Gender, Stress, Satisfaction, and Persistence: The Complex State of Digital Games as Leisure

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ABSTRACT:
Digital games have long been investigated for links to negative influences, but they exert a range of impacts on players. A variety of factors can contribute to stressful experiences in play, including game content, player interactions, and gender. This project uses qualitative methods to better understand how players experience and perceive these stressors and why they persist despite them. There are a surprising number of ways that players' experiences align in spite of gender. Players encounter stress with both design and social experiences, are inclined to "rage quit" if stressors are substantial enough, and are increasingly averse to toxic communities. However, there are also gender-specific experiences. Men are much more concerned with the skillsets of other players, while women worry about their own performance. Further, these experiences of stress complicate our understandings of distress and eustress, with players less motivated by stressors than they are by the anticipated future relief from distress.

KEY WORDS:
digital games, gender, persistence, qualitative, stress.

Introduction

Digital games have received attention for their potential negative outcomes, whether through the possibility of causing aggression[1] or determining and ranking the most stressful games.[2] Digital game content can also be a source of stress[3] and multiplayer experiences often include targeted toxicity.[4] However, digital games offer potential benefits as well, including helping players manage stress.[5] The topic of emotional experiences among players of digital games is an area that can be better understood in terms of why players persist in play despite stressors and how gender influences these experiences. This qualitative project aims to illuminate these factors and explores gender in terms of its influence on player perceptions, experiences, and reasons to continue with the hobby. Ultimately, while players report feeling stress and frustration, regardless of gender, some sources and experiences differ. Somewhat surprisingly, many of the coping mechanisms found among women[6] are shared by men to avoid stressful community experiences. Sources of pride from play are also very similar regardless of gender, supporting previous work on achievement[7] and illuminating players' perceptions of stress in gaming.

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1   HASAN, Y., BÈGUE, L., BUSHMAN, B. J.: Violent Video Games Stress People Out and Make Them More Aggressive. In *Aggressive Behavior*, 2012, Vol. 39, No. 1, p. 68-69.
2   See: COSTELLO, F.: *Study: Most Stressful Video Games to Play.* Released on 11th September 2020. [online]. [2022-05-11]. Available at: <https://www.bonusfinder.com/about-us/blog/most-stressful-video-games-to-play>.
3   For more information, see: HASAN, Y.: Violent Video Games Increase Voice Stress: An Experimental Study. In *Psychology of Popular Media Culture*, 2017, Vol. 6, No. 1, p. 74-81.
4   COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 137-138.; See also: GRAY, K. L.: Intersecting Oppressions and Online Communities: Examining the Experiences of Women of Color in Xbox Live. In *Information, Communication & Society*, 2012, Vol. 15, No. 3, p. 419-426.
5   WHITBOURNE, S. K., ELLENBERG, S., AKIMOTO, K.: Reasons for Playing Casual Video Games and Perceived Benefits Among Adults 18 to 80 Years Old. In *Cyberpsychology, Behavior, and Social Networking*, 2013, Vol. 16, No.12, p. 893-894.
6   COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 143-149.
7   TAYLOR, T. L.: Multiple Pleasures: Women and Online Gaming. In *Convergence*, 2003, Vol. 9, No. 1, p. 27-31.

1. An Overview of Stress

Stress takes many different forms in response to experienced or perceived risks to safety.[8] Due to impacts on health and well-being, stress is often studied for potential negative consequences. Negative forms of stress, or distress,[9] include possible influences on memory function[10] as well as potentially prompting the development of mental and physical health ailments.[11] Stress, however, is not a unidimensional experience and influence. Eustress – a positive response to stressors[12] – can produce beneficial outcomes,[13] including improving life satisfaction.[14] Eustress and its definition can be variable, but in this project it will be understood as a generally positive emotional response to stressors, which can include feeling motivated.[15]

2. Emotional Influences of and Experiences with Digital Games

Digital games have been documented as providing emotional benefits to players.[16] Players experience stress reduction in both casual[17] and multiplayer digital games.[18] Other potential benefits include improving coping skills, even through more violent content.[19] Socially, players develop senses of community[20] and gaming with others allows players to create, reinforce, and foster social bonds.[21]

Outside of the possible benefits, however, there has been an academic emphasis on pathological play.[22] Even in cases where players hope to reduce distress, they may overuse or become reliant on digital games.[23] Additionally, despite stress reduction, both violence and horror elements in digital games can also cause stress reactions in terms of heart rate, blood pressure, and the production of stress-related hormones.[24] Alongside the possible benefits

8   LUPIEN, S. J. et al.: The Effects of Stress and Stress Hormones on Human Cognition: Implications for The Field of Brain and Cognition. In *Brain and Cognition*, 2007, Vol. 65, No. 3, p. 230-231.
9   KUPRIYANOV, R., ZHDANOV, R.: The Eustress Concept: Problems and Outlooks. In *World Journal of Medical Sciences*, 2014, Vol. 11, No. 2, p. 179.
10   LUPIEN, S. J. et al.: The Effects of Stress and Stress Hormones on Human Cognition: Implications for The Field of Brain and Cognition. In *Brain and Cognition*, 2007, Vol. 65, No. 3, p. 229-231.
11   COHEN, S., JANICKI-DEVERTS, D., MILLER, G. E.: Psychological Stress and Disease. In *Jama*, 2007, Vol. 298, No.14, p. 1686-1687.
12   PINHEIRO, A., PATTA, E., ZAGGIA, J.: Gamification to Expand Awareness About Stress and Its Impacts Within Companies: Gamification Eustress and Distress. In SORT, A., MUÑOZ, J., CORTIZO, J. C. (eds.): *Proceedings of the 2nd International Workshop on Gamification in Health; gHealth'15*. Barcelona : CEUR-WS, 2015, p. 26.
13   KUPRIYANOV, R., ZHDANOV, R.: The Eustress Concept: Problems and Outlooks. In *World Journal of Medical Sciences*, 2014, Vol. 11, No. 2, p. 179-182.
14   O'SULLIVAN, G.: The Relationship Between Hope, Eustress, Self-Efficacy, and Life Satisfaction Among Undergraduates. In *Social Indicators Research,* 2011, Vol. 101, No. 1, p. 163-166.
15   KUPRIYANOV, R., ZHDANOV, R.: The Eustress Concept: Problems and Outlooks. In *World Journal of Medical Sciences*, 2014, Vol. 11, No. 2, p. 182.
16   RUSSONIELLO, C. V., O'BRIEN, K., PARKS, J. M.: The Effectiveness of Casual Video Games in Improving Mood and Decreasing Stress. In *Journal of CyberTherapy & Rehabilitation*, 2009, Vol. 2, No. 1, p. 63.
17   Ibidem, p. 56.
18   MIHAN, R. et al.: Safer with a Partner: Exploring the Emotional Consequences of Multiplayer Video Gaming. In *Computers in Human Behavior*, 2015, Vol. 44, No. 3, p. 302-303.
19   VELLA, K., JOHNSON, D., HIDES, L.: Positively Playful: When Videogames Lead to Player Wellbeing. In NACKE, L. E., HARRIGAN, K., RANDALL, N. (eds.): *Gamification '13: Proceedings of the First International Conference on Gameful Design, Research, and Applications*. New York, NY : ACM, 2013, p. 100-102.; VILLANI, D. et al.: Videogames for Emotion Regulation: A Systematic Review. In *Games for Health Journal*, 2018, Vol. 7, No. 2, p. 94-97.
20   WANG, R., WU, M.: Catch Them All: Exploring the Psychological Impact of Playing Pokémon Go. In *Journal of Communication Technology*, 2020, Vol. 3, No. 1, p. 64.
21   VILLANI, D. et al.: Videogames for Emotion Regulation: A Systematic Review. In *Games for Health Journal*, 2018, Vol. 7, No. 2, p. 94-97.
22   VELLA, K., JOHNSON, D., HIDES, L.: Positively Playful: When Videogames Lead to Player Wellbeing. In NACKE, L. E., HARRIGAN, K., RANDALL, N. (eds.): *Gamification '13: Proceedings of the First International Conference on Gameful Design, Research, and Applications.* New York, NY : ACM, 2013, p. 99.
23   PLANTE, C. N. et al.: Video Games as Coping Mechanisms in The Etiology of Video Game Addiction. In *Psychology of Popular Media Culture*, 2019, Vol. 8, No. 4, p. 385.
24   HASAN, Y., BÈGUE, L., BUSHMAN, B. J.: Violent Video Games Stress People Out and Make Them More Aggressive. In *Aggressive Behavior*, 2012, Vol. 39, No. 1, p. 65-66.

of social play, highly competitive multiplayer gaming can promote distress while reducing the eustress from defeating an in-game challenge.[25] Additionally, given the harassment that can occur based on player gender[26] or intersections between gender and race,[27] players may need to take precautions. For example, it is common for women to play with people that they already know[28] or to hide their gender[29] as protective methods to avoid hostility.

3. Cultural and Contextual Aspects of Gender

Gender may influence stress experiences in gaming beyond hostile interactions due to cultural influences. For example, boys and men are expected to express less emotion[30] outside of stereotypical anger[31] and women tend to express anger as sadness or depression.[32] Women also often have more general stress, different sources of stress, and different coping strategies compared to men.[33] Cultural understandings of gender also affect perceptions of skills, abilities, and competence.[34] These ideas can lead to women viewing themselves as having less ability in culturally masculine contexts.[35] Consequently, women who excel will often sort themselves out of contribution or advancement in many fields, particularly due to issues of imposter syndrome and being overlooked by male colleagues.[36] In gaming, gender impacts player inclinations[37] and behaviours. While stress relief[38] and seeking challenge[39] are shared motivations, there is a continuing association of the hobby with men and boys.[40] There are also conflicting ideas about why people play. Men may desire more achievement-oriented play, while women may seek social play.[41] Yet in other studies, gender has little influence on motivations in massively multiplayer online (MMO) games.[42]

25 SNODGRASS, J. G. et al.: Culture and the Jitters: Guild Affiliation and Online Gaming Eustress/Distress. In *Ethos*, 2016, Vol. 44, No. 1, p. 68-70.

26 COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 150-152.

27 GRAY, K. L.: Intersecting Oppressions and Online Communities: Examining the Experiences of Women of Color in Xbox Live. In *Information, Communication & Society*, 2012, Vol. 15, No. 3, p. 417.

28 YEE, N.: Maps of Digital Desires: Exploring the Topography of Gender and Play in Online Games. In KAFAI, Y. B. et al. (eds.): *Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming*. Cambridge, MA : MIT Press, 2008, p. 86-88.

29 COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 144-146.

30 KANE, E. W.: "No Way My Boys Are Going to Be Like That!" Parents' Responses to Children's Gender Nonconformity. In *Gender & Society*, 2006, Vol. 20, No. 2, p. 161-162.

31 BRODY, L. R., HALL, J. A.: Gender, Emotion, and Socialization. In CHRISLER, J., McCREARY, D. (eds.): *Handbook of Gender Research in Psychology*. New York, NY : Springer, 2010, p. 431.

32 DE COSTER, S., CORNELL ZITO, R.: Gender and General Strain Theory: The Gendering of Emotional Experiences and Expressions. In *Journal of Contemporary Criminal Justice*, 2010, Vol. 26, No. 2, p. 226.

33 MATUD, M. P.: Gender Differences in Stress and Coping Styles. In *Personality and Individual Differences*, 2004, Vol. 37, No. 7, p. 1408-1412.

34 BIAN, L., LESLIEAND, S.-J., CIMPIAN, A.: Gender Stereotypes about Intellectual Ability Emerge Early and Influence Children's Interests. In *Science*, 2017, Vol. 355, No. 6323, p. 390.

35 FLANAGAN, J.: Gender and the Workplace: The Impact of Stereotype Threat on Self-Assessment of Management Skills of Female Business Students. In *Advancing Women in Leadership Journal*, 2015, Vol. 35, No. 1, p. 169.

36 For more information, see: CULVER, L. P.: The Rise of Self Sidelining. In *Women's Rights Law Reporter*, 2018, Vol. 39, No. 3-4, p. 173-219.

37 LUCAS, K., SHERRY, J. L.: Sex Differences in Video Game Play: A Communication-Based Explanation. In *Communication Research*, 2004, Vol. 31, No. 5, p. 513-519.

38 TOMLINSON, C.: Building a Gamer: Player Preferences and Motivations Across Gender and Genre. In NAKAMURA, A. (ed.): *Proceedings of the 2019 DiGRA International Conference: Game, Play and the Emerging Ludo-Mix*. Kyoto : Digital Games Research Association, 2019, p. 6-9.

39 LUCAS, K., SHERRY, J. L.: Sex Differences in Video Game Play: A Communication-Based Explanation. In *Communication Research*, 2004, Vol. 31, No. 5, p. 514.

40 CHESS, S., EVANS, N. J., BAINES, J. J.: What Does a Gamer Look Like? Video Games, Advertising, and Diversity. In *Television & New Media*, 2017, Vol. 18, No. 1, p. 37-38.

41 YEE, N.: The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships, and Problematic Usage. In SCHROEDER, R., AXELSSON, A. (eds.): *Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments*. London : Springer-Verlag, 2006, p. 14.

42 YEE, N.: Maps of Digital Desires: Exploring the Topography of Gender and Play in Online Games. In KAFAI, Y. B. et al. (eds.): *Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming*. Cambridge, MA : MIT Press, 2008, p. 90-92.

These spaces also emphasize masculine rules of interaction,[43] which may, in part, cause the aggression that can arise in response to violent digital games.[44] This may relate to studies noting lower levels of stress for boys, but increased anxiety for girls in digital game play.[45] Further, women experience more hostility in online play[46] and stereotypes about gender and digital games can become obstacles for women.[47]

Data and Methods

Data for this project was collected through 54 interviews and 2,000 online forum posts and their comments. Online forum data was included to check interview responses against a broader sample of player experiences. Interviewees were recruited online and through network sampling to ensure that they were actively involved in the gaming community. Only three interview participants – those recruited from the online forums – used forums as part of their gaming experience. Because the project is qualitative and concerned with player discussions and framing, there is not a quantitative component or an emphasis on the percentage of discussions that feature stress. In general, however, discussions of stress and frustration were common across online forums, but women-oriented forums had proportionally more daily discussion of these topics and focused on multiplayer stressors more often. Additionally, amounts of responses and posts can be approximated as follows: many are 40-60%, most are over 60%, and a majority is over 80%.

Qualitative coding was conducted both during and after data collection to illuminate patterns and themes. Interviews were recorded and transcribed to facilitate this process and Dedoose software was used to further code interviews for themes and patterns related to stressors. For online forum data, notes and coding were completed through a word processing program. Interview participants have been given pseudonyms, quotations from interviewees have been slightly reworded for clarity (e.g., removing "um"). Additionally, the names of the forums have been concealed and quotations from online posts have been deidentified and slightly reworded while keeping their meaning to protect privacy.

This project investigates stress among digital game players, including influences of gender and reasons to continue playing. Interview respondents had varied interests, from casual mobile games to first person shooters (FPS), with the most commonly shared genres being role-playing games (RPGs), strategy, and adventure games. It is difficult to discern any potential patterns in individual players in the forum data, but posts tended to emphasize FPS, MMOs, RPGs, action, and action-adventure games. This was similar for general and women-focused forums, although the latter discussed fewer FPS and more indie (from smaller studios) games. Interview data was collected through one- to two-hour

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43 TAYLOR, T. L.: *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*. Cambridge, MA : MIT Press, 2012, p. 113-118.

44 See: THOMAS, K. D., LEVENT, R. F.: Does the Endorsement of Traditional Masculinity Ideology Moderate the Relationship Between Exposure to Violent Video Games and Aggression?. In *The Journal of Men's Studies*, 2012, Vol. 20, No. 1, p. 47-56.

45 OHANNESSIAN, C. M.: Video Game Play and Anxiety During Late Adolescence: The Moderating Effects of Gender and Social Context. In *Journal of Affective Disorders*, 2018, Vol. 226, No. 2, p. 218-219.

46 GRAY, K. L.: Intersecting Oppressions and Online Communities: Examining the Experiences of Women of Color in Xbox Live. In *Information, Communication & Society*, 2012, Vol. 15, No. 3, p. 425-426.; COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 151-152.

47 SALTER, A., BLODGETT, B.: Hypermasculinity & Dickwolves: The Contentious Role of Women in the New Gaming Public. In *Journal of Broadcasting & Electronic Media*, 2012, Vol. 56, No. 3, p. 411-414.; TAYLOR, T. L.: *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*. Cambridge, MA : MIT Press, 2012, p. 123-128.

conversations with respondents in six countries. This took place over video chat or phone and used semi-structured questions to allow for a deeper exploration of individual experiences. The interviews were open-ended and allowed for broader discussion and follow-up questions during the conversation. Players were asked directly about their preferences, experiences, and backgrounds. In terms of stress, questions addressed encounters with multiplayer play, frustrating moments, and instances of pride with video games.

Of the 54 respondents, 31 were women. The majority of the sample lived across the United States (39), while others resided in Canada (4), Australia (3), Japan (2), South Korea (1), and Brazil (1). Although the majority of the sample is from Western countries, online cultures – including those tied to gaming – tend to be shared internationally.[48] Interview participants were all adults, with an age range between 22 and 38 years old. All of the players in the sample had similar starting points with the hobby, habits, preferences, and playtimes for games. Their playtimes had a large span, with a predictable zero to 40 hours of weekly gameplay reported, but with an average of about 15 weekly hours of gameplay without a gendered trend. Discussions of sources of stress, frustration, and persistence were similar for players, regardless of typical time spent playing.

Interview findings were explored further in five online forums, which were observed during live conversation and also searched for specific terms to find relevant conversations. These targeted searches were based on findings in the interviews and included terms like gender, guild, stress, frustration, proud, and community. Two of the five forums were very large (one with over one million subscribers and the other with over 700,000) and understood as having more men using them. Three were expressly aimed at a larger proportion of women and were much smaller. The largest of these forums had approximately 35,000 members, while the two smaller and least active forums had fewer than 10,000. The two smallest women-focused forums were also much less active and were thus observed less frequently for live conversations.

Observations spanned approximately three months, with at least two weekly observations for less active forums and one daily observation for more active forums. Posts and their top 100 comments were analyzed. In observations of active discussions, the top 25 most active posts were assessed. This resulted in approximately 525 posts for each of the most active forums and approximately 125 unique posts for the two less active women-oriented forums. Targeted searches resulted in more forum posts and comments, following the same pattern of looking at the top 25 most highly supported archived conversations and the top 100 most supported comments within those posts.

Findings

Players encounter stressors from many sources and generally share reactions to frustrating elements of a game's mechanics or team dynamics. Gender influences sources of team-related stressors in gaming, likely due to the cultural elements discussed above. While experiences with distress are common, it is important to note that players have a variety of very similar reasons for persisting in play, although their framing differs from typical understandings of eustress.

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48   See also: SALTER, A., BLODGETT, B.: Hypermasculinity & Dickwolves: The Contentious Role of Women in the New Gaming Public. In *Journal of Broadcasting & Electronic Media*, 2012, Vol. 56, No. 3, p. 401-416.

Gender and Gaming Stress

Players share many sources of stress, but gender can influence how players contextualize them. In interviews, men acknowledge stressful experiences less quickly than women in the sample and are more likely to react with anger. Social aspects of games become stressful for different reasons and to different degrees as well. All players view multiplayer experiences as stressful in some way – even when playing with an established group – because of actual, perceived, or anticipated issues with scheduling, skills, harassment, or toxicity in gaming. Men and women are often on opposite sides of this issue, however, with men concerned about their teammates' skills and women concerned about their own.

a) Discussing and Perceiving Stress

While users of online forums are more deliberate with their assessments of stress, subtle gender differences arise in interviews. Women are immediately prepared with stories about gaming stress, while men are more likely to hedge their experiences. As one example of this, at first Kyle could not think of any instances of stressful or frustrating gaming moments. He initially recognized stress and aggression in friends, but not in himself. When discussing his favourite game, however, the relationship becomes more complicated: "Stressful… not really. I mean, if you… with regards, like if I'm playing specific games, sometimes it can be, but for the most part video games are always supposed to be meant for… as an escape from something, as opposed to an escape to something. So… like, as much, as stressful a… like… I find real life, meatspace, to be a lot more stressful than video games. If I'm not having fun when I'm playing a video game, I just won't play it. Unless, of course, I'm playing Dark Souls, in which case, you're just a glutton for punishment when you're playing Dark Souls."

This reaction may stem from discomfort around the idea of games being stressful, as players in both samples discuss concerns about how friends and family view digital games, but it may also be the result of gendered expectations around emotion discussed above. This is expressed by many of the men in the sample, but is not conveyed by women. There is also an attempt to spin the experience as more positive in a way that is less about motivational eustress and more centred on seeking the negative emotions that come along with punishing games. Contrastingly, most of the women readily list stressful items in their gaming experience and their causes. As one example, Lilly mentions in an interview: "[…] If I make the mistake of going on too high of a difficulty level or, when I was playing Last of Us, that was incredibly stressful and that was the only game that I never actually finished… so, most of the tension comes from when I decide I'm going to play a survival type game. I think it's just not being able to punch out the target while having to actually stealth and be clever… I don't necessarily like not having the option… to beat the problem to death. I'm a very aggressive player."

Lilly's response also highlights a unique coping strategy mentioned by several of the women in the interview and forum samples: handing off the controller to someone else, typically a man who is also their significant other. This reflects an intersection in previous research on gender, social play, and coping with distress.[49] Women in both samples pri-

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49   For more information, see: YEE, N.: The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships, and Problematic Usage. In SCHROEDER, R., AXELSSON, A. (eds.): *Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments*. London : Springer-Verlag, 2006, p. 187-207.; COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 136-155.

marily highlighted this behaviour as a response to distress linked to horror games. These tactics aside, however, women are much more forthcoming and ready to engage with the concept of stressful gaming in interviews. The men in the sample are also more comfortable contextualizing their gaming distress as anger and as a past problem, while women identify continuing emotional reactions to games. James reflects this pattern, stating that he has moved beyond becoming enraged, can recognize the behaviour in himself, and will ultimately step away from a game if necessary. With a similar pattern to other men, including Kyle, James recalls: "I wouldn't say stressful. I'm pretty good... well, I guess I would say stressful. I definitely... I used to have slight anger issues, I would say, and video games could rapidly bring those out in me. I used to be really bad at losing my temper at a video game... I would be in my bedroom screaming at my TV... I've gotten a lot better about it now that when a game is like... I can feel like my blood pressure rising, I'll turn the game off and go about my business. If I get to the point in a game where I feel like it's more of a chore to play than it is actually fun to play, then I just quit playing."

Men experience more hesitation to acknowledge and discuss their stressors before further reflecting on their experiences. In some ways, dealing with the emotional aspects of stress and frustration is not as immediately recognizable for many of these respondents. There is, at first, a denial or hesitation to frame their gaming activities or personalities in a negative way. This begins to break down as the participants continue to talk about and recall their experiences, but is an interesting trend and departure from the immediacy with which women in the sample are comparatively able to categorize these issues.

b) Social is Stressful

Gender also affects the stress surrounding social play. While the majority of the interview sample and many online posts address these issues, men and women focus on different elements of multiplayer stressors. Men and forums with more men reported as users are much more focused on competitive games and team members lacking skill. Having to rely on and work with others introduces additional non-game stressors. For Gareth, this is particularly true of massive online battle arena games (MOBAs). He mentions: "[...] you basically have to try to work with others to try and defeat the other team, but, mind my language here, but holy shit does that make me rage. I get so angry. My wife can attest to that, honestly, it's just infuriating dealing with it. That's coming back to, like I said, competitive experiences where others, you know, may not be playing the game in a way you want them to and then you might lose a match and you were so close to winning, etc. So, I would say that competitive gaming experiences, I don't want to say bring out the worst in me, but certainly bring out a lot of frustration [...]." Despite rare instances of men – about five in total – in interviews noting concerns about their own skill, it is much more common for these discussions to focus on relying on others. Concerns about skill dragging the team down, having to monitor other players, and accounts of witnessing teammates angrily react to less skilled players during games are the most common areas of focus for social stressors among men and users in the general online forums.

For women, social concerns focus on self-assessments and worries about being critiqued. In many cases, this is noted as a perceived threat, rather than an experienced one, reflecting work in other areas on gender and self-assessment.[50] A potential lack of skill may let their team down. These players simultaneously recognize their gaming groups as being generally supportive and understanding, yet fear what might happen if they

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50   FLANAGAN, J.: Gender and The Workplace: The Impact of Stereotype Threat on Self-Assessment of Management Skills of Female Business Students. In *Advancing Women in Leadership Journal*, 2015, Vol. 35, No. 1, p. 169.; CULVER, L. P.: The Rise of Self Sidelining. In *Women's Rights Law Reporter*, 2018, Vol. 39, No. 3-4, p. 186-193.

do not perform well. Unfortunately, the protective measures taken by many women[51] are not always successful. Some of these women have seen or have had direct experiences with open expressions of disappointment, even in cases of playing with friends, which reinforced these apprehensions. For Eva: "Yeah, people are mean. People are so mean and they're so judgmental and I get so stressed out. Whether it's a more cooperative or more competitive game, I feel like people judge me or if it's a cooperative game, I'm gonna be letting my team down. Like when I was playing the MMO, that caused me a lot of stress. Like I cried real tears over really dumb stuff." These respondents are aware of being subjected to potentially harsher scrutiny than some of their gaming peers. This excess pressure can also reach the point where women have physical reactions to these stressors in ways that do not come up for men. Many women report crying, feeling sick, or becoming so anxious that they would avoid scheduling with their teams.

Along with these fears, they also discuss the spectres of skill and the 'girl gamer'. Most of the women interviewed, and the vast majority of online posters in the women-oriented forums, are acutely aware of differences in perception based on gender. This only adds to anxieties and stress, particularly when playing with mostly men. June remembers: "So… I have this… this sense of like. I don't want to embarrass myself. And there is a degree to which, because of the whole, 'girl gamer' like stereotype, I feel like this extra pressure. Where if I want to play a game and I'm not even good at that game, it'll reflect badly on girl gamers in general. Who are almost always like… well, no, it's been getting a lot better, but like who, traditionally, have not been taken seriously and considered unskilled or basically not real gamers. And so, I don't want to reflect badly on the community of female gamers who are just individually sucking, when I know there are plenty of individual female gamers who don't."

This concern over being a representative for all women – and being assessed differently for skill – is felt acutely by women across the sample. They recognize that stereotyping and a community that is still largely resistant to or unaware of their presence, leads to their actions being viewed with more scrutiny. These conversations are also pervasive in online discussions. As one forum user notes in response to a shared article on one of the less active forums: "I can't really look at the issue of skill outside of being female. If I'm not skilled at a game, I'm probably going to be mocked for being bad, but I'm also going to be proving people right about women being bad at games. I don't play competitively anymore because I don't want to be really good and less than 'really good' is just going to be seen as reinforcing the stereotype. I can do more with my time than force myself to deal with that anxiety." While men are primarily concerned about how their overall team will be harmed by a lack of skill in their teammates, women are consistently aware of and worried about their own performance, whether this is in preparation for or confirmed by their experience. These different perspectives on skill make sense in the broader context of gaming. Women, seen as outsiders, are much more likely to be judged harshly for their performance.

Tired of Toxic Cultures

Despite differences in skill-related distress, players share an increasingly critical view of hostility in gaming. For the majority of players across the samples, increasing toxicity and pressures around play beyond those resulting from playing as part of a team have become burdensome to the point of feeling exhausting. James explains: "I dislike that

51   COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 149-150.

people seem to think that because they're on the internet, they can just say and do, mostly say, whatever they want to somebody. They just have this idea in their head that because they're on the other side of a TV, 1,000 miles from people, that they can say racist, sexist, homophobic comments to people because there are no repercussions to it. It gives them this big sense of security... because I don't know who they actually are." A major takea-way from both interviews and online posts is that players are largely tired of encountering toxicity, even if they do not belong to the groups being targeted. There is some level of resignation, with some forum users commenting that this is part of the culture and it can only be expected at this point. Many players in both samples also express frustration with a lack of effective means to combat this, although they desire solutions to this trend.

Perhaps the most surprising finding, though, is that these experiences have led to men using many of the coping strategies observed in women playing games.[52] Women of-ten anticipate harassment or hostility before playing a game. Despite the common knowl-edge of generally toxic gaming communities, men do not necessarily enter these spaces with the same expectation, in part due to the focus on women being the most likely target. In fact, the majority of the men in interviews discuss toxicity directly in terms of marginal-ized communities. After enough encounters with ambient hostilities or those directed at players other than themselves, however, men begin to employ avoidant and protective techniques as well. They will mute other players, avoid certain genres, eschew specific games, and only play with friends. As Blake notes: "Yeah, usually it's the community. Like if the community is really bad, then it puts a lot of stress on to you. Especially if they're flamers or trolls, but a lot of games now have a muting system, like how to ignore them, so it's not as bad if you know how to do that stuff."

Toxic encounters are not passively accepted as part of the experience. Players find ways to limit toxicity, although for men this comes much later after seeing a saturation of these effects. Women discuss going into the playing experience expecting harassment if their gender is revealed, including Regina who notes being belittled by a male player in a multiplayer zombie survival game, but men do not have similar discussions of anticipating being targets. For Paul, who stopped playing *League of Legends*[53] due to toxic interactions: "Yeah, they're just... the smallest mistake... you know, there's never an assumption that there's a reason or a valid reason for someone not being good at a game. It's always just the jump to conclusion is, 'Well you just suck and you're the worst person ever and you should probably just get off the internet and kill yourself.' It's difficult to find people who are more moderate in terms of their temperament. 'Cause for a game that's social... it doesn't lend itself well to making players feel like they want to play." Although the majority of the men in the sample are less concerned about their own skill, Paul's circumstances highlight an ex-perience shared by many more – having to step away from a game due to the environment associated with it. Players do not frame these as enjoyable decisions, but necessary ones. For the approaches to coping that allow players to continue playing a game with a toxic community, there is a sadness and a frustration associated with these choices, as players feel that these solutions often also negatively impact their play experience.

Forum users also repeatedly lament the loss of a prior gaming culture. Many players mention that they miss gaming experiences less tarnished by harassment and when pro-tective measures did not need to be taken. There are also doubts about how companies approach these problems, with users feeling that reporting is not effective enough and completely removing chat options is too restrictive. One user suggests: "I know that com-panies take chat out because it can become toxic, but don't you miss being able to be social

52   COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 149-150.
53   RIOT GAMES: *League of Legends*. [digital game]. Los Angeles, CA : Riot Games, 2009.

in games? There should be an option to shut chat off or block specific people, but I'm annoyed by games that cut communication out. When you can't add personal comments, you lose a sense of friendship. How did trolls force developers to turn off chat permanently? It really makes it hard to feel like a community." Most players appreciate and desire social play absent of the issues of toxicity that have become routine. There is also a growing dissatisfaction with company solutions to these problems and an increasing trend in men feeling inhibited in their play by hostilities in gaming culture. The problem of toxic gaming communities, while disproportionately targeted at women and people of colour, is something that wears on players generally and influences their decisions and activities.

Stress and Persistence

Outside of player reactions to multiplayer situations and toxicity in play, stressors often arise from design elements of games. 'Rage quitting' is frequently discussed in interviews and online forum posts to the point that it has become something of a meme and a shared understanding of gaming. Despite the possibility of anger boiling over for players, however, they also find reasons to continue with the hobby, even returning to games that caused them emotional distress.

a) Bugs, Confusion, and Rage Quitting

Digital game design can cause distress and frustration among players. In interviews, design issues and unclear expectations are the most frequently mentioned and shared aspect of frustration during play. Players focus on glitches, bugs, lag, bad narratives, unclear guidance, and controls that are not intuitive. These issues are often discussed in the context of 'rage quitting'. Ultimately, games that present too many of these barriers to enjoyment can cause frustration to overflow for players. In these cases, the game can become defined as a 'waste of time'. For Todd, he specifies a very recent experience with these issues: "And I guess, actually, this is a great example from two nights ago... there's this game called The Crew, which is a racing game that was available for free and I got very frustrated with the design because it was very obtuse. It was hard to tell what you were supposed to do, it was too many options. It was just a poorly designed game, so I just put it down. Even though it was free, I was like, I'm not gonna waste any more time with this." While players also note discomfort with their chosen hobby often being socially defined as a waste of time, frustrating design presents a qualifying criterion for players to determine that nothing of value will come from a game. Completely walking away from a game never to return is less common among interview participants, which will be discussed further below, but temporarily quitting due to these issues is reported by nearly all players. In some cases, players note distinct issues with experiences of anger in these situations as well.

While rage quitting is one potential reaction, players also report outbursts and, less commonly, breaking objects. These manifestations of stress are reported by both men and women who were interviewed, but this is also a common theme of jokes in the gaming community. Without asking players directly about rage quitting, they developed responses that incorporated the cultural term. Regina notes that it is an especially common experience for her. When asked if she has ever encountered anything stressful, she illustrates the association between these experiences quickly: "Mmm... like when I rage quit? Yeah, many many times. I've rage quit so many times. In fact, I've never even completed Crusader Kings II because I rage quit so many times. I rage quit on Dragon Age, I rage quit on Mass Effect... especially, especially Mass Effect 1, kills me. Yeah, I rage quit on pretty much every single game I've played."

Rage quitting is framed as a means of avoiding more serious emotional reactions and potentially reaching the point of breaking items over frustration and stress with game stories, mechanics, or difficulty. Players can walk away before becoming overwhelmed. Several players – both men and women – do note that they are not always quick enough to avoid this, however. It should be mentioned that nearly all players conveyed that they can recognize their limits, but Ben recalls: "There are a lot of examples. The very first one that comes to mind, though, is Final Fantasy X, there is a section toward the end of the game where in order to get the character's strongest weapons, you have to do these races on chocobos, which are a fictional bird in the game. And the controls are exceptionally bad and the design of the race is exceptionally bad. A lot of it is completely based on random factors that are out of the player's control and I failed at that over and over and over and over. Probably for a couple of hours. And it was frustrating and it wasn't fun and I may have ended up breaking a controller over it." Specifically breaking things is not often reported in interviews or forum discussions, but there is an awareness that becoming too frustrated or stressed due to a digital game can lead to these outcomes. When players reach heights of frustration or even rage quit, this is often a temporary measure and, even in cases where players do break something in response to stress, they tend to go back to the game.

b) Persistence

Despite the stressful and frustrating elements of gaming, players find reasons to persist. Players frame their experiences after getting through frustration in positive ways, but this frequently does not reflect the concept of eustress. Rather than being motivated by the stress itself, players emphasize the relief that they experience after getting through the stressors discussed above as worth the pain. The way that players frame the reasons for why they continue to play is often less tangible than previous research implies. Rather than specifically noting measurable accomplishments, the primary motivating factor cited by players is proving the ability to overcome challenges. The second most common reason is more measurable but is also highly individualized. In the context of their own defined goals, the drive to complete a game is another reason to push through distress. This kind of completionism is not a desire to earn all achievements, which can become an intrinsic motivating factor for players,[54] but instead is centred on seeing the end of the story. This is true for men and women in both solo and team-based play.

As one example of overcoming challenges, Eva – who recounted a great deal of stress over having her skill judged above – recalls in her team play of Final Fantasy XIV: " [...] there was this really hard raid boss and we probably tried it 20 or 30 times and we finally got it perfect. Like it was the most beautiful playthrough ever and one of my friends put it on the internet and I watched the video over and over again because I was so proud of myself because we tried it so many times and it was so hard." Players mention what they can put into the game, provide for the team, and how it feels to "pull their own weight" as their primary sources of pride and satisfaction. Some players discuss this in the context of feeling like they have outsmarted the developers by being able to move beyond the challenges presented to them, but most other players focus on proving their ability to themselves or succeeding as a unit.

Not every accomplishment is linked to overcoming difficult challenges, however. Simply finishing the game and seeing a story through is often enough to motivate players. Players are satisfied with their experience if they have not felt the need to walk away, encountered rage-inducing game issues, and are able to wrap up the intended gameplay.

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54 See: CRUZ, C. et al.: The Need to Achieve: Players' Perceptions and Uses of Extrinsic Meta-Game Reward Systems for Video Game Consoles. In *Computers in Human Behavior*, 2017, Vol. 71, No. 6, p. 516-524.

As Taylor, someone who feels like she experiences more frustration with games than most players, discusses: "I'm kind of notorious for starting a game and never finishing it... But I was pretty proud of myself when I finished Oxenfree, which is a) a console game, so I had to be in one spot doing it, and b) I finished it from beginning to end. Like I didn't stop at all. And I know it's a short game, it's like a 4-hour game, but that's still pretty impressive for me. I don't usually spend that kind of time all in one blitz on a video game. You know? That's just not what I do. So, it was like really cool to be like, 'Man, that was a really fun game and I like finished it all, I did it'." Players set their own expectations for completing a game. More men are inclined to say that they want to complete a game on the hardest setting, but players also focus on things like putting in over 100 hours, completing every achievement or challenge, or simply being able to finish a main story. Although the individual goals differ, being able to complete major objectives is widely shared among players and provides a strong sense of accomplishment.

This sheds light on why players persist despite the many stressors that they face with digital games. The sense of pride is an element that keeps players coming back. As Cam puts it: "I feel at home and comfortable doing it, even though it's stressful. Because once I have accomplished it, I feel like, 'Oh, I'm actually doing pretty well, I'm not bad,' you know? I guess it kind of goes with the learning as well. If you have a question posed to you and you don't know what the answer is, and there's no answer online, there's two ways you can do it. You can either completely ignore it or you can try to really struggle and figure it out and I think I'm usually on that struggling path in the first place, so, I guess that relationship really helps bring me back toward gaming." Ultimately, the ability to overcome challenges, prove that one can do something, and see the story through to the end provide the motivation to persist. Feeling the need to prove skill and overcome the challenge, even in solo games, is considered important for nearly all players. In some ways, this relates to the idea of eustress, but this is dependent on the types of obstacles players are overcoming. In the case of extreme distress, the motivation comes from making the distress end, rather than from a motivating eustress experience.

While the sense of pride can frequently save a stressful or frustrating gaming experience and provide players with purpose, this drive may also push players to their limits with stress. In most cases, players will continue to push through games that cause distress and discomfort, but there are few instances where they deem a game or situation beyond improvement. In circumstances where players permanently quit a game, there is not enough satisfaction that can be gained on the other side of distress to balance the negative aspects. This is truer for women and those in the women-centred forums than it is for men or general forum discussions. Lilly illustrates this, saying: "I'm not the kind of person who will just generally... like make herself hate her life for a video game. I'm pretty sure if I'm not... I just wanna have fun. And I thought I'd start having fun, but when I didn't, I was like, okay fine, I'll throw in the towel." It is worth noting that some men mention that there comes a time to give up on a bad game, but they are more likely to persist beyond reaching more stressful levels of play. Steven's perspective reflects a tendency to hope that fun *can* be found in the game, in spite of distress: "If I'm playing a game, I liked some aspect of it to begin with, but if I reach a challenging part or I don't know what to do, it gets frustrating. But the game has a potential to be fun, so I want to get passed the dumb part to the fun part. And I don't want to feel like I lost the game. So those things make me stubborn enough to keep trying."

Players who attempt to push through more substantial stress recognize the distress caused by their play, but also acknowledge that they hope that overcoming these obstacles will provide some kind of reward for their efforts. Continuing to play a game that is not enjoyable defeats the purpose of playing in the first place for many players, but there are

a variety of motivating factors to keep players working on a game. Often, players do not see value in continuing to play a game that does not result in – or suggest the possibility of – satisfaction, pride, or a sense of accomplishment despite distress and frustration. If the experience is too stressful and there does not appear to be any ultimate advantage to completing the game, they will not be able to reap the rewards that keep them coming back.

Conclusion

Stress is complex, from how people process it individually to cultural influences on sources of and reactions to stress. While research on stress frequently focuses on distress,[55] eustress can promote positive feelings and motivate people to achieve.[56] When it comes to stress in digital games, however, the picture is further complicated. This project adds more context to the body of work investigating digital games and experiences of stress by highlighting players' framing of their experiences. While many projects have considered physiological aspects of stress in gaming,[57] fewer have addressed perceptual and experiential elements beyond implied stressors in multiplayer situations, especially for women.[58] In this study, players have complicated relationships with digital games and experiences of distress. While players find many of the same stressors in their play, the shared distress over social play departs at a critical juncture. While women have been noted as playing for social reasons[59] and also having remarkably similar motivations in digital game play to men,[60] men have more opportunities for rewarding social play.

This may also be linked to culturally gendered perceptions of skill,[61] with women players more critical of their own play and men worrying about the performance of others. Regardless of the gendering present in these discussions, ambient hostilities in multiplayer engagement have begun to wear on players overall, causing more men to use the approaches noted among women to avoid toxic gaming behaviour.[62] This study also elucidates a pervasive issue for women – protective measures may not always be effective and women in the sample were often still targets of hostility even among players they knew.

55   KUPRIYANOV, R., ZHDANOV, R.: The Eustress Concept: Problems and Outlooks. In *World Journal of Medical Sciences*, 2014, Vol. 11, No. 2, p. 179.; LUPIEN, S. J. et al.: The Effects of Stress and Stress Hormones on Human Cognition: Implications for the Field of Brain and Cognition. In *Brain and Cognition*, 2007, Vol. 65, No. 3, p. 209.

56   KUPRIYANOV, R., ZHDANOV, R.: The Eustress Concept: Problems and Outlooks. In *World Journal of Medical Sciences*, 2014, Vol. 11, No. 2, p. 180-181.; PINHEIRO, A., PATTA, E., ZAGGIA, J.: Gamification to Expand Awareness About Stress and Its Impacts Within Companies: Gamification Eustress and Distress. In SORT, A., MUÑOZ, J., CORTIZO, J. C. (eds.): *Proceedings of the 2nd International Workshop on Gamification in Health; gHealth'15*. Barcelona : CEUR-WS, 2015, p. 22-23.

57   RUSSONIELLO, C. V., O'BRIEN, K., PARKS, J. M.: The Effectiveness of Casual Video Games in Improving Mood and Decreasing Stress. In *Journal of CyberTherapy & Rehabilitation*, 2009, Vol. 2, No. 1, p. 57-63.

58   For example, see: COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 136-155.; GRAY, K. L.: Intersecting Oppressions and Online Communities: Examining the Experiences of Women of Color in Xbox Live. In *Information, Communication & Society*, 2012, Vol. 15, No. 3, p. 411-428.

59   YEE, N.: The Psychology of Massively Multi-User Online Role-Playing Games: Motivations, Emotional Investment, Relationships, and Problematic Usage. In SCHROEDER, R., AXELSSON, A. (eds.): *Avatars at Work and Play: Collaboration and Interaction in Shared Virtual Environments*. London : Springer-Verlag, 2006, p. 14.

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61   BIAN, L., LESLIEAND, S.-J., CIMPIAN, A.: Gender Stereotypes about Intellectual Ability Emerge Early and Influence Children's Interests. In *Science*, 2017, Vol. 355, No. 6323, p. 390.

62   COTE, A. C.: "I Can Defend Myself": Women's Strategies for Coping with Harassment While Gaming Online. In *Games and Culture*, 2017, Vol. 12, No. 2, p. 149-150.

These experiences are also important for developers to consider and note as more players become uncomfortable with hostilities in online gaming and opt to avoid certain genres or types of play. There are other surprising shared perceptions and experiences as well. Emotionally, although men are more likely to hedge their discussions on stress in gaming and frame their stress as anger,[63] players also have some unexpected similarities. The experience of rage quitting is well-known and shared across gender and there is a tendency to associate stress and frustration with this concept. Further, gender has little impact on why players push through these experiences. Players note that overcoming challenges, proving oneself, and seeing the end of the story are motivators and frame these outcomes as worth the cost of distress.

This perspective does not always appear to illustrate a eustress-like experience, however. Rather than stressors providing positive emotional reactions and motivation[64] to complete a game, players push through distress for the relief of no longer feeling it and reaping the perceived possible rewards available to them by completing their in-game objectives. There are experienced rewards that are remarkably similar for players regardless of gender, but these can sometimes only be achieved after the player passes through distress. Digital games provide an array of experiences for players, which extend to their perceptions and discussions of stress in the context of their hobby. Although there are some notable differences between what women and men define as stressful, the similarities offered by these players present a fruitful path for potential future inquiry.

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