Champions of Equality:
Examining Gender Egalitarianism in Virtual Teams Across Cultures

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Abstract

This study highlights the importance of considering gender and offline cultural context when working in virtual teams. To this end, we examine gender differences in performance and participation within virtual teams in a popular online game, drawing from behavioral game data from game servers in nine countries, each representing a distinct region of the world. Results are compared to metrics from the GLOBE study, allowing us to examine how offline cultural context relates to the data derived from these virtual teams. While this study is largely exploratory, it suggests the important point that offline gender dynamics in a given culture are not necessarily replicated by the virtual team participants from those cultures and thus that virtual team managers should be mindful of such dynamics. Further implications are discussed.

1. Introduction

Organizations today in nearly all industries routinely form teams to accomplish tasks, make complex decisions and solve intractable problems, and such teams are becoming increasingly virtual. Virtual teams are comprised of “geographically and/or organizationally dispersed coworkers [who] are assembled using a combination of telecommunications and information technologies to accomplish an organizational task” [1: 18]. Virtual teams appeal to management for several reasons. First, managers can draw from a large pool of expertise without having to relocate workers, making organizations more nimble and giving them access to more information [2]. Second, organizations can trim costs by reducing cycle-times, quickly integrating remote workers, and improving worker skill sets (via access to a wider and deeper talent pool) [1, 3]. According to Lipsinger [4], at least half of today’s organizational teams operate regularly as virtual teams. But while virtual teams offer clear advantages, managers deal with various complexities and challenges. None is more central to virtual teams’ success than communication—and virtual teams face distinct challenges in this arena. Communicating effectively is difficult when team members cannot see each other, cannot read each other’s nonverbal cues (such as hand gestures and facial expressions), and do not live and work in the same time zones [5-7].

In the present study, we examine two under-investigated facets of virtual teams: gender and culture. Virtual teams operate across many cultural contexts that may vary in assumptions and approaches to gendered differences in participation and performance. As we move toward a more global workforce, it is imperative that we understand how these two factors play a role in virtual teamwork. Our study specifically examines gendered differences in performance and participation within virtual teams across nine countries, each from a distinct region of the world. We draw our data from the same Massively Multiplayer Online Game (MMO) across these nine countries, thereby using the MMO as a natural laboratory for the study of virtual teams [8, 9] that provides objective team
outputs from a large number of highly engaged participants over an extended time period. This exploratory study is driven by the overarching question of how gendered differences in participation and performance within virtual teams vary across cultures. The results suggest that offline gender dynamics in a given culture are not necessarily replicated by the virtual team participants from those cultures, though in some cultures those dynamics do appear to be replicated. From these results we infer that virtual team managers should consider the interaction between the culture of gender in the virtual team and in the team members’ offline environments distinctly and carefully. This paper concludes by examining this implication and suggesting directions for future research on this topic.

2. Theoretical Framework and Research Questions

Since long before virtual teamwork, women have been hindered from participating equally in many meaningful realms of society, from the workplace to schools to recreation. Although disparity between women and men has been declining, cultural norms and practices still sustain gender inequalities [10]. In many societies, women have been considered more suitable for “pink-collar” (i.e., feminine) jobs, such as nurse, teacher, secretary, etc., which are devalued compared to the work men do [11]. Women also face greater hindrances to ascending in their career paths [12], especially with respect to becoming leaders [13], and tend to earn less income and accrue less wealth than men [14, 15], due at least partially to bias in performance assessments [16, 17].

Researchers have long debated the cause of such disparate treatment of women and men, with the likely conclusion that both nature and nurture contribute inter-relatedly [10], given that humans have evolved biological systems that give rise to social behaviors that adapt to environmental features [18, 19]. For example, Eagly [20] suggest that the disparity in the division of labor for men and women varies across cultures as a function of both biological factors (e.g., women’s reproductive behaviors and men’s larger size) and “social psychological processes involved in forming gender role beliefs that make the contemporaneous division of labor seem natural and inevitable” [20: 11].

The present paper focuses on the nurture-oriented argument, i.e., gender disparity is propagated through socialization processes, starting as early as parental encouragement of children’s gender-typical behaviors [21] and continuing through the reinforcement of gendered cultural stereotypes from peers [22], teachers [23] and media [24]. While we recognize that such socialization processes may have biological roots in survival instincts [25], we believe that cultural forces can counteract such instinctual mechanisms, especially in environments where such socialization should not dictate participation or success, such as virtual worlds.

In virtual worlds, social context cues such as non-verbal signals and identity characteristics are filtered out, rendering interactions in such environments largely different from those in offline teams [26]. Because virtual world users may craft their identities as they please, their offline identities become less salient to the interaction in the space, and thus virtual worlds potentially serve as “social levelers” that facilitate more egalitarian exchanges of ideas and production of knowledge compared to offline environments [44]. This understanding of virtual worlds as relatively egalitarian environments serves as the theoretical foundation for the present paper. We specifically focus on gender egalitarianism—defined as the “degree to which an organization or society minimizes gender role differences while promoting gender equality” in areas such as the labor force, education, and community decision making [30: 13].

Previous research has examined this idea of virtual gender egalitarianism. For example, although computer mediated communication (CMC) is able to evoke stereotypical anticipations, through cues such as a feminine or masculine first names [27], research also suggests that communicators in CMC are not able to accurately identify others’ gender based on content alone (e.g., emails [28]). Further, one study found that unlike in offline workplaces, where systematic biases lead to gendered income disparity, differences in virtual income earning were negligible between women and men [45]. Such findings should not be surprising for regular virtual communicators. For example, Hiltz and John [29] found women to perceive virtual communication as more favorable than men did because it allows women to express opinions actively without being hindered by domineering men.

Together, the previous research suggests that virtual teams should provide more gender equality than offline teams, but little if any research has examined the relationship between cultural norms offline and norms within virtual teams with respect to gender egalitarianism. This topic is especially important because some societies and organizations are more gender egalitarian and thus “minimize gender role differences” [31], while other societies and organizations seem to maximize such differences [30]. On the one hand, the extent of gender egalitarianism in virtual teams may reflect the extent of such egalitarianism in offline contexts, which would be
positive in societies with a high amount gender egalitarianism, but not otherwise. On the other hand in societies that are low in gender egalitarianism, people may counteract those norms when they engage with virtual teams, thus leading to virtual teams norms that are the opposite of the offline norms, i.e., more egalitarian.

Given that there is little if any previous research on this topic from which to build a thorough argument for either expectation, we explore the question openly. Specifically, we are interested in how differences between women and men—in terms of both participation and performance—vary between different cultural contexts. We examine participation and performance, because they are related but also distinct constructs that reflect gender egalitarianism in offline contexts. For example, the percentage of women in the workforce compared to men reflects gendered differences in participation, while the average income from women in certain jobs, compared to men in those same jobs, reflects performance. Thus, we offer the following research questions to guide our analysis.

RQ1: How do women and men’s participation in virtual teams vary across offline cultural settings?
RQ2: How do women and men’s performance in virtual teams vary across offline cultural settings?
RQ3: How do gendered differences in participation across offline cultural settings relate to those differences in performance?

3. Method

3.1. Research setting

This study investigated gender differences in virtual team behavior over an extended time period (90 days), which required the collection of multiple observations of such virtual behaviors. Given that data collected from research participants are subject to reactivity and instrumentation in longitudinal designs, nonreactive and unobtrusive data are a desirable alternative to self-report measures. For this study, we collected the non-reactive trace data in the context of an online strategy game. The use of computer simulations is common in studies of group dynamics and effectiveness [32, 33]. The simulation game employed in this study involves a highly engaging, complex, and interdependent task. Thus, it has a higher degree of psychological fidelity for social dynamics than most laboratory simulation tasks.

The data used in this investigation are part of a larger research program on collaboration [34-37]. The dataset is derived from a popular, browser-based online strategy game called Travian (www.travian.com). For our research, this particular game offers some key advantages. First, people can play the game for free, without subscription fees or initial costs, which makes the game available and attractive across all levels of commitment. Further, the game is browser-based, requiring no software installation, and thus the barrier to entry for new players is low. Together, these facets of the game facilitate its broad user base, thus yielding a high volume of compelling scientific data.

Players in Travian, an online strategy game, begin as chieftains of their own village. Throughout the course of a game cycle, which is timed to last a maximum of approximately one year, players attempt to build armies, gain natural resources, and expand their realms. At the end of the game cycle, the team who first completes the final task—building a structure called a “wonder of the world”—is deemed the winner. The game is played on a single server with up to 25,000 users, but only one team can win. As in the real world, resources are finite and often scarce, so players find themselves in a social dilemma [38], not unlike the dilemmas faced by organizations who work across labor divisions. To expand their territory and resources, actors must cooperate with each other; they form teams of up to sixty members and are “governed” by a leading chieftain. Because team structures and interactions between and among teams are quite complex, in order to succeed, teams must rely on efficient teamwork, diplomacy, and negotiation skills. The importance of highly structured leadership teams cannot be overstated. Alliance members are colleagues. If someone loses a village or a contingent of soldiers, they experience real emotional costs. In other words, players are profoundly psychologically involved in the game. Given these characteristics, the Travian teams are akin to virtual teams as defined earlier.

3.2. Sample and procedure

Data collection was conducted in cooperation with Travian Games, a commercial provider of the simulation game. The simulation was not run specifically for the purposes of this research but is a form of commercial entertainment. Thus, participants chose to join the simulation game for their own intrinsic reasons (i.e., to be part of an online community, to engage in competitive play [39]). The provider hosts rounds of the simulation game in various regions throughout the world. This study is based on log-file data that were collected over a twelve month period (October 2009—October 2010). The sample for this study uses data from the first 90 days of the game, as most of the players register in this period and try to perform well in order to gain membership in an alliance. The dataset is comprised of nine countries. Each country represents a different region in the
GLOBE study (see Figure 1): Brazil (17,927 players), the United States (8,209 players), Finland (6,621 players), France (22,555 players), Japan (6,184 players), the Netherlands (7,823 players), Russia (3,623 players), Turkey (25,953 players), and Indonesia (13,829 players). During the registration process, players can select their gender, but this information is not shown on players’ public profiles in the game. As the game doesn’t provide avatars, it is not possible to find out other players’ gender, as long as players do not mention it in their public profile, in their user names, or in their conversation with others.

Cross-cultural studies commonly compare countries according to specific attributes. Accordingly, this study adopted the GLOBE project approach, which assesses culture at the local (e.g., organizational) level. The GLOBE project is a large-scale, world-wide investigation of the relationships between societal culture, organizational culture, and organizational leadership. GLOBE is the abbreviation of Global Leadership and Organizational Behavior Effectiveness [30]. House, along with other scholars, students and so-called country co-investigators (CCIs), used this study to examine a variety of topics, such as whether charismatic leadership was successful across different cultures. Building on this work, the GLOBE coordination team (GCT) conducted a 10-year research program that aimed to provide useful information on people acting in cross-cultural settings [30]. The main questions were related to how culture affects leadership and the functioning of organizations [30]. Project GLOBE defines culture as “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations.” [30: 15] The GLOBE research refers to the following cultural dimensions: Future Orientation, Gender Equality, Assertiveness, Humane Orientation, In-group Collectivism, Institutional Collectivism, Performance Orientation, Power Distance, and Uncertainty Avoidance [30].

In this study, we focus on the gender equality dimension, which was measured in each country with survey items such as, “In this society, boys are encouraged more than girls to attain a higher education,” and “In this organization, men are encouraged to participate more in professional development activities more than women” [30: 360].

The present study examines cultural differences by using the GLOBE’s clusters of 62 countries within 10 different regions (displayed in Figure 1 below). The GLOBE cultural grouping provides researchers with a guide to systematically sample respondents on the basis of specific variables. The clusters may be used as a guide to ensure an adequate sampling of cultural variability [30]. The GLOBE study is well respected in comparative management research.

Because of our unique connection to Travian Games, we have had the rare opportunity to use the Travian platform to gain access to more than 50 countries. Travian Games has given us the chance to investigate countries from almost every regional cluster from GLOBE except for those in Sub-Saharan Africa.

Figure 1: Countries selected in our study following the GLOBE rational of clustering countries and corresponding languages needed.
3.3. Measures

3.3.1. Participation Metric. We measure individual participation by counting the total amount of women and men Travian players over the first 90 days of the game and then calculating a ratio of these two counts, with women players as the numerator. For instance, if a given country had 40 women players and 80 men players, we would calculate the participation metric to be 40 / 80, or .50.

3.3.2. Performance Metric. The Travian game server provides a system for evaluating players’ performance compared to each other. This system ranks players according to the population within the players’ villages. The ranking is based on the sum of inhabitants belonging to one player (extending a village increases the number of inhabitants). Larger villages produce more resources and can maintain larger armies, both of which are necessary in the race to build the wonder of the world (which is the goal of the game). Thus, a player’s village population offers a valid proxy of the player’s success. Individual performance was measured for the duration of the whole game. In order to develop a metric that illustrates the relative difference in performance between women and men players in a given country, we calculated the percentage of inhabitant population for women players within the total number of inhabitants for all players in a given country. For instance, if in a given country, women players had an average inhabitant population of 4,000 and men players had an average inhabitant population of 6,000, we would calculate the performance metric to be 4,000 / 10,000, or 40%.

4. Results

4.1. Participation and Gender Egalitarianism

In order to address Research Question 1, we calculated the participation ratio of women and men players for the countries Brazil, France, Japan, the Netherlands, Russia, Turkey, Indonesia, and the United States (Table 1). We compared these data to the gender egalitarianism GLOBE dimension at both the organizational and the societal level (Table 2).

Overall, there was a higher percentage of men Travian players for every country. The highest percentage of women players was in Japan, with a participation ratio of .366 (women/men), and in the United States, with a participation ratio of .279.

In contrast to this, within the GLOBE dimensions of gender egalitarianism, Japan ranks relatively low (seventh of nine) compared to the other countries. The US also ranks low on this metric at the organizational level (sixth), but not at the societal level (second). Meanwhile, Russia ranks high on the organizational level of gender egalitarianism, but low on Travian participation.

On the other end of the rankings, Finland and Turkey had the lowest participation metrics for women, while their GLOBE rankings were also relatively low, with all but one (Finland, Organizational level) in the lower half of the nine countries. Indonesia was also on the lower end of the rankings for both the Travian and GLOBE metrics.

Together, these data present a mixed picture. Across the different measures, some countries are consistently high (e.g., the Netherlands) or low (e.g., Turkey). Other countries (e.g., Japan, US) support the notion that female participation in Travian can be high even when gender egalitarianism offline is relatively low. However, still other countries (Russia) illustrate the opposite pattern.

<table>
<thead>
<tr>
<th>Country</th>
<th>Participation Metric</th>
<th>Women Player Population</th>
<th>Men Player Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Japan</td>
<td>0.366</td>
<td>1,656</td>
<td>4,528</td>
</tr>
<tr>
<td>2 US</td>
<td>0.279</td>
<td>1,789</td>
<td>6,420</td>
</tr>
<tr>
<td>3 France</td>
<td>0.256</td>
<td>4,593</td>
<td>17,962</td>
</tr>
<tr>
<td>3 Netherlands</td>
<td>0.256</td>
<td>4,593</td>
<td>17,962</td>
</tr>
<tr>
<td>5 Brazil</td>
<td>0.224</td>
<td>3,283</td>
<td>14,644</td>
</tr>
<tr>
<td>6 Indonesia</td>
<td>0.217</td>
<td>2,470</td>
<td>11,359</td>
</tr>
<tr>
<td>7 Russia</td>
<td>0.215</td>
<td>640</td>
<td>2,983</td>
</tr>
<tr>
<td>8 Finland</td>
<td>0.147</td>
<td>848</td>
<td>5,773</td>
</tr>
<tr>
<td>9 Turkey</td>
<td>0.145</td>
<td>3,284</td>
<td>22,669</td>
</tr>
</tbody>
</table>

Table 1: Participation Metric of Travian players
Table 2: GLOBE Gender Egalitarianism Scores

<table>
<thead>
<tr>
<th>Country</th>
<th>Organizational Level</th>
<th>Country</th>
<th>Societal Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Russia</td>
<td>4.07</td>
<td>1 Netherlands</td>
<td>5.10</td>
</tr>
<tr>
<td>2 France</td>
<td>3.81</td>
<td>2 US</td>
<td>5.03</td>
</tr>
<tr>
<td>3 Netherlands</td>
<td>3.62</td>
<td>3 Brazil</td>
<td>4.91</td>
</tr>
<tr>
<td>4 Finland</td>
<td>3.55</td>
<td>4 France</td>
<td>4.71</td>
</tr>
<tr>
<td>5 Brazil</td>
<td>3.44</td>
<td>5 Finland</td>
<td>4.47</td>
</tr>
<tr>
<td>6 US</td>
<td>3.36</td>
<td>6 Turkey</td>
<td>4.46</td>
</tr>
<tr>
<td>7 Japan</td>
<td>3.17</td>
<td>7 Japan</td>
<td>4.41</td>
</tr>
<tr>
<td>8 Indonesia</td>
<td>3.04</td>
<td>8 Russia</td>
<td>4.34</td>
</tr>
<tr>
<td>9 Turkey</td>
<td>3.02</td>
<td>9 Indonesia</td>
<td>3.71</td>
</tr>
</tbody>
</table>

4.2. Performance and Gender Egalitarianism

To address Research Question 2, we examined women’s and men’s Travian performance (Table 3) and also compared this to the same GLOBE gender egalitarianism scores as in the previous test (Table 2). Overall results display a difference in women’s and men’s performance in virtual teams. Women showed stronger performance than men in Finland, the Netherlands, and Indonesia. This is consistent with GLOBE scores for the Netherlands, though in contrast, Finland is ranked in the middle of the group for the GLOBE scores and Indonesia is ranked at the bottom. This may suggest that women players in Indonesia (and possibly Finland as well) are able to transcend gendered hindrances to performance offline and perform well in virtual teams.

In notable contrast, the US is the lowest rank for women’s performance in Travian, while the US is the second highest ranked country for the GLOBE metric on the societal level and sixth highest at the organizational level. Thus, in this case, virtual team performance was more consistent with offline gender egalitarianism in organization-level contexts than societal-level contexts.

Overall, while some countries illustrated consistently high (the Netherlands) or low (Turkey) rankings across both virtual and offline contexts, others illustrated that performance is not necessarily consistent across the contexts (e.g., Indonesia, US).

4.3. Relations between Participation and Performance

To address Research Question 3, we compared the results across all metrics, which were consistent with each other for some countries. Namely, the Netherlands had the most consistently high rankings across women’s Travian participation (Table 1) and performance (Table 3), as well as for offline gender egalitarianism at both the organizational and societal level (Table 2). Meanwhile, Turkey had the most consistently low rankings across all metrics. Looking at these countries alone, we might infer performance in virtual teams reflects gender norms in offline contexts.

A more interesting story emerges when the metrics were inconsistent with each other. Finland had the second lowest rate of women participating in the Travian Game, but women’s performance compared to men’s is the highest out of all the countries, and this disparity is not easily explained by the offline gender egalitarianism rankings for Finland, which were firmly in the middle of the nine countries.

In contrast, the US had one of the highest levels of women participating in the game and also in the societal level GLOBE metric, but was in the lower end of the rankings for women’s performance in the game and the organizational level GLOBE metric. This suggests that in the US, societal-level gender egalitarianism relates more strongly to women’s participation in virtual teams, but that organization-level gender egalitarianism relates more strongly to women’s performance.

But this pattern is not replicated in Indonesia, which had a low rank for both GLOBE metrics as well as the Travian participation metric, but was ranked relatively high on the performance metric. Conversely, Japan also had a low rank on both GLOBE metrics, but a high rank in Travian participation and a relatively low rank in performance.
Table 3: Performance Metric of Travian players

<table>
<thead>
<tr>
<th>Country</th>
<th>Performance Metric</th>
<th>Women Player Performance</th>
<th>Men Player Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Finland</td>
<td>0.534</td>
<td>264.5</td>
<td>230.7</td>
</tr>
<tr>
<td>2 Netherlands</td>
<td>0.506</td>
<td>255.7</td>
<td>249.9</td>
</tr>
<tr>
<td>3 Indonesia</td>
<td>0.503</td>
<td>201.9</td>
<td>199.8</td>
</tr>
<tr>
<td>4 Russia</td>
<td>0.489</td>
<td>659.6</td>
<td>688.5</td>
</tr>
<tr>
<td>5 Japan</td>
<td>0.480</td>
<td>465.7</td>
<td>504.7</td>
</tr>
<tr>
<td>6 France</td>
<td>0.464</td>
<td>219.0</td>
<td>252.9</td>
</tr>
<tr>
<td>7 Turkey</td>
<td>0.462</td>
<td>171.2</td>
<td>199.6</td>
</tr>
<tr>
<td>8 Brazil</td>
<td>0.450</td>
<td>94.6</td>
<td>115.9</td>
</tr>
<tr>
<td>9 US</td>
<td>0.433</td>
<td>205.4</td>
<td>269.0</td>
</tr>
</tbody>
</table>

5. Discussion

This exploratory study examined how gender differences in virtual team participation and performance relate to gender egalitarianism in offline cultural settings, drawing from online game data and gender egalitarianism measures from nine countries representing different regions of the world. Overall, the findings present a mixed picture of the relationship between offline gender egalitarianism and both virtual team participation and performance. The Netherlands and Turkey illustrate consistency between these metrics, with the former on the higher end of the rankings and the latter on the lower end. Finland and Indonesia illustrate that women’s virtual team performance can transcend low virtual participation for women as well as low offline gender egalitarianism, which is certainly an optimistic inference. However, the US and Japan illustrate that women’s virtual team performance can be low despite high virtual team participation and even higher gender egalitarianism (at the societal level in the US).

These findings do not offer generalizable patterns across the nine countries in this study. Clearly, cultural factors—beyond gender egalitarianism—appear to influence virtual team participation and performance. Still, the findings do offer some notable implications.

First, gender egalitarianism in organizational and societal contexts was not consistently reflected in virtual team participation and performance for women. In other words, the extent of offline gender egalitarianism does not necessarily dictate virtual gender egalitarianism. This supports the claim that virtual contexts have the potential to serve as social levelers that facilitate more egalitarian exchanges compared to offline environments. This is of course more salient to countries in which gender egalitarianism is low, but it is especially important in such countries that were also low on the rankings for Travian performance and participation (e.g., Turkey) because it illustrates the potential to reduce gender disparity in virtual contexts, which have cultural norms that are arguably more malleable than those offline. While the present study offers no insight into how to specifically accomplish such goals, it did identify the countries in which women seem to be able to transcend the hindrances to gender egalitarianism offline and engage more frequently and productively in virtual teams (e.g., Indonesia). Future research could examine such countries to identify what specific cultural attributes facilitate this empowering use of virtual teams.

Another notable (and curious) implication of these findings is that women’s virtual team performance can be low even when their virtual team participation and societal level gender egalitarianism are high. This is a difficult finding to explain and so we only offer brief speculation. Namely, the two countries that illustrated this pattern most strongly (the US and Japan) have a few societal level factors in common that may play some role in this finding: large economies, well-developed internet infrastructures, an appreciation for baseball. Both countries also produce and consume a large amount of the world’s video games. Travian is a video game, after all, and so perhaps the culture of gaming in the US and Japan, specifically with respect to gender, facilitated this finding. The present study is unable to provide insights into this question, but future research could examine how and why gendered patterns of virtual behavior in the US and Japan differ from those in other countries.

Virtual team managers could look to the present research to gain insights and overcome barriers related
to gender dynamics in their teams. Most importantly, when virtual team members come from different countries, it is possible that the gender norms they are familiar with offline and online are not consistent with each other. For example, if a virtual team manager knows that gender egalitarianism is low in Japan, the manager should not assume that Japanese women’s participation in virtual teams should be low as well. The present study suggests that the opposite would be true. Similarly, if a virtual team manager knows that gender egalitarianism is low in Indonesia, the manager should not assume that Indonesian women’s performance in virtual teams should be low as well. In general, this research suggests that virtual team managers should be sensitive to the team members’ offline culture, but should also recognize that virtual team culture can diverge strongly from that context.

6. Limitations and Future Directions

This study’s limitations include that it was conducted in a simulation, and thus players’ decisions do not bear the same risk of negative consequences that real-life decisions do, raising concerns about the generalizability of the study’s findings [40]. However, Travian players work together in ongoing teams on compelling, highly-complex tasks, and so participants are potentially more “naturally” engaged and motivated than they would be in laboratory studies [41].

Another issue is that we only looked at players who reported their gender in the game, so this sample may not be representative of the larger sample of players. However, we cannot see reason to suspect that choosing (or not) to report gender would delineate players in a way that significantly influences the relative differences in gender egalitarianism between the countries.

Future research could build upon the present work by conducting similar work in other virtual team settings, using other variables of participation and performance, and comparing results along other cultural dimensions (e.g., Hofstede’s [42]). Further, China, and other countries from South America and Eastern Europe should be taken into account, as the number of virtual team members living in these countries will increase over the next years [43].

These improvements notwithstanding, the present research offers a first, exploratory step in this line of work comparing gender dynamics between countries in both offline and virtual contexts.

7. References