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# Handbook of Research on Race, Gender, and the Fight for Equality

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## Chapter 9 "A Girl Move": Negotiating Gender and Technology in Chess Online and Offline

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#### **ABSTRACT**

The confluence of gender and information technology in chess is explored in this chapter based on a small empirical interview study. By interviewing nine women chess players who compete in men's tournaments, the chapter examines the underrepresentation of women in the traditionally male domain of chess and discusses the role of computers and the Internet in women players' work/play routines. Five in-depth interviews were conducted Face-to-Face (FTF) and four interviews were conducted over the Internet using the textual chat feature of the International Chess Club during the summer of 2010. How women negotiate gendered identity and how they position themselves in regard to information technology are discussed. The interviewees' reflexive accounts discussing gendered practices and the changing notion of gender in chess challenge technologically infused male culture in ways that help us to understand the role of embodiment in mastery and expertise.

#### INTRODUCTION: WHY STUDY WOMEN AND CHESS?

The body of knowledge exploring the nexus of gender, games, and technology is incomplete without literature exploring women's experiences in competitive and technologically saturated pursuits like chess. The chess culture underrepresents women, and the marginalization of women in chess is analogous to the underrepresentation of women in video games, sports, and in the fields of science and technology. As of May 2015, only nine percent of the players on the World Chess Federation (FIDE) list is women. Past work in the cognitive and computer sciences has shown that chess playing skills are associated with visualization, spatial imagination, and memory (e.g. Charnes, 1992; Charness et al., 2005; Frydman and Lynn, 1992; Waters et al., 2002), and there has been some exploration of women's underrepresentation in chess as a gender gap in intellectual pursuits (Chabris and Glickman, 2006; Howard 2005).

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When women enter the patriarchal chess culture, gender is often highlighted rather than erased similar to other "first women stories" (Rosen, 2000) entering traditional male domains with little to no regard for historically formed power relations of gender. In the classical work 'Throwing like a girl,' Iris Young (1980) ruminates on how a woman's comportment and bodily timidity is conditioned by sexist practices in patriarchal society that routinely subject women to unjust scrutiny and normatively disciplined expectations. Young argues that girls often have fewer opportunities to tinker and practice; thus they develop ambiguity in their intentionality due to the dual perception of their bodies as objects and subjects at the same time. This research voices women's lived experiences and demystifies the underrepresentation of women in the traditionally male domain of chess based on a small empirical interview study. Seeking out mastery and skills in chess requires from women certain competitiveness, aggression and relentlessness that many girls and women are not socially prepared for. Women do not have many opportunities to face such ritualized combative, aggressive and sometimes cruel encounters on an equal term against men outside chess tournaments. International chess master Jennifer Shahade (2005) argues in her book Chess Bitch: Women in the Ultimate Intellectual Sport that in countries like Russia and China, where socially glorified female chess role models exist, women are much more inclined to learn and master chess. Shahade develops her argument drawing upon her personal experience, as well as from her interviews with leading female chess players including Judit Polgar, once a top ten player in the world. Then, Shahade (2005) goes on to say that contrary to cultural expectations of girls being less aggressive when they play chess, the pejorative phrase 'a girl move' in the chess culture today has been subverted to mean a move seeking fierce and aggressive play with great complications. Shahade's (2005) observations on social, cultural and generational differences in gender expectations in chess evoke the instability and fluidity of gender. Judith Butler (1999) in her foundational work Gender Trouble reminds us that what constitutes gender and what ought to constitute gender is not fixed, and exists on a performative continuum that changes over time. 'What we take to be an internal essence of gender is manufactured through a sustained set of acts, posited through the gendered stylization of the body' (Butler, 1999, p. xv). Gender is performative and the naturalness and stability of gender categories need to be de-constructed. What is considered 'a girl move' or feminine enactment in chess has been shifting as Shahade (2005) observes.

Shahade's (2005) observations of cultural differences in gender expectations in chess further Young's (1980) argument on the social construction of gender. More women have competed with men in chess and sports since Young's (1980) article was written; yet despite the ideology of 'fair competition' in sports, women frequently face 'disciplinary constraints' of culture as Butler (1999) among others explains. The public and media scrutinize female athletes' identity and sexuality, and subject women athletes to traditional heterosexual femininity (Sloop, 2005) and the 'ideal models of post-feminist commodity' (Kearney, 2011, p. 290); or frame them as masculine and hence lesbian (Mean and Kassing, 2008). Unlike other sports where athletes often wear spandex uniforms and compete in gender-defined sections, the dress aspect in gender-mixed chess tournaments, apart from the flippant 'distracting cleavage argument' when a man loses to a woman, has not been explored. Young (2005) argues that the aesthetic freedom women choose in their clothing has 'liberating possibilities because it subverts, unsettles the order of respectable, functional rationality in a world where that rationality supports domination' (p. 74). This research aims to flesh out never invisible, but subtle gendered aspects of performances in chess.

#### TECHNOLOGY, GENDER, AND CYBORG IDENTITY

The chess culture has been at the forefront of adopting computers and the Internet as information processing permeates into all spheres of human activity. IBM's super computer *Deep Blue*, which consisted of an array of 256 processors and performed 200 million operations per second, defeated the world champion Garry Kasparov in 1997. Software like *Chessbase* (2013) can store five to six million games of active players, and chess engines such as *Crafty* (2013), *Fritz* (2011), *Houdini* (2013) and *Rybka* (2010) are capable of analyzing dozens of moves at a depth of 10-20 moves ahead. When the Internet arrived, chess was one of the earliest online activities – the UseNet group, and the Whole Earth 'Lectronic Link (WELL) had chess discussion groups and all portals and search engines had chess communities like MSN Gaming Zone, Excite Games, and Yahoo Games. The International Chess Club (ICC), one of the most prominent online chess sites, has become an example of a successful online community with exclusive chess channels, streaming programs, and the live radio station Chess.fm.

The convergence between computers and chess raises new questions for technofeminist studies, which further explore 'the gendered character of technology' (Wajcman, 2004, p. 53). A growing body of literature exploring the intersection of technology and gender focuses primarily on the video game experiences of women. One of the earlier studies by Cassell and Jenkins (1998) titled 'Chess for girls' examines the assumptions about gender and games by exemplifying the cultural juxtaposition of chess and femininity. The authors refer to a *Saturday Night Live* (Michaels, 1997) comic skit, in which a brother checkmates his sister and the sister throws chess pieces into air by saying 'Chess is no fun!' A pseudo commercial 'Don't worry, now there is Chess for Girls' airs during the show, which feminized chess by replacing standard pieces with doll-like pieces, chess boards with beach houses, and knights with ponies. This cultural juxtaposition of chess and femininity exemplifies cultural inscriptions of gender roles that discourage girls and women from competing, playing, and mastering chess. Cultural inscriptions of gender roles have often contributed to the alienation of young girls and women from digital games (Dovey & Kennedy, 2006; Royse et al., 2007; Taylor, 2008; Walkerdine, 2006). As girls grow older, they practice and learn to infuse gender and games into their identity.

Researchers have explained how different technologies informed gender and vice versa ranging from the automobile (Sloop, 2005) and the telephone (Rakow, 1992) to computer aided cosmetic surgery (Balsamo, 1996) and video games (Dovey & Kennedy, 2006; Royse et al., 2007). While Sloop's (2005) analysis of gender in automobile racing and Balsamo's (1996) analysis of cosmetic surgery both seem to suggest that technology inscribes traditional gender expectations about beauty, the analyses by Rakow's (1992), Dovey and Kennedy's (2006), and Royse et al.'s (2007) point toward different levels of incorporation of the telephone and video game technologies into the experiences of women, thus redefining and reconfiguring technologies. Adult women who frequently play multiple genres of video games tend to explore different enactments of gender than women who do not play games (Royse et al., 2007). Dovey and Kennedy (2006, 2007) argue even further by claiming that in gaming culture, technological skills and tastes have become integral parts of identity, and they call this interconnectedness of identity with technology 'technicity.'

The integration of technology into gendered identity is further explored in this chapter by revisiting the concept of the cyborg (Haraway, 1991), a hybrid of machine and organism. Today tournament chess players, both women and men, often prepare the first 10-20 moves of each tournament game by looking up the opponent's previous games in chess databases, and by analyzing and memorizing chess positions that would plausibly occur in the game using chess engines and programs. Even though a chess

player does not have prosthetic computer technology when he or she plays a tournament game, his/her performance is computer-prepared and the authenticity of human creativity has become questionable. The concept of the cyborg has been influential in feminist scholarship, which has long been grappling with the role of the gendered body in mastery and knowledge (Adam, 2002; Francis, 2008; Durham, 2011; Haraway, 1991) because the concept helps to deconstruct the dichotomy of body and mind by emphasizing lived bodily experiences. The cyborg concept contests the primary nature of biological materiality, and thus helps us to see both technology and gender as fluid and co-constitutive, while considering the possibility of patriarchal exploitation of technology to subordinate women (See Cockburn, 1985; Jackson, 2007; Wyatt, 2008).

The embodied experience is central to the critique of the earlier artificial intelligence project, a project of developing intelligent, humans-like machines. Prominent critic of artificial intelligence, philosopher Hubert Dreyfus (1992, 2001, 2005), sees constraints in the computer's ability to relate to the world intelligently because of its disembodiment. Dreyfus (1992) argues that unlike computers, which analyze myriads of facts, snapshots and momentary views separately and then give them meaning, 'a normal person experiences the objects of the world as already interrelated and full of meaning' (p. 182). Dreyfus (2005) further argues that even in highly specialized domains like chess, a human's intuitive coping skills, and empathy play an important role in mastery and expertise because of the embodiment. By comparing a chess grandmaster's ability to instantaneously recognize and distinguish patterns in lightning chess (an entire chess game played in two minutes) to a chess computer, which calculates thousands of possible options, Dreyfus (2005) states that a chess grandmaster's decision making is intuitive and perceptual rather than calculated or axiomatic. Dreyfus's analysis of embodied human expertise in chess provides a plausible explanation to the women chess players' positions toward chess engines and computers.

This chapter strives to understand the play and the practice of female chess players and their gendered enactment involving chess and technology online and offline by asking the questions: 1) How do female chess players, who compete in men's tournaments, negotiate gendered identities offline and online? 2) How do these female chess players integrate information technology into their chess work/play routines? 3) How do female chess players position themselves toward chess engines and computers?

#### **METHOD**

Grounded explanations of the questions "why do women choose to play chess competitively?" "what meaning do women give to their play?" and "how do they view computer and chess engines?" can best be sought by talking to women chess players. To answer these questions, in-depth, semi-structured interviews were conducted with nine women. Though the sample size is small, reflecting the underrepresentation of women in chess tournaments, the interviewees hold prominent perspectives. All, but one interviewee who is the only woman who played in the World Senior Chess Championship in 2010, are internationally titled or an expert level players, and are between the age of 20-35. One interviewee is a former U.S. women chess champion and a known writer and four interviewees are chess Olympic participants. The study does not aim to generalize for the broader population of women or men who play and practice chess at different levels.

Researchers studying gender in domains where women have continually been perceived as 'others,' face challenges in establishing trustworthy relationships with their subjects (Consalvo, 2002; Reinharz & Chase 2002; Royse et al., 2007). I observed and approached my interviewees at high-profile chess

tournament sites such as *Philadelphia International* and *The World Open*, and online in a gaming environment of *the International Chess Club* (ICC). Following women players' games over many hours at tournament venues helped me to bond with them, and while only a couple of women declined, nine agreed to participate in the interviews. Five in-depth interviews were conducted face-to-face (FTF) and four interviews were conducted over the Internet using the textual chat feature of the ICC during the summer of 2010. The length of time of the online interviews was longer because the participants typed their answers at their own pace. While FTF interviews are recommended for their flexibility in capturing nuances of the interviewees' responses, the online interviews enhance the comprehensiveness of the study by allowing the researcher to investigate respondents who are savvier in regard to online gaming environments.

By disclosing my own personal experiences in men's and women's competitive chess tournaments, I encouraged my interviewees to be more forthcoming in our 'conversation with a purpose' (Burgess, 1984, p. 102). I conversed with the interviewees for a period of 30 minutes to one hour depending on the interviewees responses to my interview questions and probes. Because the interviewees have different experience and expertise, some talked longer about, for example computers and engines, while others were brief when discussing the Elo rating system. The researcher's personal reflections mixed and reverberated with the thoughts and utterances of the interviewees or 'co-researchers' (Nelson, 1990). The FTF interviews were transcribed, and both online and FTF interviews were coded, and analyzed using software Atlas.ti (2010) to capture theoretically evocative themes in understanding women play/ work practice by an iterative process of re-reading, reducing and re-interpreting the data generated by in-depth interviews. The chapter does not aim to generalize women's experiences, nor does it interpret majority voices.

#### DISCUSSION

#### Marginalization of Women and Gender Performance in Chess

Chess is a pursuit where the mind appears to flee the body, and the liberal feminist tenets of sex equality can be fulfilled. Unlike other sports, bodily constraints do not diminish performances in chess, and the number of women competing with men has been increasing over the years. Women's as well as men's performances in chess are measured by the Elo rating system, a system named after physics professor Elo Arpad, which calculates statistically a player's performance against the rating of his or her opponent based on probability of the stronger player winning the game. Since 1978 the World Chess Federation (FIDE) has adopted the system, and now classifies chess tournaments based on the average Elo ratings of the participants, requires certain performance ratings for awarding international chess titles, and issues every month rating lists of all active chess players in international tournaments. Currently, the highest rated woman chess grandmaster Yufan Hou from China is rated at 2686 compared to the world champion Magnus Carlsen from Norway, who is rated at 2876 (FIDE, 2015). Some researchers have made over-reaching claims about the disparity between men and women at the top level of chess as a gender gap in intellectual pursuits (e.g. Howard 2005). The Elo rating system supports hierarchy and 'the order of respectable, functional rationality' (Young, 2005, p. 74) in chess, and is being adopted in other pursuits like Major League Baseball, and eSports.

When the author conversed with my interviewees about the gender disparity among the top-level chess players, Amanda, a women FIDE master at her 20's said: 'the pool of individuals is much smaller to pull from; it makes it harder to have a stronger top level.' Another interviewee Tatev, a FIDE master who represented the US in the women's chess Olympiad, agreed: 'if you look at the male female ratio, that's how it should be' referring to the fact that male chess players greatly outnumber female players in general. Amanda and Tatev, both college students in the US, are reflective about the gender disparity in chess.

Similar to women's experiences in game culture and sports, women in chess are marginalized, and their bodies and chess performances are routinely scrutinized. When I asked why there are fewer women who play chess, Jennifer, an international master and the author of *Chess Bitch*, points out several factors including the lack of role models, fewer women to hang out with in chess tournaments, and the cultural notion of chess being 'not glamorous.' Amanda, who teaches chess to young girls, elaborates how traditional gender expectations by parents and society keep girls away from chess, saying:

Girls shy away from more competitive activities maybe because when they're younger, parents perceive them as more fragile. Boys can take hits a little bit better, at least in the thoughts of society.

Amanda points toward shifting gendered expectations among young girls when she says 'at least in the thought of society.' Another interviewee Carol, the only woman playing in the world senior chess championship who holds a doctoral degree in music, explains how traditional gendered roles of women as caretakers of the family interrupt women's devotion to chess saying:

I would not have played while I raised my children. I was much too busy. And then it is probably hard for a woman to start late, unless you are a gifted young girl and works really hard.

Carol, who started to play chess later in her life, emphasizes the traditional gendered roles and expectations. Although Carol reflects positively upon her experience in the tournament by referring to her male opponents as 'all polite and quite jolly,' she mentions that she was frequently asked about her age whilst her male opponents were not. Sexism and ageism in chess tournaments still chafe women in chess tournaments, especially when they are no longer young girls.

The interviewees elaborated how traditional gendered expectations, the marginalization of women, and sexist and ageist practices inhibit girls and women from more fully embracing chess supporting the insights of feminist scholars who ruminated upon women's experiences in patriarchal society (See Butler, 1999; de Beauvoir, 1973; Young, 1980). Yet, the underrepresentation of women in chess does not discount women's devotion to chess. Sona, an international master from the Czech Republic, took a train to play in the Olympiad in 2006 in Dresden 'right from a doctor's office after a surgery' in the midst of her fight against cancer.

#### **Subverting Gendered Expectations**

The interviewees seem to embrace competitiveness over the chessboard and yet, perform overt femininity with the clothes, hairstyles, and makeup suggesting the changing performative continuum of gender over time as Butler (1999) explains. My interviewees, Amanda, Tatev and Anu, assert their competitiveness perhaps to oppose the gender inscription of women lacking 'the killer instinct,' or not having the ability

to carry out complicated aggressive attacks over the chessboard. Amanda says that after she makes an aggressive move with great tactical complications, she gets comments such as 'because she is a girl!' She goes on to say 'chess brings out this side of me - passionate, fiery, and determined.' Amanda's experience reverberates with Shahade's (2005) elaboration of 'a girl move,' the term once meant a timid and defensive move that now has been subverted to mean the opposite-- a forceful, tactically complicated, and attacking move. Amanda uses the vocabulary 'passionate, fiery, and determined' to explain what the competition means for her, and she conjures up the image of an active female subject with feelings and bodily experiences rather than a passive object gazed upon. The chess tomboy persona does not appear to be common as Jennifer suggests when I asked if women chess players are seen as masculinized as is the case in other sports:

Not really. I think actually a lot of chess women players to the contrary are very feminine because they get so much attention at chess tournaments... Maybe, the competitive attitude you have to have to play chess. Some people consider it masculine... Sometimes they [women] don't show as much because it might be considered a bit bitchy. . . I think in the end they have to have the same competitive drive.

Jennifer, who subverted Marcel Duchamp's famous photo of playing against a naked woman by creating a video of herself in a black pants suit playing against a naked man, sees women chess players as competitively driven, yet feminine, and taps into the split subjectivity debate in feminist scholarship. By referring to the amount of attention female players get at chess tournaments, Jennifer alludes to the pervasive male gaze and the commodification of women's images on the covers of chess magazines or web sites. Yet, Jennifer seems to suggest that women's attentiveness to their appearances in chess tournaments is a form of gender doing that builds confidence and is empowering along the lines of Young (2005) who explains that women enact the active subjectivity through dressing rather than internalizing the objectifying gaze (Bartky, 1982).

#### GENDER AND TECHNOLOGY IN CHESS

The interviewees, the especially younger players, integrate information technology and the Internet into their play and practice as a necessity by routinely managing chess databases with millions of games, downloading games from the Internet, and using chess bots and engines in their practices. Almost all of my interviewees use Chessbase (2013), since 'Chessbase to chess players is what Microsoft Word is to scientists,' as Irina, a women international master who is working on her doctorate in engineering, states. With the availability of commercial chess engines and databases, extensive opening analysis (the first 10-20 moves of a chess game) and the exact performance of intricate computer analysis in the middle or the end of a chess game have become the norm in chess tournaments. Due to the blurring boundary between the human and the computer, when chess players perform brilliantly, especially in the beginning of a chess game, observers often question whether or not a brilliant performance was computer preparation or human creativity over the board. The seamless computer-human interaction blurs what is human creativity and what is remembered computer analysis making the concept of the cyborg more of a reality in chess as explored in the interviews below. The integration of machine analysis in chess mastery on the other hand questions the coherence of the subject. As the author discuss in the following sections, the interviewees seem to reveal an uneasy relationship with a complete computer takeover by question-

ing the usefulness of hyper-intense computer-generated calculations in a human sporting context. The interviewees discuss their lived bodily experiences, and perceptual aspects of chess that are relatable to Dreyfus's (2005) explanations of the role of the embodied experience, empathy and the context specific coping skills in expertise and knowledge. Even though the perspectives of women chess players may or may not be unique or common to female players, their outsider perspectives contest the idiosyncrasy of rational chess culture, and bring theoretically reflective accounts to the edifice of chess knowledge.

#### **Subverting Technological Jargon: 'Home Cooking'**

When Chess.fm online radio host Jennifer Shahade interviewed the 2010 U.S. women champion Irina Krush after her last game in the championship she asked 'Was it home cooking?' as opposed to creativity or improvisation on the chessboard, to which Irina jokingly replies 'Yes. It was all home cooking. I spend all my time in the kitchen cooking' (Chess.fm, 2010). Irina Krush and Jennifier Shahade, both international chess masters and twice US women champions, jokingly subvert the traditional inscription of gender roles of women when referring to chess preparation as 'home cooking.' The 'home cooking' that Irina and Jennifer refer to is the homework a chess player does prior to a game involving extensive research on an opponent's opening repertoire, style, and weakness based on database analyses of the previous games he/she played. A chess player nowadays can lookup almost all the games her opponent played in tournaments using databases like ChessBase (2013), and analyze possible options, mistakes and improvements using analytical engines like Rybka (2010) prior to a game. This computer-aided chess preparation is accepted as the norm. Applying the term 'home cooking' to computer-aided chess is surprising because it feminizes an assumed male subject, destabilizing and subverting gender by imagining a female 'doer.' Nevertheless, the object of parody is ambiguous; it also seems to undercut her brilliant performance suggesting that it was somehow less brilliant because of the computer analysis. Chess radio hosts, often men, use aspirational descriptions such as 'novelty' or 'an original move' to refer to the computer-prepared performance in the tradition of the conventions molded by the highly regarded international chess periodicals like Chess Informant published in Belgrade, Joel Benjamin, a grandmaster from the U.S. and frequent Chess.fm radio host, refers to bad opening preparation as 'preparation-H' after the hemorrhoid ointment when opening preparation goes wrong or fails.

When we discussed the intertwined relationship between a chess player and computer, my interviewees seem to suggest 'it is a bit intimidating' that an 'actor' or 'doer' of a chess performance has become indeterminate when technology is infused into chess performance. Amanda explains: 'one game can come down to someone preparing more or less. It's a bit intimidating.' Amanda alludes to the emotional aspect of the human-computer duo. Irina further explores the human-computer relationship in chess:

I guess ideally we would want to play like comps [computers], but not sure who besides the top five in the world can say that ... 75 [or a certain] percentage of their moves were the first line of Rybka... But even then, the computer comes up with the most schizophrenic lines that humans will never find over the board.

Irina implies that the rationality associated with computers is not human-like by referring to computer moves as the 'most schizophrenic lines' because these computer analyses are not easily relatable to chess players' lived experience reverberating with the Dreyfus' (2005) analysis of the importance of intuition and the embodied expertise in chess mastery. The human-computer duo is not stable either: the

computer's rationality and concreteness is questioned by a human, who might wonder whether or not certain rational pieces of information are useful in human sporting context in some instances, while in other instances humans have started to think like computers, at least in chess.

#### **Gender Performance and Technology**

The question of whether or not computer and Internet developments in chess equalize the playing ground for women is not easy to answer. Jennifer, who is the founder of an organization which promotes chess among women and girls, answers: 'Maybe ... because in general you can get better in the privacy of your home. You have all the games in the world at the fingertips and you can play against really strong players from all over the world.' A British women Olympiad team member who is working on her post-doctorate in science Kanwal agrees:

When I was growing up I didn't really have a coach to show me anything. I grew up in a small town [in the North East England]. I wasn't so involved in the game; I was just happy to go to tournaments and play... Even if you don't have access to a coach these days, and you have access to other people's games, you can still see the development and how other strong players play.

Even though there is a wide range in women's positions toward technology, the relationship between technology and gender is an uneasy truce (Royse et al., 2007). Women position themselves toward technology as a part of their 'gender doing' because technology is often seen as a masculine or a male creation (Kelan, 2007; Wajcman, 2004). Many technologies were created to lessen the drudgery of household work, but often ended up by making women work more (Wajcman, 2004). In chess, a similar point is summarized well by Jennifer:

It makes chess a little bit more work, you know? You have to work really hard. It is in a way good because it is democratic: all information is at your fingertips and you can learn to play openings without much research, books and everything. But on the other hand, you have to do a lot of work to be competent. You can't study a half hour a day or a few hours a week. You have to study really a lot ... to play in tournaments at your best ability.

The interviewees also tend to emphasize analyzing and learning with computers, engines, and bots rather than 'playing with technology' when we converse about computers. Even though women players embrace technology fully, they are not completely mesmerized by it.

#### **Gender in Online Chess Environments**

Gendered identity in a disembodied online environment is even more nuanced. Unlike an offline chess environment where gender is overt, an online disembodied environment allows a player to conceal or reveal gender. On the other hand, online chess environments like the International Chess Club (icc.com) have been molded by its offline analogue: online chess sites have adopted chess ratings similar to the official Elo ratings and lure internationally titled players by giving them free accounts so that the hierarchy of chess expertise prevail in an online environment. Some of the interviewees are given free accounts in online environments. Even then chess players often create double accounts: as Tatev explains, 'I don't

reveal [my identity]... I have another account because people can prepare against me by looking at my games.' When I asked her if it is a common practice now she says 'yes, a lot of GMs [grandmasters] have secret accounts.' Tatev suggests that the higher the stake in competitive chess, the less likely a chess player regardless of gender will reveal her or his identity. Those who do not consider themselves active in serious competitive chess like Jennifer, who promote chess and write books on women players, prefer revealing their identities online by posting a picture, using an identifiable handle/ pseudonym, or by disclosing personal information. Those women who are active in competitive chess tend to not reveal their identities immediately. Amanda, who is an upcoming player involved in promoting chess among girls, says 'I don't attempt to give it out, but I don't really hide it here on ICC either. If someone asks if I'm Amanda, I will tell them!' Amanda's ambiguity in her identity disclosure is conditioned partly by the norms of the chess culture, where information is stored, analyzed and processed by her rivals. On the other hand, by revealing their gender and identity women chess players represent women, and set examples for younger or other women in chess.

Some interviews were conducted online at the International Chess club (ICC), while my interviewees were taking online training, observing chess events or just playing with their friends. The Internet Chess Club (icc.com) was created as a free chess site by a professor at Carnegie Mellon Danny Sleator in 1995, and following the popularity, the site become a commercial site where regular members pay US\$ 70 per yearly subscription. Chess players including internationally titled players and chess enthusiasts play round the clock, listen to the Chess.fm ratio station, follow prestigious international chess tournaments, communicate with each other over hundreds of channels on various topics ranging from games to politics, take/give lessons for checkels (ICC money) or simply chat or play with each other. Because it is not easy to find people with sufficient chess skills nearby, my interviewees train, practice, and make friends with people in different geographical localities in various online environments. Tatey, who practices online with training bots that generate puzzles and different chess challenges, says that it is hard to take online games seriously because you don't know whom you are playing. She prefers to train online than to play other people in online environments. Another interviewee, Irina who played in the online US national league, echoes the preference for human communication by saying: 'I just need to feel the opponent, to read the body language to see if he/she was surprised about my move.' Irina takes online chess lessons a couple times a week with her coach by analyzing positions on the ICC while talking to him on Skype. Tatev and Irina, both internationally titled competitive chess players, seem to suggest that they prefer human opponents with coherent identity to machines or other disembodied subjects pointing to the significance of embodiment and feelings in thought and mastery along the line Dreyfus (2005) and Young (2005) explained.

#### CONCLUSION

The confluences of gender and information technology in chess bring theoretically interesting implications for competitive and technology-infused pursuits like video games and e-sports, which have been growing in popularity. The interviews in this research with women chess players showed that despite the ideology of fair competition in chess, gendered expectations ingrained in our culture and sexist practices still constrain women when engaging in cross-gender competitions as feminist scholars ruminated (Butler, 1999; Sloop, 2005; Young, 1980). The interviewees in this research challenge patriarchal norms by subverting the diminutive term 'a girl move' and giving it the new meaning of 'an aggressive

move' with great tactical complications which asserts competitiveness as a female trait, supporting the instability of gendered categories (Butler, 1999). At the same time, women chess players perform gender with hairstyles and clothing to tone down their competitiveness over the chessboard that is often seen as bitchy or emasculating as the interviewees point out. This gender doing with feminine appearances and clothing can be also interpreted as an escape from immanence in chess that overvalues machine-like rationality and crosses off bodily relevance from mind and expertise. By drawing attention to the body by makeup and style, female players enact a counter narrative that challenges the idea that the mind is separate from and higher than the body.

When human creativity and computer analysis are seamlessly interwoven and the human performs computer analysis in tournament chess games, it reminds us of a cyborg with undefined gender traits. The subject's gender is indeterminate. 'Home cooking' with computers and the Internet has become a necessity for chess players; yet, despite its potential to equalize the playing ground for women, it seems to amplify the respondents' complex and sometimes contradictory relationship with technology. The interviewees discuss the technological dominance in chess as 'intimidating,' 'schizophrenic' or 'not human-like.' Women chess players are comfortable discussing the embodied expertise in chess by expressing feelings and intuitions associated with play and practice rather than glorifying the performances of machine analyses in order to progress in chess mastery. The interviewees also indicated preferences for human opponents when playing in online environments suggesting that the fragmentedness of identity in virtual environments creates the opposite desire for coherent subjects. Women's positions toward the seamless computer analysis in chess point toward Dreyfus' (2001, 2005) argument that our embodiment, empathy and intuition allow us to relate to the world surroundings us meaningfully compared to disembodied computers which need to find the relevance logically after lengthy calculations and analyses. This does not mean that women's expertise in chess is more intuitive than men's. Rather by following Butler (1999), who explained that gender is fluid and exists on a performative continuum, and Dreyfus (2005) who suggested that mastery in chess is intuitive, this research voices women's reflexive accounts on the role of body, and intuition in mastery and knowledge in technologically suffused pursuits like chess that have been little discussed and researched.

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