

Crimes Against Pokémon GO¹: why dopamine does not explain the pleasure of video games

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INTRODUCTION

There is a tendency in research (e.g., Mentzoni et al. 2011) and the media, to explain the popularity or pleasure of a given video game with reference to the neurotransmitter dopamine “Video games may be rewarding because it [sic.] activates dopaminergic neurotransmission in the brain’s reward circuits” (Mentzoni et al. 2011, 1). This was also the case when Pokémon GO exploded onto the world scene in the summer of 2016. At the time the popularity of the game and the fervor of its players was described in some media outlets with reference to addictive substances and dopamine (Kjeldtoft 2016). This is not unique for this game or just one publication, if one looks up “Video Game Addiction” on sites such as WebMD one finds that dopamine heavily implicated as a possible culprit in the disorder (Rauh 2017).

NOT THE NEUROTRANSMITTERS YOU ARE LOOKING FOR

Research on the addictiveness of video games often mistakenly refer to a study by Koeppe and colleagues (1998) as evidence that playing video games (like the ingestion of psychoactive drugs) is pleasurable because it cause dopamine to be released in the brain. This study, however, was not designed to measure the effects of playing video games. It is becoming increasingly clear that dopamine probably does not generate pleasure *per se*, what it does instead is to monitor errors in the prediction of rewards (Berridge and Kringelbach 2015). Since dopamine plays a vital role in learning (Schultz 2016) it would

¹ The title is inspired by Humphries (2017)

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be surprising if it is not released during the playing of games (at least if the games are any good). The idea that dopamine is a “pleasure chemical” is not easily erased, perhaps because it has been the most likely candidate for decades and have therefore featured in many textbooks (Berridge and Kringelbach 2015). Few neuroscientists who study dopamine today assert that dopamine causes pleasure (Berridge and Kringelbach 2015) and popular science writers are also starting to correct the “crimes against dopamine” (Humphries 2017).

In the US the American Psychiatric Association (APA) has suggested that video game addiction may be a distinct addictive disorder under the name "Internet gaming disorder" (APA 2013). This paper will argue that the release of dopamine in the human brain in and of itself is insufficient to explain why people like playing video games (or any other activity). Explaining any play behavior with reference solely to dopamine creates an implicit ontology of the activity that obscures important aspects rather than to highlight them.

WHAT THEN EXPLAINS THE SUCCESS OF POKÉMON GO?

In the following, this paper’s second author attempts to describe the rise of Pokémon GO from a more personal perspective.

The game is approached as a phenomenon consistent within the cross-platform nature of the *Pokémon* franchise that is part of the *Media Mix* (Consalvo 2016; Condry 2013; Steinberg 2012; Picard and Pelletier-Gagnon 2015), an important strategy through which content is distributed across different media forms for consumers to engage with the *Pokémon* world. As a media mix complex, *Pokémon*’s message “gotta catch ‘em all” is a crucial element that appears in any media format, since engaging with *Pokémon* revolves around obtaining the creatures by capturing them. The act of catching them shows to be more important than the method, as it reduces *Pokémon* to commodities to own and control.

Two keywords of the previous *Pokémon* games are ‘*sodateru*’ (nurturing) and ‘*tsuushin*’ (communication) (Allison 2006; Kohler 2016). In previous games nurturing occurred by raising your *Pokémon* to strengthen them or interacting with them by petting or feeding, making them similar to pets. Communication occurs by having to interact with other players to trade *Pokémon* with in order to collect all of them. While these keywords appear in *Pokémon Go* as well through the companion feature and the possible interaction players can have by catching the creatures or taking on a gym together, the player experience reveals however that these features are limited due to the game’s mechanical loop – that is, players need powerful *Pokémon* if they wish to use the creatures at all, but in order to strengthen their creatures players need to exchange other captured *Pokémon* for candies to feed the *Pokémon* they wish to level up.

Trading between players is not supported, making it difficult for players in rural areas, or countries where certain *Pokémon* do not appear, to continue adding new *Pokémon* to their collection. Especially rare *Pokémon* can rarely become powerful enough to use in battles, because it is difficult to catch their counterparts, hence rare *Pokémon* might initially be exciting to catch thanks to their uncommonness, but their lack of utility causes them to be commodities mostly for looking at. This is in stark contrast to the trading cards. Players of that game might not see their *Pokémon* in AR, but rare *Pokémon* can also be obtained through trading, and counterparts do not have to be sacrificed to strengthen the creatures in that game.

As a result, the creatures in *Pokémon Go* are treated as products that are either easily disposable or impossible to use. *Pokémon Go* encourages players to catch as many creatures as possible effectively transforming them into Pokémon-consumers of Pokémon commodities, this is in alignment with the Pokémon brand's overall cross-media synergy, but it also transforms the *Pokémon* to commodities of little value; essentially making them trivial digital possessions sitting in players' virtual backpacks.

CONCLUSION

Research into dopamine has revealed that it is an unlikely candidate to be the “pleasure chemical” that it was previously thought to be. Therefore, the pleasure of Pokémon GO is poorly described in terms of dopamine alone. However, technology is often described as something that offers its users a “quick fix” akin to the one that addicts seek. We have sought to present a different perspective on the rapid success of Pokémon as a contrast to the “quick fix” and “addiction” explanations. Connection neuroscience with this “player (or consumer) perspective” proved to be a significant (and perhaps insurmountable) challenge.

The present abstract falls within the literature that takes a critical stance towards the notion that video games cause addiction and advocates for a different framework to explain why some people appear to play to excess (e.g., Aarseth et al. 2016; Karlsen 2013; Brus 2013; Kardefelt-Winther 2015; Wood 2008) and goes against the literature that advocates for the inclusion of the disorder in diagnostic manuals (e.g., Petry et al. 2014; APA 2013; Tao et al. 2010).

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