

Get Up and Go with the Pokémon You Know? The Effects of Pokémon GO App Play and Parasocial Relationships on Physical Activity

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Introduction

- Physical activity is an important determinant of human health, yet many children and adults are not achieving recommended levels of physical activity.^{1,2}
- Sedentary behavior can often be caused by sustained engagement with electronic media.¹
- Mobile Exergames: mobile apps that promote physical activity by tracking movement via pedometers and built-in GPS systems.¹
- Pokémon GO: an augmented reality mobile exergame that reached over 40 million people worldwide.²
 - Parasocial relationships (PSRs), one-way, emotionally-tinged relationships with characters—in this case with familiar Pokémon characters—may influence players.³
- Little is known about the success of Pokémon GO in improving physical activity by stimulating walking, particularly in terms of their relationships with favorite characters.

Research Questions (RQs):

- RQ₁:** Do parasocial relationships between individuals and their favorite Pokémon GO characters impact an individual's play of the Pokémon GO app?
- RQ₂:** Does frequency of Pokémon GO app play increase an individual's physical activity level?

Method

- 329 individuals (M age = 24.56 years, SD = 7.04, range = 18 years – 60 years, 198 females and 122 males) recruited via email, Facebook, or through other social media platforms.
- Completed online survey including: 1) PSR Measure,^{4,5} and (2) Motivation and Perceived Physical Activity Measure.



Results

Figure 1: Popular Pokémon GO Favorite Characters



Pikachu



Eevee



Charmander

RQ₁) Dimensions of Participants' PSRs with favorite Pokémon GO Characters

Factor	Eigen Values	% of variance	Items	Factor Loadings	M	SD
Attachment and Friendship $\alpha = .895$	4.063	58.05	"When I was younger, character soothed me."	.89	.21	2.83
			"When I was younger, character made me feel comfortable."	.88	.28	2.96
			"When I was younger, character made me feel safe."	.87	.18	2.59
			"When I was younger, I treated character as a friend."	.70	.35	3.02
Humanlike Needs $\alpha = .793$	1.169	16.70	"When I was younger, I believed character got hungry."	.22	.89	2.83
			"When I was younger, I believed character got sleepy."	.30	.86	3.02
			"When I was younger, I believed character had thoughts and emotions."	.19	.67	3.61

RQ₁) Model Predicting Frequency of Pokémon GO App Play

Independent Variables	B	SE
Attachment and Friendship	-.169**	.060
Est. Age in Years	.067***	.010
Motivation to Increase Physical Activity through App Play	.230***	.046
Adjusted R ²	.340	
F	40.136***	
df	3,225	
N	228	

** $p < 0.01$; *** $p < .001$

RQ₂) Model Predicting Perceived Physical Activity Effect from Playing Pokémon GO

Independent Variables	B	SE
Frequency of App Play	.078*	.030
Motivation to Increase Physical Activity through App Play	.311***	.026
Adjusted R ²	.399	
F	107.737***	
df	2,320	
N	322	

* $p < 0.05$; *** $p < .001$

Discussion

- Emergence of two PSR dimensions: 1) attachment & friendship, and 2) humanlike needs.
- Negative relationship between PSRs to favorite characters & Pokémon GO app play could be due to age differences or to infrequent exposure to rare Pokémon GO favorite characters.
- Pokémon GO app play positively impacted reported perceptions of physical activity improvements, suggesting its success as a mobile augmented reality exergame.
- Future research should investigate the social realism dimension of PSRs and physiological measures of physical activity when playing Pokémon GO.

References

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