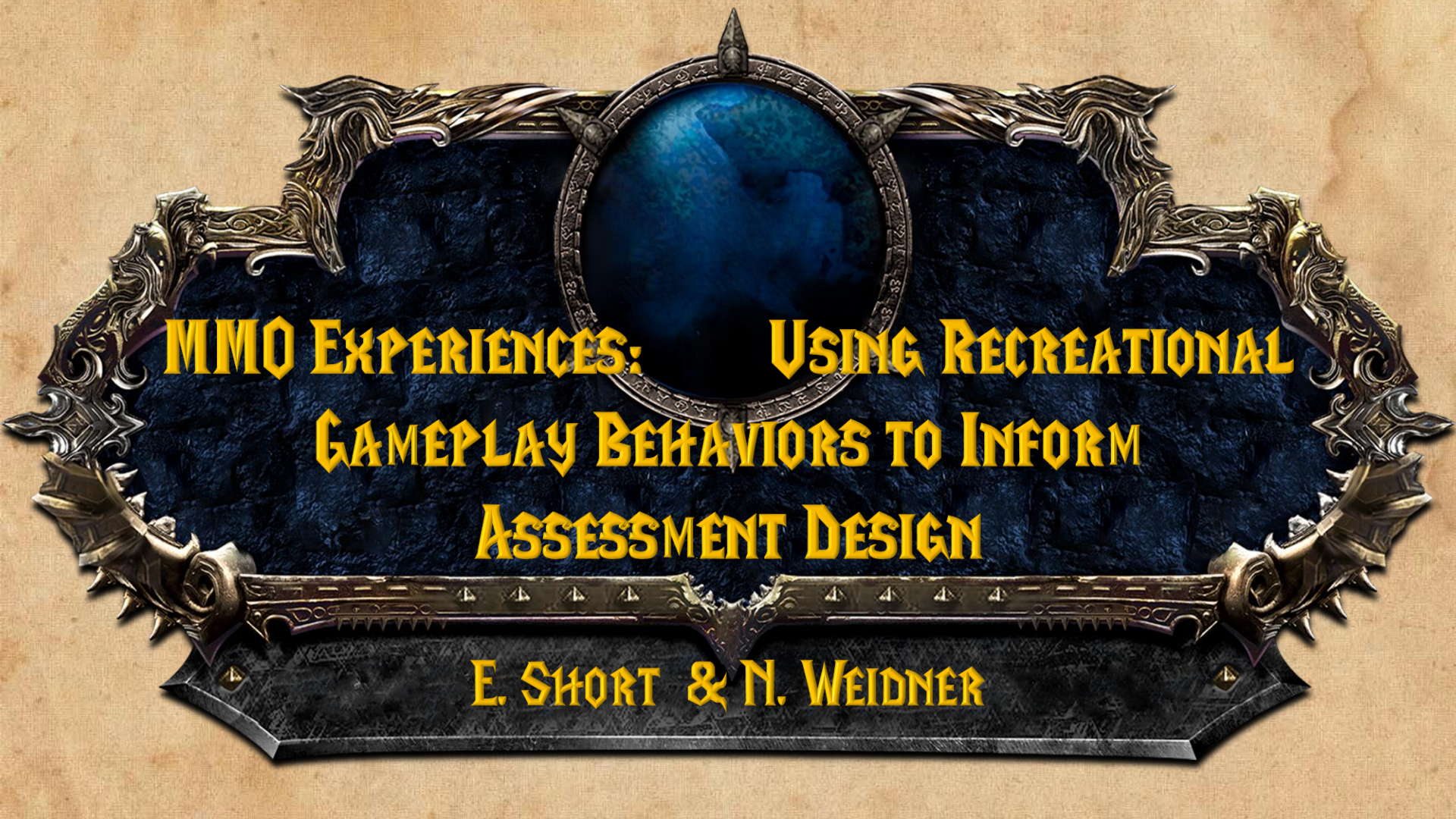
MMO Experiences: Using Recreational Gameplay Behaviors to Inform Assessment Design
E. Short & N. Weidner

Can Recreational Gameplay Serve additional Purposes?

'If You're Playing *EVE Online* You Basically Already Have An MBA,' Says Player Who Built His Own Company [UPDATE]

...ills Help Land a Job?

...LinkedIn

10-Year-Old Credits 'Mario Kart' For Helping Him Save His Grandma's Life

5 Life Skills That Video Games Can Help You Develop

Examining Emergent Gameplay Behaviors

1. Are similar skills related to performance in both game and the workplace domains?
2. To what degree does the context of gameplay influence behavior and the transfer of behavior across domains?
3. How can we examine emergent gameplay behavior to help inform game based assessment design?

Study 1: Virtual Teamwork Across Domains

Virtual Teams are a growing trend in organizations (Biro, 2014) and many online games involve virtual teamwork.

Research has commonly used videogames to test team-related constructs such as:

- **Shared Mental Models** (Resick et al. 2010)
- **Trust and Teamwork** (Lee & Chang, 2013)

Other authors have found preliminary evidence that videogame play could be used to enhance team **performance** (Craighead, 2011) and **cohesion** (Greitemeyer & Cox, 2013).

Short, Weidner, & Sirabionan 2017

Examining Virtual Teamwork Preferences and Skills

World of Warcraft (WoW) Players (n = 265) who were working (*M* = 38.41 hours per week) adults (*M* = 28.49 years old) were recruited through online blogs and discussion boards in exchange for entry into a drawing for Amazon gift cards.

<u>WoW chosen because:</u>

1. **Well established game & community with an adult fan base.**
2. **It has numerous team related performance outcomes which are publicly tracked.**
3. **It has been used in a wide variety of previous research studies.**

Results of Study 1

	Dungeon Points	Raid Points	Average Time to complete
Openness	0.09	0.1	-0.16
Conscientiousness	-0.05	-0.03	0.04
Extraversion	-0.01	-0.02	-0.07
Agreeableness	**-0.21***	-0.15	0.11
Neuroticism	-0.04	-0.05	0.06
Preference for Virtual Teams (over Alone)	-0.11	**0.18***	-0.11
Preference for Virtual Teams (over Face to Face)	**0.20***	**0.19***	-0.16
Technology Readiness Index	0.14	**0.18***	**-0.16***
Computer Mediated Communication Effectiveness	0.07	0.13	-0.13
Gamer Identity Strength	**0.33****	**0.33****	**-0.2****

Study 2: Personality across Domains

- Cognitive skills seem to generalize, but relationships with non-cognitive traits and individual differences such as personality may be more difficult as they can vary across contexts (Pomerance & Converse, 2014).

- Behavior is the result of both **an individual's personality** as well as **the situation in which they are acting** (Mischel; 1973, Wright & Mischel, 1987).

Short & Weidner 2018 & 2019

Results of Study 2

Cross-Domain Correlations

	OCB	CWB	Learning	Prove	Avoid	Dungeon Points	Raid Points	PVP Points
Passive	-.03	**.45****	-.03	.20**	.20**	.15**	.08	**.06**
Aggressive	-.11*	**.27****	-.09*	.16**	.14**	.26**	.22**	**.18****
Prosocial	**.31****	-.15**	.22**	-.01	-.16**	**.23****	**.20****	.08
Learning	.17**	-.10*	**.30****	.13**	-.15**	**.34****	**.30****	.15**
Prove	.04	.13**	.01	**.53****	.34**	.32**	.28**	**.13****
Avoid	-.10*	.14**	-.19**	.25**	**.56****	-.10*	-.07	-.01

How can this inform Game Design?

Mechanics Versus Dynamics

- Simple mechanics and measures may not be sufficiently aligned with personality facets and dimensions.

- Need to consider the multiplicative effects of mechanics which create a game dynamic for which personality will make an impact on gameplay behaviors.

No simple predictor of Personality

Study 1 found little to no impact of personality on broader measures of team based game performance.

Measure	Dungeon Achievement Points	Raid Achievement Points	**Average Time to complete** Heroic Dungeons
Openness	0.09	0.1	-0.16
Conscientiousness	-0.05	-0.03	0.04
Extraversion	-0.01	-0.02	-0.07
Agreeableness	**-0.21***	-0.15	0.11
Neuroticism	-0.04	-0.05	0.06

Gameplay Dynamics Related to Personality

Around 400 total character achievements were present in the Warlords of Draenor expansion of WoW.

- We had previously coded only a subset of **125** of those related to dungeon & raid performance.

Using Forward Regression in SPSS and dichotomous indicators of achievement completion we explored which achievements may be related to personality.

Study 3: Example

Predicting Conscientiousness from Achievements

Variable	B	Beta	*t*	*p*
(Constant)	3.35		28.17	.00
They Burn, Burn, Burn	-0.03	-0.21	-2.61	.01
Is Draenor on Fire?	0.04	0.21	2.60	.01

N = 154, Multiple R = .26 $R^2 = .068$

Exploring Game Dynamics

← They Burn, Burn, Burn

Is Draenor on Fire →

Conscientious Gameplay

May include elements such as:

- Focus on a specific objective.
- Being able to ignore smaller distractor objectives and extraneous information.
- Pattern recognition and adaptation.
- Maintaining or following through on a strategy.
- Systematic or repetitive actions which keeps the gameplay under control.

What can we learn from Casual Games?

1. Some skills are helpful in both casual games and in the workplace.
   - Need to further explore the degree to which casual games may be developing these skills
2. Behavior does generalize across domains
   - Personality and non-cognitive predictors may activate behaviors somewhat differently in games due to contextual cues.
3. Casual Games may help us to explore the types of gameplay dynamics which best relate to personality and other non-cognitive predictors.