

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

Marie Frolich

Thesis Mentor: Dr. Sandra L. Calvert



Children's Digital Media Center

Introduction

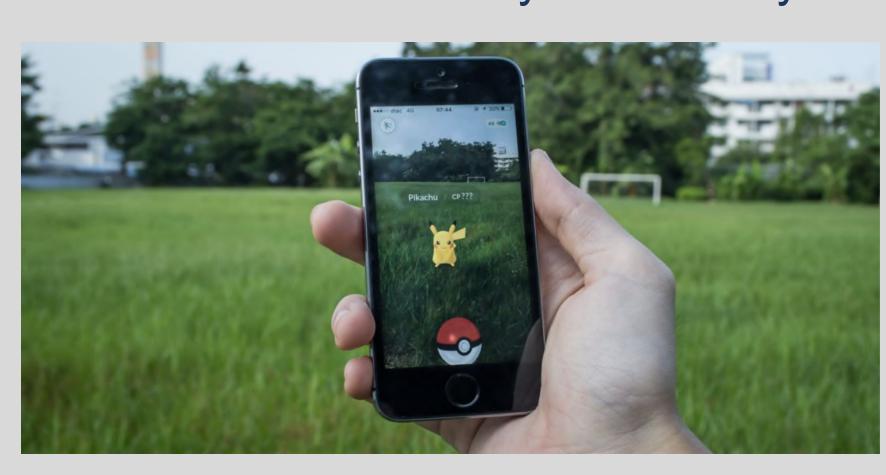
- Physical activity is an important determinant of human health, yet many children and adults are not achieving recommended levels of physical activity.^{1,2}
- Sedentary behavior can often be caused by sustained engagement with electronic media.¹
- Mobile Exergames: mobile apps that promote physical 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, emotionallytinged 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?

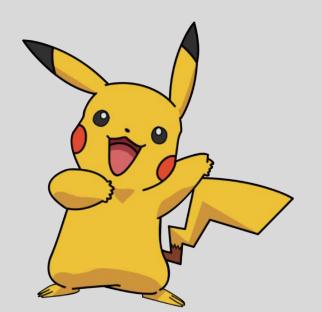
Method

- 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	Fac Load		M	SD
Attachment and Friendship	4.063	58.05	"When I was younger, character soothed me."	.89	.21	2.83	1.11
$\alpha = .895$			"When I was younger, character made me feel comfortable."	.88	.28	2.96	1.20
			"When I was younger, character made me feel safe."	.87	.18	2.59	1.15
			"When I was younger, I treated character as a friend."	.70	.35	3.02	1.20
Humanlike Needs	1.169	16.70	"When I was younger, I believed character got hungry."	.22	.89	2.83	1.23
$\alpha = .793$			"When I was younger, I believed character got sleepy."	.30	.86	3.02	1.24
			"When I was younger, I believed character had thoughts and emotions."	.19	.67	3.61	.90

RQ₁) Model Predicting Frequency of Pokémon GO App Play

ndependent Variables	В	SE	
Attachment and Friendship	169**	.060	
st. Age in Years	.067***	.010	
Motivation to Increase Physical Activity through App Play	.230***	.046	
justed R ²	.340 40.136***		
	3,225 228		

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

Independent Variables	В	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			
* <i>p</i> < 0.05; *** <i>p</i> < .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

- . Boulos, M.N. & Yang, S.P. (2013). Exergames for health and fitness: the roles of GPS and geosocial apps. *International Journal of Health Geographics*, 12(18), 1-7.
- 2. Althoff, T.W. White, R.W., & Horvitz, E. (2016). Influence of Pokémon Go on Physical Activity: Study and Implications. *J. Med Internet Res., 18*(12), 315.
- 3. Bond, B.J., & Calvert, S.L. (2014). A model and measure of US parents' perceptions of young children's parasocial relationships. *Journal of Children and Media, 8*(3), 286-304.
- 4. Richards, M.N., & Calvert, S.L. (2016). Parent versus child report of young children's parasocial relationships in the United States. *Journal of Children and Media, 10*(4), 462-480.
- 5. Richards, M.N., & Calvert, S.L. (2017). Measuring young U.S. children's parasocial relationships: Toward the creation of a self-report survey. *Journal of Children and Media*, 11(2), 229-240.

Acknowledgments

A very special thank you to the Children's Digital Media Center at Georgetown University for their help completing this project and in particular, Dr. Naomi Aguiar.