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**From:** Kaar, Stephen [REDACTED]  
**Sent:** 31 May 2019 11:38  
**To:** ageappropriatedesign  
**Subject:** Age appropriate design: a code of practice for online services - nudge section

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Dear ICO,

Apologies for the late sending of this response. I'm going to comment on the "Nudge" section of the report, in particular its relevance to games as there are now few games that have no online component to them. In fact I believe most games are going to be subject to the new code.

On the whole this a very well considered section that touches upon a critical aspect of online gaming. Namely that games use a number of psychological techniques in order to encourage desired behaviours in players, with the aim of increasing time and often money spent in the game. Games have been compelling to play since day one and part of their enduring appeal to players has been to discover and play with such techniques in order to master and beat the game. People enjoy the challenge of playing hard games that take a long time to play which isn't intrinsically a bad thing. Having said this many of the most popular games played worldwide gather significant amounts of user data and are suspected of using such data to further influence the game environment. It seems unfair if a game is disadvantaging or incentivising a player in order to encourage spending without the player realising it.

Techniques that have been previously mentioned by experts other than nudges are: variable ratio reinforcement methods, sensory feedback and ready and constant availability. These mechanisms largely comes out the of the gambling literature and relies on operant conditioning. They are relevant in terms of potential harms, to some but not all games (i.e. no one talks about gaming disorder and Zelda on the Nintendo), but I'll comment more on this later. Whether these mechanisms are sufficient to cause harm in and of themselves is less well known. It does seem that some online games offer the combination of a highly rewarding playing experience and an online social world that can be extremely compelling (or meaningful) for example World of Warcraft or Fortnite. Again not necessarily a bad thing. It can be lots of fun. It seems unlikely that happy children, with clear boundaries, a nourishing and stimulating environment and secure attachments to care givers will find games with such techniques significantly problematic, though some academics would disagree with this and suggest a very small but significant minority of children, irrespective of psycho-social factors or co-morbid illness (perhaps less than 1%) would still have problematic relationships with such games. This remains controversial.

The area where academics appear more united is over the monetisation of gaming through micro-transactions and the introduction of gambling elements into games. So the psychological mechanisms discussed early, when coupled with a reward with a meaningful value may be far more serious and potentially harmful. Typically the gambling commission in the UK has only thought of such elements e.g. Loot Boxes and skin gambling, as gambling if the item won has real world monetary value. There have been cases within games such as Counter Strike Global Offensive when items won in game are able to be cashed out which has fallen under gambling regulation. There are many games where a player can win virtual currency that has a value in game, but cannot be exchanged for real world currency, but through being able to buy advantage in-game, indirectly has real world cash value because this advantage could also be bought with cash purchases of the in-game currency. Further examples of what has been termed "predatory monetisation" within gaming includes nudge techniques to pay for advantage, loot boxes which can be paid for with real world money for a chance of advantage (with no knowledge of the odds) and matchmaking algorithms that are suspected of being able to rig games so the player is more likely to lose, through the use of their personal information including spending habits and e.g. knowledge of the football players they own, with the aim of encouraging them to buy better footballers to even the disadvantage. These latter examples appear far more likely to cause harms than reinforcement elements within games e.g. being rewarded for completing a quest with an item that is totally removed from any kind of financial gain. Yet even this mechanism can be made more or less compelling based on the variable ratio reinforcement schedule and by individualising the in game reward to the players preferred style of play or other personal preferences gained from the users' data. Again the literature is divided over how much such elements can override an individual's ability to reflect on the negative impacts of their gaming behaviour in the long term and control their own play - "I've had to cut back on playing X game its too addictive". The vast majority of players are able to do this.

To me the crux of the matter with such elements within games is transparency, which your report highlights. Gamers need to be aware of the use of such techniques (the PEGI ratings on games do this to a limited degree) including the odds when chance elements are introduced. Loot boxes should not be in games designed for children. It seems similar to giving children access to limitless online scratch cards. Games that use algorithms to maximise spending by manipulating the in-game environment through the use of user data should also be discouraged. Companies should be discouraged from introducing elements that risk encouraging problematic play and encouraged to add elements that offer players rests, periods of reflection, incentives to do other activities, socialise outside of the game etc.. Players should be able to opt out of interacting with these elements in games. Some games do this.

I think your term of nudge is valid and specific because it implies a person is being nudged to do something that may otherwise chose not to do. The problem with adding in other terms like variable ratio reinforcement is that such techniques are aimed at making someone more likely to repeat a behaviour that they most likely wanted to do in the first place. It makes resisting repeating the behaviour less likely but is not necessarily bad, loads of games have these mechanisms and do not have players with gaming disorder. When money and unfair disadvantage is involved it does seem potentially harmful. Having said all this the dangers of gaming, in particular games without any monetisation or gambling elements or user data collection, have been exaggerated.

I hope some of this is helpful. Apologies that it is not more specific and structured but time and resources are limited. I and Gaming the Mind would be more than happy to be involved further down the line. If you would like me to comment further on any specific aspects of gaming and the report I would be happy to do so.

Best wishes,

Dr Stephen Kaar  
Gaming the Mind.

