamers which is the exact opposite of Lemmings, in Lamers, the player has an arsenal of weapons and attempts to destroy as many Lamers as possible so they do not reach their intended destination, if enough Lamers are destroyed, the player wins.

The neutral game was Tetris. Tetris, for those who may not know, is a puzzle game with a number of random shapes the player manipulates to complete a solid row of blocks.

After a subject played a video game for 8 minutes, at that point, the researcher came into the room, acted as if they were reaching for a questionnaire and spilled a cup of pencils. The



researcher then waited five seconds to see if the subject would help. It turns out that the subjects who played the prosocial video game were more likely to help pick up the pencils than those who had played the neutral or aggressive game. In total 18 subjects played the prosocial game and 12 (67%) helped to pick up pencils, 18 subjects played the neutral game and 6 (33%) helped with the pencils. Of the 18 subject who played the aggressive game, 5 (28%) helped pick up. Most subjects who played the prosocial game exhibited prosocial behavior; they helped to pick up the pencils. [1]

## EXPERIMENT TWO

In another experiment, Osswald and Greitemeyer wanted to take into account two variables that may have confounded earlier experiments. First, they wanted to eliminate the possibility that not all prosocial games fostered prosocial behavior. Maybe just Lemmings was an effective prosocial game so they switched the Lemmings game with another prosocial game called City Crisis to see if that would make a difference. City Crisis is a helicopter simulation where players assume the role of a rescue helicopter pilot. The object of the game is to save civilians from fires that spring up around the city.

Second, picking up pencils is low risk to the individual. The researchers wanted to see if subjects would react in a prosocial manner if they were in possible physical danger. So they upped the stress level of the experiment.

In the experiment 36 students, ages ranging from 19 to 43, were assigned randomly to one of two groups. The one group played the game City Crisis for 8 minutes and the other group played Tetris for 10 minutes. Each of the two groups was overseen by a female researcher. After ten minutes a male researcher came into the room posing as the female researcher's boyfriend. The researcher/boyfriend proceeded to enter the research area, ignore the subject and approached the female researcher. He then said, "Ah, there you are! I was looking for you in the whole building! Why do you ignore me like that? Why do you do that to me? Now you have to talk to me!" The researcher/boyfriend talked loudly, then shouted and kicked a trash can, and finally he pulled the arm of the female researcher to force her to leave the room with him.

Meanwhile, the female researcher, playing the part of the girlfriend, reacted reservedly and passively. She always repeated the following sentences with a low voice: "Shush, be quiet please. I have to work in here, I cannot talk to you. You are disturbing the experiment. Please do not be so loud."

The Osswald and Greitemeyer wanted to see whether or not the research subject would intervene. An intervention could be saying something to the female researcher ("Do you need help?") or saying something to the boyfriend/researcher ("I think you need to leave."). In the group that played the prosocial video game 56% intervened (10 out of 18) in the group that played the neutral video game only 22% helped (4 out of 18).



The researchers concluded that playing video games with prosocial content is positively related to increases in different kinds of prosocial behavior. Participants who had played a prosocial video game were more likely to help researchers pick up spilled items, were more willing to assist in further experiments and were more likely to help an individual being harassed. The conclusion that prosocial games have an influence on prosocial behavior has been repeated in other studies. [1]

## **DISCUSSION OF RESULTS**

It is clear from the two experiments conducted and reported by Osswald and Greitemeyer that activities from the game translated into activities outside of the game environment. Prosocial activities within the game encouraged prosocial activities in the physical world. The findings of are not isolated.

In a study led by Douglas A. Gentil from Iowa state university with researchers from around the world, the findings indicated that video games in which game characters help and support each other in nonviolent ways increase both short-term and long-term prosocial behaviors.

The research team reported on three studies conducted in three countries with three age groups. In a correlational study, Singaporean middle-school students who played more prosocial games behaved more prosocially. In two longitudinal samples of Japanese children and adolescents, prosocial game play predicted later increases in prosocial behavior. In an experimental study, U.S. undergraduates randomly assigned to play prosocial games behaved more prosocially toward another student. These similar results across different methodologies, ages, and cultures provide robust evidence that prosocial games can positively influence prosocial behavior. [2]

Research supports the conclusion that game-based learning, when provided in a positive prosocial context promotes prosocial behavior. This means that by having employees playing prosocial games, it may be possible to have their behaviors translate into prosocial interactions with customers. This can provide a great way influencing the difficult to train attitudes and interactions front line employees have with an organization's clients and other stakeholders.

## **RESEARCH INTO PRACTICE**

The results of the research provide two implications for designing using prosocial gaming techniques to promote positive and desired behaviors of employees within an organization. These implications can be used by instructional designers to create learning games that promote positive behavior.

The first is that games can convey more than simple knowledge. Often when games are considered as a training tool, the focus is on the content the games can convey. These



experiments indicate that more than knowledge can be conveyed or instructed through a game. The experiments show that attitude and a willingness to help can also be a result of a well designed instructional game.

The second is that the activities within the prosocial game used to promote the prosocial behavior do not have to be exactly correlated to the desired behaviors. In the first experiment, the person was saving Lemmings but the still helped to pick up pencils and in the second a person saved individuals in a city from fire. The in-games activities did not correlate with the demonstrated out-of-game behaviors. It is possible to develop games with prosocial elements that do not necessary correlate with on-the-job tasks and still obtain positive results.

*This excerpt was taken from the soon to be released book “The Gamification of Learning and Instruction” written by Karl Kapp which will be released in the Spring of 2011.*



## REFERENCES

The experiments outlines within this article are from the following sources:

[1] Greitemeyer, T. & Osswald, S. (February, 2010) Effects of Prosocial Video Games on Prosocial Behavior. *Journal of Personality and Social Psychology*, Vol 98(2), 211-221

[2] Albert K. Liao, Angeline Khoo, Brad J. Bushman, L. Rowell Huesmann and Akira Sakamoto Douglas A. Gentile, Craig A. Anderson, Shintaro Yukawa, Nobuko Ichori, Muniba Saleem, Lim Kam Ming, Akiko Shibuya. (25, March, 2009) The Effects of Prosocial Video Games on Prosocial Behaviors: International Evidence From Correlational, Longitudinal, and Experimental Studies. *Pers Soc Psychol Bull* 2009 35: 752.

## ABOUT THE AUTHOR

**Karl M. Kapp, Ed.D., CFPIM, CIRM**, is a consultant, scholar, and expert on the convergence of learning, technology and business operations. He speaks at many corporations on the topic of Gadgets, Games and Gizmos for learning. His background teaching e-learning classes, knowledge of adult learning theory, and experience training CEOs and front line staff provides him with a unique perspective on organizational learning. His experience with technology companies and high-tech initiatives provides him with insights into the future of technology. He shares those insights and perspectives through writing, teaching at Bloomsburg University, consulting and coaching clients and students.

He believes that the effective convergence of learning and technology are the keys to transferring knowledge from the exiting boomers to the incoming gamers. For further information, visit his web-site at [www.karlkapp.com](http://www.karlkapp.com).