Gameplay Enjoyment, Gender, and 19 Individual Characteristics More Influential than Gender

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Abstract: As the scientific understanding of player differences and gameplay enjoyment matures, it becomes necessary for games scholars to ground research trajectories in empirical findings, rather than long-held assumptions. Although observable differences between players may appear to exist along gendered lines, empirical evidence has not been so conclusive. Following a survey of the gameplay preferences, gaming goal orientations, and play habits of 301 participants, a stepwise regression analysis was undertaken to examine gender alongside several other potential predictors of gameplay enjoyment. In the end, gender did not prove to be a substantial predictor of gameplay enjoyment, while gaming goal orientations were the strongest predictors. The results of this study point to several promising variables that should be considered in continued research. Furthermore, this study reaffirms the need for games scholars to focus towards detailed individual characteristics that can provide deep insights into player experiences.

Introduction

Many game-related works have centered on gender (Heeter & Winn, 2009; Kafai, 2008). Popular games and gender topics include industry employment gaps (Gee & Hayes, 2010), avatars and identity (Hussain & Griffiths, 2008; Isbister, 2006; Williams, Consalvo, Caplan & Yee, 2009; Yee, 2008), and educational gaming (Annetta, Mangrum, Holmes, Collazo, & Cheng, 2009; Carr, 2005; Hayes, 2005; Heeter, Egidio, Mishra, Winn, & Winn, 2008; Wei & Hendrix, 2009). However, in empirical investigations of the gameplay experience, gender has played a dual role.

At times, gender has been used to show distinctions between players. Wood, Griffiths, Chappell, & Davies (2004) surveyed 382 undergraduates on their gameplay preferences and noted significant gender differences in 11 out of 13 categories. In a study of the preferences of German females, Hartmann & Klimmt (2006) concluded that the women generally preferred high amounts of social interaction, non-sexualized female protagonists, and low levels of violence in games. Greenberg, Sherry, Lachlan, Lucas, & Holmstrom (2010) surveyed over 1,000 high school and university students' gaming gratifications and genre preferences. Males rated all nine gaming gratifications significantly higher than females. Also, females preferred more traditional game genres (e.g. card, puzzle, arcade), while males preferred more physical (e.g. sports, fighting) and imaginative (e.g. strategy, adventure) games. Further, a common gender finding is that males tend to dedicate many more hours per week to gaming than females (Greenberg et al., 2010; Hoffman & Nadleson, 2010; Winn & Heeter, 2009).

At other times, gender has proven less substantial. After qualitatively analyzing an all-girls after school game club in England, Carr (2005) questioned prevailing, simplistic views on gender and gaming. She explained that, while it may be easy to generate data showing gendered game preferences, simply attributing such differences to a person's gender ignores the vast complexity of both gender and gaming preferences. Hayes (2005) shared these views and added that designing games for women should be similar to designing good games in general. Moreover, a study in which 33 participants played a commercial game, then reported their personality traits and affective responses, found no statistically significant gender effects (Chumbley & Griffiths, 2006). Likewise, a study of 74 primary school students were shown to improve their test performance after being exposed to a science learning game regardless of their genders (Annetta et al., 2009). Lastly, Bourgonjon, Valcke, Soetaert, and Schellens (2010) conducted a path analysis of 858 Flemish students' video game preferences and found that gender had a very weak main effect. Here, the gender effect was mediated by prior experience and ease of use.

Based on this body of literature, the present study aims to reevaluate gender as a potential predictor of gameplay enjoyment, not by itself, but as accompanied by several other promising variables. Thus, it is intended that the role that gender and other individual characteristics play in predicting gameplay enjoyment can be identified for the purposes of informing future research.

Method

The gameplay feature preferences, motivations, and usage habits of 301 participants from a large southwestern university in the United States were surveyed. The respondents ranged in age from 18 to 49 (*Mdn* = 21), with 84% being between 18 and 24 years old. In terms of gender, 29% were female, 70% were male, and 1% chose not

to share this information. The participants came from a variety of fields of work and study, including engineering, science, psychology, humanities, arts, and business.

The survey instrument assessed respondents' game preferences, gaming goal orientations, and game usage habits. In the game preferences section, participants rated how important 41 features, such as *Realistic graphics* and *Online multiplayer*, were to their enjoyment of games. Feature ratings were made on a 5-point scale that ranged from *Not important* to *Extremely important*. Subsequently, the feature ratings were combined to yield an overall Enjoyment score, which provides an indication of how much each participant enjoys gaming in general. In the gaming goal orientations section, participants used a 5-point scale that ranged from *Not true* to *Extremely true* to rate 18 statements about their gaming motivations. These statements were adapted from the educational 3x2 goal orientation framework (Elliot, Murayama, & Pekrun, 2011) to fit a gaming context. Example statements include *To win on a challenging difficulty level*, *To do better than other players*, and *Avoid playing worse than I have in the past*. For each participant, factor scores were generated on the six dimensions of the 3x2 framework, including Task-Approach, Task-Avoidance, Self-Approach, Self-Avoidance, Other-Approach, and Other-Avoidance. In the game usage section, participants reported on a host of play habits variables, such as hours played per week, preference for play with others, frequency of play on different gaming consoles, and enjoyment of several game genres. Specific scales were used as appropriate for each game usage question. Survey responses were analyzed through a stepwise regression approach. The stepwise regression analysis was conducted using the *stepAIC* function from the *MASS* package (Venables & Ripley, 2002) in *R* (R Development Core Team, 2012).

Results

A bidirectional stepwise regression analysis was conducted to assess how well an array of potential predictors, including gameplay goal orientations, gender, and play habits variables, explain players' overall enjoyment of video games. In this analysis, the composite Enjoyment score was designated as the dependent variable. Meanwhile, 48 potential predictors were entered as independent variables. Potential predictors included the six gaming goal orientation factors, gender, and numerous game usage variables (hours played per week, frequency of platform usage, genre ratings, and so on). The stepwise regression procedure yielded a model with 19 independent predictors. The overall model was statistically significant and accounted for 83% of the variance in gameplay Enjoyment (R^2 = .828, adjusted R^2 = .816, $F(19, 273) = 68.93$, $p < .001$). The model and its predictors are summarized in Table 1.

Discussion

The stepwise regression analysis retained 19 of the 48 potential predictors. Most notably, all six of the gaming goal orientation variables were statistically significant predictors of gameplay Enjoyment. Indeed, the three strongest predictors in the model were gaming goal orientations: Task-Avoidance (motivation to avoid poor performance in games), Self-Approach (motivation to outperform one's past performance in games), and Other-Avoidance (motivation to avoid performing poorly relative to other players). Additionally, enjoyment of the Shooting and Sports genres were modest predictors of gameplay Enjoyment. Other modest predictors of gameplay Enjoyment included the number of companions that one prefers to play with (e.g. solo, one other, two others, and so on) and the age at which one began playing games. The remaining genre preferences, along with the frequency of use of different gaming platforms, were among the weakest predictors that managed to be included in the model. Surprisingly, the gender variable failed to make the model at all, which suggests that it is a rather poor predictor of gameplay Enjoyment relative to the other variables included in this analysis.

Predictor	*b*	*SE*	*t*	*p*
Task-Avoidance	.267	.033	8.133	***
Self-Approach	.254	.038	6.771	***
Other-Avoidance	.180	.036	4.955	***
Shooting Genre	.137	.030	4.501	***
Number of Companions	.135	.029	4.664	***
Task-Approach	.126	.025	4.368	***
Other-Approach	.122	.038	3.206	**
Age Began Playing	.122	.027	4.475	***
Sports Genre	.111	.028	3.976	***
PSP Platform Usage	.076	.026	2.927	**
RPG Genre	-.074	.029	-2.587	*
Self-Avoidance	.068	.031	2.177	*
Social Network Genre	.067	.028	2.363	*
Games Played Last Month	-.065	.028	-2.360	*
iOS Platform Usage	-.061	.027	-2.246	*
Gaming Skill	.058	.031	1.854	^
Arcade Genre	-.057	.027	-2.132	*
Smartphone Platform Usage	-.049	.027	-1.809	^
PS3 Platform Usage	-.043	.027	-1.591	^
Intercept	-.013	.025	-.505	^

***Table 2*: Stepwise regression model predictors, beta coefficients, standard errors, *t*, and *p* values. ****p* < .001, ***p* < .01, **p* < .05, ^p > .05.**

Conclusion

While much is made of gender theoretically in the field of game studies and observable differences between players may appear to exist along gender lines, empirical evidence related to gaming and gender has not been so resolute. A stepwise regression analysis was undertaken to examine gender along with several other potential predictors of gameplay enjoyment. Ultimately, in a model that included 19 predictors, gender was not one of them. On the other hand, all six gaming goal orientation factors proved to be significant predictors. In addition, a multitude of game usage variables were included in the model and showed varying degrees of importance. While this analysis was not intended to offer a precise model that can be used to predict gameplay enjoyment, it does provide insights into where fruitful future research can be focused. Gender is a broad, overarching variable that should not be expected to show substantial relationships with an intricate topic like gameplay enjoyment. In contrast, gaming goal orientations address the specific motivations behind why people choose to play games and game usage variables are detailed metrics associated with gameplay behaviors. Therefore, it is posited that researchers will derive a greater understanding of gameplay enjoyment by incorporating detailed individual characteristics into their studies, rather than generic, overarching demographic variables.

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Investigating A Supportive Online Gaming Community as a Means of Reducing Stereotype Threat Vulnerability Across Gender

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Abstract: We explore the relationship between online gaming communities (which literature shows act as informal learning environments) and experience in game culture, which has been shown to be inequitable, harassing and otherwise unsupportive to certain players, particularly females. Specifically, this study explores the experiences of gamers in gaming clans, both explicitly gender supportive and not, to see if they can serve as protective spaces for vulnerable players. Ultimately, the goal is to inform the design of equitable gaming environments.

Introduction

In this paper, we explore online gaming communities for their potential benefit in increasing learning-relevant constructs around efficacy and identity through supportive structures. Hence, the paper builds off of current work on online communities, by discussing how socially supportive scaffolds can aid in increasing the equity of online gaming experiences, which have been cited as being disproportionately harassing and negative for females and ethnic minorities (e.g., Kuznekoff & Rose, 2012; Gray, 2012; O'Leary, 2012; Nakamura, 2007; Richard, 2013). Emerging research is beginning to explore how socio-cultural contexts and experiences are playing out through the greater gaming culture and online gaming communities (e.g., Gray, 2012; Kimmel, 2008; Nakamura, 2007; Richard, 2013; Searle & Kafai, 2009).

Gaming, Online Communities, and Learning

Some scholars have written extensively about how online communities formed around gaming can be "affinity" spaces (e.g., Gee, 2007; Squire, 2011; Hayes & Duncan, 2012). In this sense, communities and online spaces built around informal learning environments, such as learning about games, or learning about issues in gaming culture, become models for education because they provide participation in authentic contexts (i.e., participants as producers of content), often involving the exchanging of ideas, the development of mastery, and access to "experts" in related areas (Squire, 2011). Steinkuehler (2004) analyzed learning and mastery in MMOs as explored through the relationship between social interaction and game systems, finding that "genuine expertise" arises through learning with others. Voulgari and Komis (2010) found that games and online communities built around MMOs could allow for collaborative learning through a constructivist framework built around game mechanics and design, and communication and collaborative capabilities. Further research is emerging in the area of successful collaborations in youth-based online game-based learning (Aragon, Poon, Monroy-Hernandez & Aragon, 2009; Kafai, Fields & Burke, 2010; Kafai, Roque, Fields & Monroy-Hernandez, 2011). For these reasons, games and communities built around games are often proposed as a vehicle to support education.

Inequity in Game Culture: Bias, Harassment and Exclusion

However, researchers have cautioned that the unlevel playing field around gender and ethnicity, which often gets played out in online gaming spaces (Bertozzi, 2008; Kimmel, 2008), has created a culture of gender and ethnic harassment, which disproportionately disenfranchises certain players (Gray, 2011; Nakamura, 2007; Richard, 2013). While harassment directed at female players in gaming spaces has been widely known amongst gamers, it has only recently become part of larger public discourse. Websites like *FatUglyOrSlutty.com* and *NotInTheKitchenAnymore.com* started appearing in 2011 to document gender harassment in online gaming. Anita Sarkeesian detailed the extent of the sexual harassment, "visual misogyny" and abuse she received after she announced a fundraising campaign to make videos about common stereotypes of female video game characters; the abuse included threatening comments on *YouTube*, menacing alterations to her *Wikipedia* page, and sexually explicit images of her being raped by game characters (Sarkeesian, 2012). Coupled with the public display of sexual harassment directed at Miranda Pakozdi, the only female on a competitive *Cross Assault* team, during a live broadcast of the tournament, harassment became a topic of widespread concern beyond the game community (O'Leary, 2012). Further, in a recent study, Kuznekoff and Rose (2012) found that females were three times more likely to be victims of harassment online through voice alone, despite what was said, or player ability.

Figure 1. Typical harassing messages received from players. Retrieved from *fatuglyorslutty.com*.

Inequity as Bias and Stereotype Threat

Research in the area of gender and digital games hypothesized that games can increase participants' interest in science, technology, engineering and math (STEM) fields (e.g., Cassell & Jenkins, 1998; Hayes, 2008), which are areas that are largely underrepresented by women and minorities. Kafai and Peppler (2011) point out that while research shows that online communities can provide abundant and complex learning opportunities, effective participation in large-scale groups is largely unknown.

Following up on decades of research first published by Steele and Aronson (1995), research shows that environments play a role in shaping womens' and minorities' interest and performance in STEM educational environments and careers (Hill, Corbett & St Rose, 2010; Good, Dweck & Aronson, 2007; Inzlicht & Good, 2006). A study from the *American Association of University Women* (Hill, Corbett & St Rose, 2010) found that environments played a big role in undermining female performance and interest in STEM fields, despite their skills and expertise. According to the report, decades of stereotype threat research found that gender bias in math and science environments threatened and undermined female performance (particularly in high stress, test-taking experiences), but removal of that bias produced similar performance by females and males. In particular, research has shown that females who are moderately or highly identified with male-stereotyped domains, like math, (or, in this case, gaming) can be undermined by stereotype threat in the short term through anxiety activated by stereotypes, particularly during test taking, and in the long term, through repeated exposure, which causes them to disengage from the domain (Steele, 1997). There is similar support for stereotype threatening situations occurring in gaming/leisure spaces (Stone, Lynch, Sjomeling, & Darley, 1999). "Elite female gamers playing a complex digital shooting game such as *Counter-Strike* against almost exclusively male opponents are clearly operating in a situation of stereotype threat [because] they are not just playing the game (as all the other participants are), they are concurrently disproving a number of stereotypes about females and aggressivity, technology and willingness to challenge males" (Bertozzi, 2008, p. 483). Behm-Morawitz & Mastro (2009) showed that, after playing with hypersexualized female game characters, female self-efficacy (a variable often measured to demonstrate stereotype threat) declined in relation to video games. They also found support for implicit bias directed against females by both males and females who played with hypersexualized female characters, regardless of characters' in-game abilities. Thus, we have reason to be concerned about equity when games are considered as learning environments. Are we exacerbating gender inequities by allowing gaming culture to be only safe for some (in most cases, males)? We examine one response to this concern: female supportive gaming communities.

Supporting Equity in Play through the PMS Clan

Supportive online spaces for female players have been around as long as games have allowed for competitive online play. Cassell & Jenkins (1998) discussed the emergence female-supportive communities (termed "clans" or "guilds" in the gaming space) in the late-1990s to support female engagement in hypermasculinized competitive games, like *Quake,* where players often played against teams of all male competitors. "The 'Quake Grrls' movement gives these women, who range in age from their mid-teens to their late thirties, a chance to 'play with power,' to compete aggressively with men, and to refuse to accept traditional limitations on female accomplishments" (Cassell & Jenkins, 1998, p. 34). One of the female clans documented then was *PMS Clan* (then termed, "Psycho Man Slayers," reflecting female resistance culture of the 90s, though now coined, "Pandora's Mighty Soldiers"). Further, Taylor (2006), explored female play and experience in gaming communities and found that their pleasures were more complex than the gender binary most developers (and some researchers) had in mind, often involving exploration, competition and aggressive play, as much as social play. While many female-oriented communities were documented during the late-1990s, little is known empirically, about how their supportive structures help mete out equitable learning and collaborative opportunities for game players.

PMS Clan offers a unique glimpse into how supportive communities meet equity goals in uneven playing environments. Even though it was documented in existence before the early 2000s (most clans were less formally structured in the early years), they identify a formal debut in 2002 and credit themselves as being the "world's largest multi-platform online female gaming group" (PMS, 2011). PMS is hailed in the gaming world as the oldest and most renowned female-oriented gaming community. Instead of just focusing on one game, or one game genre on one platform, the clan has over 2,000 active members globally across multiple platforms (i.e., PCs and gaming consoles like *Xbox 360* and *Playstation 3*). In 2004, the clan expanded to include male members as part of a linked "brother" clan known as *H2O Clan*. Previously, males had to be sponsored by PMS members, but for over 5 years now, male members have been able to join H2O independently. The clans are subdivided into platforms (based on the console or PC platform the player uses), and further subdivided by divisions linked to popular games on those platforms. To be an active member of the clan, players have to participate several hours a week in sponsored practices or be involved in leadership roles. While players are able to interact and play across gender, many of the divisions are separated by sex (though there are a few co-ed divisions for games with less members).

Methods

Little is known about how we can create environments that are protective against bias and threat. This research is part of a larger study of how self-efficacy and stereotype threat vulnerability play out across gender in gaming culture generally and *PMS Clan* specifically. Our research question was: Is there a difference in gaming self-concept and gaming identification across gender in PMS versus other clans? Participants responded to a call that was widely posted on several gaming sites (including PMS) and through online and social networking sites. Most respondents came from gaming clans with similar backgrounds other than gender support (i.e., similar variety and types of games). Two hundred and fifty seven (257) self-identified gamers participated in the quantitative survey, but only 143 finished it completely (94 male, 48 female, 1 genderqueer). Based on visual inspection, we assume the attrition was due to survey length, which could take 20 minutes. We excluded an additional 39 respondents who asserted they had no clan or left it blank. Males made up the majority of participants (N=65; White=45, Non-White=20), and females made up just over a third (N=38; White=27, Non-White=11). One person identified as genderqueer and, unfortunately, for reasons of statistical power, had to be excluded. Participants were divided into White or Non-White due to low numbers across ethnicities and reasons of statistical power.

Measures

A major challenge to investigating stereotype threat involves measuring its activation in context (Picho & Brown, 2011). While it should be noted that stereotype threat *vulnerability* (a general characteristic) vs. stereotype threat activation (a situation-specific characteristic) are not the same thing, vulnerability is much more practical to measure in naturalistic settings. Arguing that stereotype threat is broader than domains and activated largely in socio-cultural context, Picho and Brown (2011) developed and validated a measure that helped to measure constructs related to stereotype threat to identify vulnerability. Our survey measures were based on their *Social Identities and Attitudes Scale* to measure constructs related to stereotype threat vulnerability. We measured Gaming Identification (derived from the scale's original measure of Math Identification), and Gaming Self-Concept (derived from Math Self-Concept). Self-concept assesses one's sense of ability in an area, which can often be threatened due to activation of stereotypes. Identification is an import variable of study because it helps to demonstrate how much someone values the domain, which can over time be compromised via negative experiences. Measures of Gaming Identification included statements such as "I value gaming"; and measures of Gaming Self-Concept included statements such as "I am good at gaming."

Data Analysis

In order to investigate whether there was a difference in gaming self-concept and gaming identification across gender, we first ran a 2-way between groups ANOVA to explore the impact of gender and clan status on gaming identification, and another of the same on gaming self-concept. Participants (N=103) either were in "PMS|H2O" (Males, N=33; Females, N=30), or were in a general gaming clan (Males, N=31; Females, N=8); out of those in other gaming clans, a large portion was from a clan for gamers over 25 (N=22; Males=20, Females=2) though the remainder were in a variety of other clans (N=17; Males=11, Females=6). We first ran normality statistics and removed two cases for being outliers.

For gaming identification, neither the interaction effect between gender and clan $F(1, 99) = 2.42$, $p = .12$, nor the main effect for gender were statistically significant, $F(1, 99) = 2.13$, $p = .15$. There was, however, a statistically significant main effect for clan, $F(1, 99) = 24.2$, $p < .0001$, with a large effect size ($\eta^2 = .196$). Post-hoc comparisons using Tukey HSD show that the mean score for players, across gender, in PMS|H2O (M=5.76, SD=.75) was significantly higher than those in other clans (M=4.95, SD=1.03).

For gaming self-concept, the interaction effect between gender and clan was also not significant $F(1, 96)= .563$, $p= .46$. However, both the main effect for gender, $F(1, 96)= 6.13$, $p= .015$., and the main effect for clan, $F(1, 96)= 16.5$, $p< .0001$, were statistically significant; the effect size for gender was small ($\eta^2 = .06$), and the effect size for clan was large ($\eta^2 = .147$). The mean score for males (M=5.8, SD=.75) was statistically significantly higher than the mean score for females (M=5.6, SD=.75), and the mean score for "PMS|H2O" (M=6, SD=.62) was statistically significantly higher that that for other clans (M=5.46, SD=.84).

Because there was a large representation from members of a clan for gamers over 25, the two analyses were rerun across clan types. While power could be an issue, Levene's Test for both were not significant, suggesting homogeneity of variance assumptions were not violated. For gaming identification, the main effect for clan, $F(2, 96) = 12.5$, $p<.0001$, $\eta^2 = .206$, and now also the main effect for gender, $F(1, 96) = 4.9$, $p=.03$, $\eta^2 = .05$, were significant, though the interaction was not, $F(2, 96) = 2.25$, $p=.11$; post-hoc comparisons using Tukey HSD reveal that the mean score for gaming identification in PMS Clan (M=5.8, SD=.75) was statistically significantly higher than the clan for gamers over 25 (M=4.86, SD=1.2) and the other clans (M=5.04, SD=.88). For gaming self-concept, the main effect for clan, $F(2, 94) = 8.22$, $p=.001$, $\eta^2 = .149$, and the main effect for gender, $F(1, 94) = 5.54$, $p=.021$, $\eta^2 = .056$, were significant, though the interaction was not, $F(2, 94) = .57$, $p=.57$; post-hoc comparisons using Tukey HSD show that the mean score for gaming self-concept in PMS Clan (M=5.98, SD=.62) was statistically significantly higher than the clan for gamers over 25 (M=5.5, SD=.92) and the other clans (M=5.3, SD=.75).

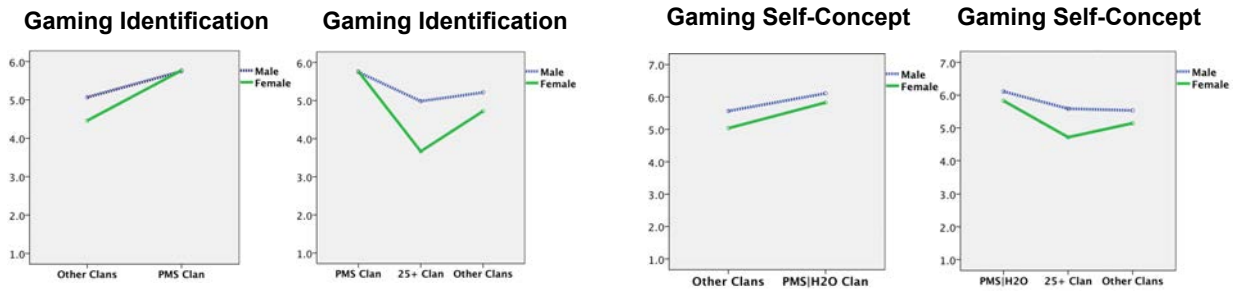

Figure 2 (left): Gaming Identification by Clan and Gender. Figure 3 (right): Gaming Self-Concept by Clan and Gender.

Discussion, Limitations and Future Directions

We did find statistically significant differences that favored males over females, and members of "PMS|H2O" over members of other clans when it came to gaming self-concept, or our measure of perceived ability. However, while we are seeing gender differences, they account for a smaller part of the variance, and clan membership seems to have a significant relationship with confidence and positive self-appraisal of ability. While fully understanding what is happening involves further exploring contextual factors, it is telling that such a significant difference in perceived ability exists between gaming communities. Also, finding that females who are in clans are more likely to have significant differences in perceived abilities is telling of a possible story where community interactions or structures that are not supportive in specific ways may be having a strong effect. We would need to follow-up with more detailed exploration of the kinds of in-community experiences players are having, across gender, and across communities that are and are not explicitly supportive, as well as what kinds of behavior might be elicited as a result.

As discussed earlier, gaming identification is a measure of how much an individual closely values and feels connected to gaming. For the most part, we are finding that gamers in our sample feel equally connected to gaming, regardless of gender. In other words, we are not seeing evidence of social distancing from the domain across gender (at least not yet). As the literature shows, distancing from a domain or area where you feel you are stereotyped to underachieve is something that usually happens over time with multiple threatening situations. It could be that gaming may not be vulnerable to the same kinds of social distancing as academic environments might be, or another, more plausible, scenario is that people may either distance themselves from gaming altogether (in which case they would not occur in our sample), or may distance themselves from more threatening situations in gaming instead of gaming as a whole. For example, a player may choose to avoid a competitive game type known for more aggressive language and behavior, or, conversely, players could hide their gender or mute themselves or others to avoid the more negative experiences, and still feel closely connected to gaming in general. In order to get to more of the complexity around identification with gaming, we would have to follow-up with more in-depth analysis of what kinds of games these players are playing, and whether and how those experiences vary by game type and gender or something else, like age, ethnicity, or personality.

However, we did find significant differences between “PMS|H2O” clan members and members of other clans when it came to gaming identification, with vastly different mean scores and a large amount of the variance explained by clan membership. In other words, gamers in the gender-supportive clan are either more likely to be highly identified with gaming at onset or develop greater identification with gaming over time in the clan compared to those in other clans. While it is hard to say exactly what is happening, the large contextual differences speak to a larger story about how communities can have an effect on the investment and connectedness someone has with a domain. Since we are still learning about the effects of gaming community quality on learning, the fact that there is such a difference is important. As Picho and Stephens (2012) point out, gender supportive environments, particularly single sex schools, have been important in shaping equal identification and sense of perceived ability, particularly for females, in areas they are stereotyped to underachieve because the social environments encourage equity while providing female roles models in underrepresented areas.

However, measuring individual differences by gender alone may not be the best course of action. For example, newer research is showing what we thought were gender differences in game preferences has more to do with access, support and experience (e.g., Vermeulen, Van Looy, De Grove & Courtois, 2011). In these cases, environments that offer differential access, support and encouragement are more of the barrier than gender. Since the participants in this sample are closely connected to gaming already, across gender, the more salient matter may be a situation where bias or threat is introduced. This is where the differences between gaming environments is important. In the gender supportive clan, we are seeing that males appear to be equally gravitating to or receiving support from its structure as females. Since the clan’s central mission revolves around supporting female play, it is particularly compelling to understand why and how that mission affects male gaming experience. In addition to being explicitly structured so that females have safe, private spaces in the clan (including all female divisions and forums), the clan has strict rules around harassment and fair play, including rules that prohibit general negative behavior, such as cheating, bullying and the like (PMS, 2012); in an effort to make things more equal and sportsmanlike in general, they may actually be creating a more universally appealing game environment and community through striving for equity.

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