LONGITUDINAL NETWORK DYNAMICS AMONG PLAYERS OF A RECREATIONAL COMPETITIVE BOARDGAME

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Background

Games are frequently played with and/or against other people. In some instances, socializing during gameplay may be more important than the game itself, which only serves as a pretext for social interaction (Woods, 2012). Other players can substantially influence gameplay experiences and outcomes, in terms not only of game performance (Bowman, Weber, Tamborini, & Sherry, 2013), but also learning and strategy acquisition (Weintrop & Wilensky, 2013), social-psychological experiences (Backus, Cubel, Guid, Sanchez-Pages, & Mañas, 2016), and social relationships (Pace, Bardzell, & Bardzell, 2010). Nevertheless, despite some understanding of underlying motivations for playing games in general (Sherry, Lucas, Greenberg, & Lachlan, 2006), little is known about how individuals seek out and select others to play games with and against. Because opponent selection is an antecedent to the experience and consequents of gameplay, understanding this process is critical for understanding and predicting gaming effects—including learning and other meaningful outcomes.

Aim

This study analyzed gameplay logs to explore opponent selection dynamics among a group of recreational online boardgamers. Although this study was largely descriptive and exploratory, future research will generate a predictive model of opponent selection.

Method

To explore opponent selection dynamics among recreational boardgame players, available data in the form of gameplay logs were collected from an online portal for playing boardgames, BoardSpace.net, and subjected to network analysis. Gameplay logs for the boardgame *Hive* (Yianni, 2001), a two-player, competitive, turn-based boardgame, were collected from available records on BoardSpace.net. In this study, tournament plays were excluded so as to focus on autonomous opponent selection and plays against AI bots were excluded to focus on human opponent selection only. In total, these data represent 3,741 distinct players who collectively played a total of 18,983 games of *Hive* between July, 2006, and September, 2017.

Results

Initial descriptive analyses suggested that the vast majority of individual players, as well as dyads of individuals who played against each other, were active for only a single month of the 135 months contained in the dataset. Despite this high level of variability at the level of individuals and dyads, overall network structures remained consistent over time. Regardless of the time period, player networks were characterized by a consistent core-periphery structure (see Appendix A). A small number of players who played games against each other formed the cores of these networks. Many other individuals either (a) only played against one of the players who formed this core or (b) only played against one of *those* players who otherwise played only against a core player. A large number of player dyads never played against anyone outside of their dyad. Although many of these isolated dyads only played a small number of games, some played intensely.

Conclusions

The variability in individuals' gameplay patterns suggests that individuals used multiple opponent selection strategies. The consistency of overall player network structures suggest that although individual players varied over time, a consistent set of opponent selection strategies were used. For example, some players may have chosen opponents at random, while others may have specifically played against individuals they already knew. Potential additional network analyses and future research directions will be discussed.

References

Backus, P., Cubel, M., Guid, M., Sanchez-Pages, S., & Mañas, E. L. (2016). *Gender, competition and performance: Evidence from real tournaments* (IEB Working Paper 2016/27 No. ID 2858984).

Bowman, N. D., Weber, R., Tamborini, R., & Sherry, J. (2013). Facilitating game play: How others affect performance at and enjoyment of video games. *Media Psychology*, *16*, 39–64. doi:10.1080/15213269.2012.742360

Pace, T., Bardzell, S., & Bardzell, J. (2010). The rogue in the lovely black dress: Intimacy in World of Warcraft. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 233–242. doi:10.1145/1753326.1753361

Sherry, J. L., Lucas, K., Greenberg, B. S., & Lachlan, K. (2006). Video game uses and gratifications as predictors of use and game preference. In P. Vorderer & J. Bryant (Eds.), *Playing video games: Motives, responses, and consequences* (pp. 213–224). New York, NY: Routledge.

Weintrop, D., & Wilensky, U. (2013). Know your enemy: Learning from in-game opponents. *Proceedings of the 12th International Conference on Interaction Design and Children*, 408–411. doi:10.1145/2485760.2485789

Woods, S. (2012). *Eurogames: The design, culture and play of modern European board games*. Jefferson, NC: McFarland.

Yianni, J. (2001). *Hive* [Board game]. Hertfordshire, United Kingdom: Gen42 Games.