

Revisiting Computer-Mediated Intimacy: In-Game Marriage and Dyadic Gameplay in *Audition*

Guo Freeman
University of Cincinnati
Cincinnati, OH
guo.freeman@uc.edu

Jeffrey Bardzell
Indiana University
Bloomington, IN
jbardzel@indiana.edu

Shaowen Bardzell
Indiana University
Bloomington, IN
selu@indiana.edu

ABSTRACT

Existing studies in the field of HCI and CSCW have pointed to the significance to investigate computer-mediated intimacy and brought together concerns in ubiquitous computing, affective technologies, and experience design. However, existing conceptualizations of intimacy in collaborative online systems are largely based on empirical studies of systems that have similar social dynamics and user groups, which could lead to a bias in investigating intimacy. Using *Audition*, a dance battle Multiplayer Online Game with a popular marriage system, as our field site, we focus on dyadic intimacy in a non-violent online social space that has many young non-Caucasian and female users. We contribute to both confirming and further advancing existing theories of computer-mediated intimacy using this new dataset. We also suggest promising future directions for exploring the subjective intimate experiences in a scientifically defensible way.

Author Keywords

Intimacy; computer-mediated intimacy; collaborative online system; in-game marriage; multiplayer online games; gender; age; ethnicity

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

INTRODUCTION

In our social lives intimacy is one of the most important psychological and behavioral dynamics of knowing, loving, and caring for a person [20]. How do computing technologies affect this dynamic? Existing studies in the field of HCI and CSCW have pointed to the significance to investigate computer-mediated intimacy, as intimate relationships are different from any kinds of relationships (e.g., workplace, friendship, and regular domestic behaviors) that have been routinely studied in this field, and “there is still much

to understand about how interactive technologies can further augment, extend and support intimate experiences” [33, p. 479]. Thus, studies of computer-mediated intimacy have brought together concerns in ubiquitous computing [5], affective technologies [21], and experience design [24]: Intimacy is described as a set of experiential values including curiosity, enjoyment, resonance, play, and self-awareness, which creates emotional and embodied experiences [6, 29] and constitutes a key dimension of social intelligence (i.e., empathy: the ability to create a sense of connectedness with others; see [23]).

Following [31]’s call for designing systems that support intimacy via implicit, personal, and expressive communication in contrast to the explicit, goal-oriented, and informative communication featuring most CSCW systems, a body of research has been conducted to investigate intimate experiences and relationships as they are developed, mediated, and/or supported by multi-user virtual environments (e.g., [1, 3, 12, 13, 14, 25, 30]). For their research sites, most studies have focused on intimacy in fantasy-based MMORPGs (Massive Multiplayer Online Role Playing Games) such as *World of Warcraft (WoW)* and *Everquest*. In terms of the user groups studied, they have typically collected data about adult Caucasian, male users’ intimate experiences while young non-Caucasian, female Multiplayer Online Game (MOG) users tend to be underrepresented. In terms of social dynamic, they have emphasized intimacy emerging in small teams (e.g., raid and dungeon run) or persistent guilds. Without criticizing the current approaches and foci of studying computer-mediated intimacy in our field, we wonder if population biases in this body of research have also biased the resulting theories of intimacy.

Thus, we use our empirical research of dyadic intimacy in a dance battle MOG (i.e., *Audition*) in hopes of confirming, contradicting, and/or expanding existing theories of online intimacy. *Audition* was chosen for three reasons. First, it is a prominent example of promoting exclusive one-to-one interpersonal relationship: A monogamous, heteronormative virtual marriage system is the core of gameplay and is tied directly to progress or achievements in the game. Second, *Audition* is a non-fantasy, non-adventure based role-playing space. Thus, studying *Audition* supplements existing studies of fantasy gaming spaces by shedding light on players’ intimate experiences in a different online social environment. A third benefit of this particular data set is

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that it accounts for many young female and non-Caucasian players who tend to be underrepresented in previous studies of computer-mediated intimacy, which potentially diversifies the field's theoretical perspective of intimacy.

The contributions of this paper are two-fold. First, there has been a long standing concern in HCI and CSCW that theoretical development has not kept pace with technical development [4, 23]. By elaborating how intimacy is manifested in a collaborative online environment of different genre, dynamic, and users, we contribute to both confirming and further advancing existing theories of computer-mediated intimacy using this new dataset. Second, empirically this study continues earlier CSCW research on incorporating "warmth, playfulness, and poeticism" as powerful complements to any collaborative system [31] by adding substantive particularities onto existing research conversations about intimacy online. For HCI and CSCW researchers who are interested in designing technologies to support intimate experiences and practices, studying intimacy has always been a challenge because "[w]hile the informational content of intimate acts may be low and seemingly trivial to outsiders, the act itself can be laden with emotional significance for those involved" [33, p. 472]. Our findings regarding when and how *Audition* players felt enjoyment and emotional satisfaction shed light on the very moments when intimate experiences emerge in online social spaces. This suggests promising future directions for exploring the subjective experiences of intimacy in a scientifically defensible way, and for conducting larger scale empirical studies to closely investigate this phenomenon.

THEORIZING INTIMACY OFFLINE AND ONLINE

In traditional Western social theory, the concept of intimacy has usually been associated with the nature and dynamics of emotional relations between individuals within the private sphere [7]. Intimacy is also closely related to sexuality. [11, p. 138] described intimacy as "the disclosure of emotions and actions which the individual is unlikely to hold up to a wider public gaze." According to [26], such disclosure is a conduit of sexuality, which symbolizes union with the loved object (in a broader sense, including friends, kinship, lovers, etc.), especially in those cultures in which so many other expressions of physicality are proscribed. [32] have identified three types of intimacy: verbal, affective, and physical. Verbal intimacy mainly refers to self-disclosure; affective intimacy refers to emotional connections; and physical intimacy refers to sexual behaviors and other physical expressions of love. In sum, most traditional social science studies seem to agree that intimacy is an interpersonal relationship emerging in bodily touch and Face-To-Face (FTF) interaction: Making the partner feel validated, understood, cared for, accepted, and nurtured via physical togetherness and verbal or body languages promotes the growth of intimacy and the subsequent development of interpersonal relationship with the partner. This understanding has been well used in previous HCI and CSCW studies on designing standalone items to simulate intimacy. Examples

include explicitly creating the experience of relatedness or "physical cues of interpersonal nearness" (e.g., [17,18]) through technological artifacts, and creating physical intimate objects (e.g., "minimal intimate objects," see [22]) to mediate an experience of co-presence.

One question, then, is how much of these theories of offline intimacy carry over into online social spaces. A few studies have contributed to theorizing computer-mediated intimacy. For example, [8, p. 11] proposed that online intimacy is a model "allowing for lively, spontaneous self-revelation while maintaining distance and personal space." In contrast to intimate experiences in the offline world, online users are more sensitive to their own internal states (e.g., emotions, feelings, attitudes, and values), showing an "enhanced private self-awareness" [8, p. 11]. [27] focused on the importance of text in constructing online intimacy: Internet users can create their own intimate experience and make it "an extension of a romantic or sexual fantasy" [27, p. 343]. Thus, the Internet brings together fantasies, desires for intimacy, the traditional role of text in expressing these two, and sexuality.

Especially, a body of research (e.g., [1, 3, 12, 13, 14, 19, 25]) explored intimacy in 3D collaborative online systems. [1] explored the emergent practices of online intimacy in *Second Life (SL)*, as well as the related issues of aesthetics, sexuality, self-representation, and self-identity. They suggested that online intimacy is characteristic of diminished physical relations, heightened imagination, symbolic richness, convenient manipulability of avatars, and the weakening of social taboos against nontraditional sexual expressions [1]. [12, 13, 14] compared sexuality in *SL* with real world sexuality and found that *SL* sexual involvements occurred at a faster pace, with a larger number of partners, and had more positive communication patterns and higher satisfaction levels than those in offline intimate relationships. Therefore, virtual relationships can serve as an emotional competitor or potential threat to offline relationships. [25] identified four characteristics that *WoW* players articulated about their virtual intimate experiences, including "the permeability of intimacy across virtual and real worlds, the mundane as the origin of intimacy, the significance of reciprocity and exchange, and the formative role of temporality in shaping understandings and recollections of intimate experiences" [25, p. 233]. [19] conducted an interview study to explore how players of *MapleSEA (MapleStory South-East Asia)*, a fantasy-based MOG delineated the boundary between play and life when it came to their game-originated romances. They claimed that MOG-mediated romance was stigmatizing discourse as players stepped out of the magic circle.

In sum, on the one hand, existing theories of computer-mediated intimacy are largely based on traditional social scientific studies of offline intimacy. Thus they still focus on the importance of care and emotional connections in defining intimacy. On the other hand, the role of physical

contact and FTF interaction is diminishing but online systems afford special qualities of intimate experiences: Computer-mediated communication reinforces the selective self-presentation [34], making self-awareness and self-reflection more crucial in defining intimacy; text-based online environments point to the significance of narrative and literacy in creating intimacy; and 3D collaborative online systems further blur the boundaries between online and offline, as well as add fantasies, imaginations, rich symbolic togetherness, and more flexibilities to online intimacy. All of these make computer-mediated intimacy more emotionally desirable and satisfactory than offline relationships under some circumstances.

However, it should be noted that these theories are mainly generated from empirical studies of similar datasets (i.e., Caucasian, males' intimate experiences in group dynamics within a fantasy-based online social space). To what degree can our existing conceptualizations of computer-mediated intimacy accommodate new phenomena of intimate practices? And to what degree can these practices confirm and/or argument our existing understandings of intimacy? We therefore introduce *Audition*, our research site for a new type of data regarding computer-mediated intimacy.

RESEARCH SITE: AUDITION AND ITS MARRIAGE SYSTEM

Audition is a non-violent, non-fantasy dance MOG that was released in South Korea in 2004, launched in the U.S. in 2008, and now attracts more than 300 million players worldwide. According to Redbana.com, the company that runs, maintains, and manages *Audition* in North America, 48.6% of *Audition* players are female, while 48.1% are male and 3.3% are of unknown gender. Though the gender distribution of *Audition* players seems equal, *Audition* is not a game preferred by men. Female players are much more active than male players in the game on a daily basis. The majority (around 90%) of *Audition* players are aged 13-24 (13-17: 42.4%; 18-24: 46.2%), with only a small portion of players older than 24 (25 and older: 11.4%). In addition, non-Caucasian players such as Asian, African American, and other ethnic minorities account for more than 70% of the total player base.

To play this game, players need to press the arrow keys and spacebar on their keyboards in accordance with arrows on the screen, which are synchronized to the rhythm of a song being played. The greater accuracy and coordination they exhibit in pressing the right keys with their partner, the higher their scores. *Audition* implements traditionally feminine features (e.g., colorful background, cute avatars, pop music) and provides a unique collaborative system where two players are bonded via a virtual marriage. Though virtual marriages have been incorporated into the broader game systems in some of the popular MOGs (e.g., *Final Fantasy*, *Star Wars Galaxies*, *Everquest*), marriage is optional to players in these systems. In *Audition*, in contrast, marriage is central to gameplay: It prescribes the main so-

cial dynamic in the game, and has become the key to satisfactory gameplay experience. An online poll posted to the Redbana forum (forums.redbana.com), which is the official forum for *Audition* in the U.S, shows that more than 80% of players have gotten married at least once in the game. As a player (male, Asian, age 18) commented on the online forum, "*Tons of people got married in this game. It's actually uncommon to see someone single.*"

In *Audition*, players can only choose female or male avatar and pursue hetero-gender marriage. They can form an ad hoc couple when they join a "couple mode" battle simply by sending a coupling request to a member's avatar of the opposite gender in the "room." However, to pursue long-term collaborative relationships, players tend to use the marriage system. This includes using matching cards to search for potential "dance partners," a date planner to schedule and accomplish missions with partners every day, and a wedding party to officially become a couple with a love license and a ring.

It should be noted that *Audition* does not afford in-game sexuality by design. The dynamic of the *Audition* marriage system is designed such that once players identify a dance partner, they can both go to the lobby of the Dancing Hall and send each other "kisses." They are only allowed to send one kiss per day. Once they get five kisses, they are eligible to purchase a wedding ticket that costs 5600 Bana cash (\$1=1000 Bana cash). With this ticket, the male avatar can make a wedding room. In this room, the couple will have three chances to accomplish the dance task in a wedding party. All wedding party dance tasks are in Couple Dance mode and use the same song *Audition - Wedding Day*, which is 130 beats per minute (bpm). The two players have to coordinate with each other in pressing keys to get at least 12 Perfects, 3 Synchro Perfects (i.e., when the two players coordinate their avatars' actions perfectly to each other), and a score of 160,000, which is a very difficult task. The couple may need to spend much time practicing together, and may need to purchase more than one wedding ticket to accomplish this task if they do not pass the dance task within three tries. Once they accomplish the wedding party dance task, they will officially be married and will get a love license and a ring. The love license is a customizable section created by the female of each couple that gives some information about the couple and a title for the couple.

While getting married in-game requires *Audition* players to perform a sequence of events, it is relatively easy for them to get "divorced." However, there is still a cost to divorce. Players need to pay for the divorce using their in-game points (e.g., "beats"). And if a player divorces his or her partner, this couple will lose all rings, couple points (e.g., "hearts"), their couple level, couple information, and all other couple-related items that they have collected in the game.

Measures of degree of intimacy in *Audition* are explicit: dancing coordination, game levels, and ring levels are graduated together such that the higher couple level and ring level a couple achieves, the stronger connection they are considered to have. Similar to a *WoW* player who collaborates with teammates to kill monsters, buy weapons, accumulate scores, and level up, an *Audition* player collaborates with his or her official partner to pass couple dance tasks, collect points and "hearts," and buy rings. Couples need to fulfill all requirements for leveling up (i.e., enter a higher relationship phase), including dancing together to collect the required amount of hearts; passing a specific Love Party dance task; and making real life money purchases.

In general, *Audition*'s unique marriage system, together with its social atmosphere and player groups, raise interesting questions about intimate experiences in this system, and about how such experiences contribute to theorizing computer-mediated intimacy.

METHODOLOGY

Data Collection

Three types of data were collected. First, 260 players' self-reported in-game marriage stories were collected from the two most active public English language forums for *Audition*: the Redbana Forum, and Tgforums (<http://forums.jordanrudgett.com>), a popular gaming community started in January 2013 by gamers. *Audition* players have strong willingness to share their in-game marriage stories with others who had similar experiences. They usually post their stories simply because someone posts a message such as "tell us your couple and your love story." The collected stories shed light on players' subjective, first-hand experiences of marriage in narratives, including textual posts, images uploaded to the forums (including text, graphics, and animations), chat logs provided by players, and videos uploaded online. The total word count is 62,133 words (Mean=239, Max.=2177) and most self-reported stories only focused on emotional connections with no explicit talk of sexual experiences.

Second, considering *Audition* players' high level of participation in the forums, a message was posted on the Redbana forum in January 2014 to recruit *Audition* players who had had in-game marriage experience and were willing to be interviewed as voluntary participants. Whether they had been in romantically intimate relationships with their in-game marriage partner was not a criterion to recruit participants. As a result, 35 semi-structured in-depth interviews were conducted via text chat in Skype (which participants preferred over voice or video chat) in order to investigate players' attitudes and behaviors that were not included in the self-reports, e.g., players' attitudes toward in-game marriage that might be inappropriate to post on public online forums. In each interview, 20 predefined open-ended questions such as "How close are you two?" were asked and the average length of interviews was 90 minutes. No question

regarding sexual experiences was asked given that many minors were involved in the study.

Additionally, the first author was an experienced *Audition* player, with more than five-year experience playing *Audition* in Mandarin on an East Asian server. As a supplement, she also logged into *Audition* from a North American server to observe and video record game behavior as well as players' chat logs that were visible on the public chat channel in different dancing rooms at different times every day for one hour in January and February 2014. In-game observation data were mainly used to understand the gameplay contexts, so as to better interpret players' accounts in their self-reported in-game marriage stories and interviews.

In total, 289 unique player in-game marriage stories (260 players who posted their stories on the online forums plus 29 interviewees who had never posted their stories online) were analyzed in this study. Their demographics are relatively consistent with the demographic information of *Audition* players provided by Redbana in general: Of the 289 players, 164 were female (56.8%) and 125 were male (43.2%). Again, female players were much more active in *Audition*, as many male players explained that they were not interested in this game but started to play because someone asked them to, or they stayed in the game mainly for making their *Audition* partners happy. The majority of players (more than 90%) who got married in *Audition* were aged 14-24 (14-17: 43%; 18-24: 49.8%), with few players younger than 14 or older than 24. The majority of players (more than 85%) who got married in *Audition* were non-Caucasian (Asian: 65.1%; African American: 7.7%; Latino: 4.3%; Mixed: 8.9%) -- only 14% of players reported themselves as Caucasian. Regarding sexual orientation, heterosexuality was predominant (75%), but homosexuality and bisexuality constituted a substantial proportion (25%). Regarding location, most of the players (N=234, 80.7%) were located in North America (U.S.A and Canada), while others were in Europe, Australia, New Zealand or Asia.

Data Analysis

An in-depth qualitative analysis was used to code and interpret the data. This method was used for two reasons: 1) Intimate experiences are challenging to analyze because they are ephemeral, transient, "yet occur in the doing and then often vanish unremarked" [33, p. 472]. However, the majority of the collected data in this study are text-based. Thus, they are valuable documentation of the ephemeral and subtle intimate experiences. Focusing on first-person and narrative accounts of players' intimacy/marriage experiences, a qualitative analysis of these documentation would become the main medium for transmitting meaning of the language use and the objects of experience [16]. 2) Intimate experience is in nature a subjective experience -- when, where, how, and why people feel "intimate" is highly personalized. This method, which emphasizes people's unique experiences and perceptions, would be useful to identify

and interpret players' "sense-making activities" [2, p. 616] in configuring, representing, and understanding intimacy.

The data analysis in this study followed the following steps: 1) the first author asked open-ended questions in interviews, allowing participants to reflect and express their experiences; 2) the first author closely read through players' narratives (as derived from self-reported in-game marriage stories, transcripts of interviews, and chat logs from observations) to acquire a sense of the whole picture as regards their inter-play relationships and attitudes toward their in-game marriages; 3) the first author identified a preliminary set of narrative themes emerging in *Audition* players' inter-play relationships and attitudes toward their in-game marriages; 4) six months later, the first author repeated step 2 and step 3 to increase the intra-rater reliability; 5) all authors collaborated in an iterative coding process to refine initial findings from step 3 and synthesized those themes to summarize the fundamental aspects of players' intimate experiences.

FINDINGS

We found that the majority of the 289 players (N=259, 89.6%) developed a certain type of intimate experiences with their partners, either as friends or as romantic lovers: 55 (19%) described their *Audition* marriage as only a "friendship;" 204 (70.6%) reported that they had been in at least one "serious romantic relationship" with a partner; while 30 (10.4%) stated that they only got married "for fun" and that no friendship or romantic relationship was involved in their *Audition* marriage. Among the 204 players who had been in serious romantic relationships with their partners, only 62 of them (30.4%) managed to meet each other offline.

With this observation, that is, having intimate experiences with partners happened often in *Audition* regardless of offline interactions, in this section we present four emphases of experiences of intimacy in *Audition*.

Intimacy as An Outcome of Collaboration in Dyad

Whereas marriage in other MOGs (e.g., *WoW* and *Everquest*) does not necessitate leveling up, *Audition* players are well aware that marriage is centrally embedded in their gameplay and tied directly to their progress and achievement in the game. Thus, the marriage system enforces gameplay in pairs not in groups, allowing players to construct exclusively one-to-one relationship: Once married, the game automatically ties the pair together, and collaboration in dyads becomes part of the instrumental gameplay. Unless players divorce their partner, they cannot play any couple-related game features with others. For example, P3 (female, African American, age 18) and P9 (male, Asian, age 15) wrote,

The game has set goals for couples and well you two must play this game together to accomplish its goals. If you play with others, you either cannot finish the goals or you finish

it super slowly. So I feel you are really supposed to collaborate with your partner. (P3)

At first we just met out of pure chance. But after we got married, the game kinda forced us to always work together to reap the full rewards the game offers for couples." (P9)

Especially, the marriage system offers various couple-related activities that create engaging gameplay experience, making players more willing to maintain and develop one-to-one relationship. In contrast to "single" players, married couples can engage in at least five types of couple-only activities: 1) share a common goal of getting the max ring; 2) go to the couple shop, which is only open to married players, to buy clothes and accessories so that they can design their avatars together and make "couple match" outfits; 3) plant flowers or design garden accessories in the couple garden, which is also only open to married players; 4) dance together in ballroom tournament modes to compete with other couples; and 5) dance together to finish love party dance tasks. After finishing each "love party" dance task, they can write a "love letter" to their partner.

Obviously, the implementation of marriage as a game mechanic instrumentally (and sometimes compulsorily) drive players to (only) spend time with their partners, which opens opportunities for frequent dyadic social interaction that involve self-disclosure and sharing deepest feelings – the very basis for intimacy. This mechanic appealed to both male and female players. For example:

Well I'm encouraged to get married in the game because I feel it is an opportunity to show who you have a bond with, and you can see what you can accomplish together (or not) lol It is honestly something else to do. It makes the game more meaningful than just playing and winning. (P17, female, African American, age 19)

I find it so much fun to practice for weddings and love parties, much more fun than playing alone or with a random person. [It] feel[s] like we were born to be together in the game. I find the couple mode fun and I find it even more fun that we're trying to sync with each other for a perfect sync. It makes it more challenging and competitive for us. Sometimes when we practice we like to set up goals for it too like 'Lets get 20 hearts this dance!' Everything we do in the game makes our bond closer too. We're spending more time together simply because it feels good. (P16, male, Asian, age 14)

This lack of gender differences can be explained: Collaboration in *Audition* is small-scale, dyadic, reciprocal, and interdependent. Since most *Audition* couples are heterosexual, both genders have to rely on, coordinate with, and adjust to the other gender to make collaborations and feelings of emotional connections happen. However, collaboration in dyad alone does not guarantee positive social experience. Although many players seemed to develop romantic feelings by getting married in the game, some players actually started to dislike their partners after they got married. By

conducting activities together, they gradually noticed unattractive personality traits and/or emotional incompatibility, and their feelings for each other faded. For example, P62 (female, Asian, age 21) described one of her breakup experiences:

I just could not believe it. He was such a sweetheart when we just got married. Then he was so lazy. He never took care of the garden. He flirted with other girls and danced with them, even when I was in the room. In the end he was just after my cash. I was like, whatever, let's break [up].

P62 had a good impression of her partner at the beginning of their marriage, suggesting that she might have been willing to develop a romantically intimate experience with him. Yet collaborating with him revealed how incompatible they were, and how careless and insincere he was. She realized that he was different from what she perceived at the beginning, leading to her decision to break up.

Thus, sometimes collaboration in dyad is counterproductive to the emergence of intimate experiences. Players did not use collaboration in dyad to promote emotional connections but to promote emotional disconnections, which allows for the fading or destruction of romantic feelings.

Intimacy Emerges In-Game and Out-of-Game

Audition is non-violent, non-fantasy based, has no good side or evil side, and provides many domestic activities that support the emergence of intimacy in the game. For example, in addition to the dance-related activities, many players liked to engage in dance-unrelated activities, such as taking care of a couple's garden (68.2%), designing matching outfits (70.2%), and buying virtual items (57.8%) with their partners. Approximately one-third of the players liked to join or create a *FAM* together with their partners. They describe a "FAM" as being like a "clan" or a "guild" in which they participated in a family-like social group (e.g., father, mother, daughter, son) and a social structure (with a leader, co-leader, and members). As P254 (female, Asian, age 19) said, "FAM gathered us to play together, like a clan/guild or something, like *WoW* guilds but don't need to kill monsters. You would be leader and your partner coleader and then members. And you'd buy channels to earn points to make your way to the top FAM rankings. This feels like raising a family with your partner!"

Most players were geographically distant from their partners. Thus, many of them used various collaborative technologies out of the game to develop shared activities and experiences. More than half of the players (56.9%) hung out on forums, tagging each other, reading the same threads, composing threads together, and commenting together. Almost as many players (51.8%) played other online games with their partners (e.g., *MapleStory*, *WoW*, *League of Legends*, *Guild Wars*, *Xbox online*, *Facebook* games) though *Audition* was still their favorite. They could not physically go to movie theatres together but they managed to watch Netflix movies online together by sharing screens

(52.5%). In addition, over a third of them (38.4%) worked with each other to participate in other online events (e.g., anniversaries, best couples, and writing poems) hosted by Redbana or by other gaming communities.

Players also tried to create art works or virtual items together. Almost half of the players in the study liked to design forum signatures with their partners so that their online presentations could be "matched;" and 61.6% of them liked to write blogs together, whether their own love story, friendship stories, or fandom stories based on their favorite movies, TV shows, animations, and/or books. Some players who were willing to contribute more time and had sufficient technological skills worked together to Photoshop their photos (26.3%) or design and maintain websites (18%).

In all of these examples, players' experiences of intimacy emerged in conducting activities together both in-game and out-of-game, through which their desires to know, care about, and love each other were fulfilled.

Intimacy in Long-Distance Relationships

Many players viewed their in-game marriage as a regular long-distance relationship, not just as an online virtual relationship. This view is quite different from the traditional stereotype of online relationships: that online relationships are not real because they start in a virtual space and that they are different from any type of offline relationship because partners' interaction is online only. For example, for those who had been in serious romantic relationships with their partners (N=204), 175 (85.8%) used the expression "long-distance relationship" to describe their love stories in the interviews or in their self-reports online, as the following quotes reveal:

Meeting online is just one way of meeting new people. Meeting in a game is also just one way of meeting new people. There's nothing wrong with falling in love, even though to some people it's pretty sad, sure I guess. But who can measure real love. We are true lovers. The only thing we are different from any normal couple is we are two states away from each other. (P22, male, Asian, age 22)

You told me to give long distance relationships one more chance and even to this day, I do believe in them. From your smiles and beyond, I'm grateful to have you not only as my couple [Audition partner], but as my lover and boyfriend. (P133, female, Asian, age 16)

Intimacy as long-distance relationship did not occur at a fast pace. Rather, it requires a great amount of time, patience, and endeavors, as P175 and P240 described:

I've been in a few long distance relationships (and offline relationships, too) and most of them (obviously) didn't work out. But that's normal for any relationship. It's how you both work it out is what matters. When he told me more about the real him, the closer we got. We have spent over 4 years knowing each other. So, to me it's not really a huge deal unless you were dating for a while or fell in love with

that person, or something like that o.o . (P175, female, Asian, age 23)

I've been on and off with online relationships and in real life relationships. A big difference is most of in real life relationships involved [physical] appearance right away; as for online relationships you get to meet their personality first. I've learned that when you date online you're at risk of falling for a big liar. People should verify if they're real before taking a relationship even further BUT people should also not lie. I think it all depends on the situation and how much you BOTH want to work this out. (P240, female, Asian, age 17)

These two players were well aware that maintaining and developing an in-game marriage required great investments of time, energy, emotion, trust, and honesty. Its emergence was gradual and its disappearance was painful, as most players felt hurt (120 out of 143, 83.9%) after they broke up with their partner. For a few players (N=9, 6.3%), their breakup was "the most hurt moment" in their lives. As P237 (female, mixed, age 20) wrote, "It was the most hurt I've ever been in in my life. I am still hurting, I honestly feel like I will love him for the rest of my life. He will always a special person for me. He made me grow up." And P15 (male, Caucasian, age 19) said: "Trust me it really hurt A LOT! I felt I could die. My heart was broken and [is] still bleeding today. She was the first girl I loved in my life. I hope time heals wound." For both players, their partners represented important life events that had very special meanings for them, which made their experiences of intimacy quite serious and the breakups emotionally painful.

Intimacy Features Explicit Performance of Self-Development, Sexuality, and Non-Caucasian Ethnicity.

For many *Audition* players, intimacy features explicit performance of 1) self-development as adolescents' self-identities are still forming; 2) (re)construction of sexual identities as LGBT users endeavor to express and experience sexuality in a safe way; and 3) cultural acknowledgment as ethnic minorities strive for adjusting to differences in everyday lives.

Young Players Rely on Their Audition Friends for Self-Development

When transitioning from childhood to teen, social relationships outside the family expand, and their quality has been linked to various behavioral outcomes [15]. Adolescents' friends thus become a new type of social support: teenagers start to construct sexuality and identity, encounter different perspectives, and satisfy their growing needs for intimacy through friendships [9, 28]. For many teenage *Audition* players, friendships are as important as romantic relationships. For example, P221 (female, Asian, age 19) wrote:

*I only do friendship rings. But I met amazing friends. My partners are the most amazing people I know today. They were always there to guide me and give support. They made me smile everyday <3 I mean yeah, drama were there, ****

happened but we all went through it and came out smiling, arms linked.

For P221, in-game marriage did not lead to a romantic relationship, but she was grateful to have met new friends in the game. Her online friendships fulfilled her social needs ("I met amazing friends"), provided her social support ("they were always there to guide me and give support"), and encouraged her to work through difficulties ("but we all went through it and came out smiling"). P221 appeared very positive and optimistic in her account, and her *Audition* friendships seemed to have contributed to the overall quality of her social life.

The following example also illustrates how much players appreciated their friendships in *Audition*, and how much their offline lives benefited from such friendships. P172 (female, Asian, age 20) posted her story:

My mother was very sick. As she was getting sicker, I was getting more worried and stressed. We didn't have anyone else but the three of us; my mom, brother and myself. My point of telling you some of that part of my story was because if I didn't have him through those times, I wouldn't be here typing this. There were plenty of times where I thought about ending it forever. But how selfish would that be? Too selfish. We got married in Audition. We were always together online. He made me smile, made me laugh. I owe my life to him, honestly. He's been there for me through thick and thin & I'm proud to say I'm in love with my best friend.

Clearly, P172 was in a tough situation. She was young, vulnerable, had little power and no one to rely on. The key to her story is that she resorted to her best friend in *Audition* for help, and the friendship carried her through what had been the most difficult time in her life, which became a significant part in her transition from teen to adulthood. Eventually her friendship even developed into a romantic relationship.

LGBT Players Explore and (Re)Construct Sexual Identities

The *Audition* marriage system, although it prohibits same gender marriage, offers an unexpected way for many LGBT players seek romance from their in-game marriage by expressing and experiencing sexual identifies in a safe way. This experience also encourages them to explore other possibilities in their offline lives.

LGBT players usually use cross-gender play to subvert the game's implied hetero-normative view of marriage. In [10], we specifically discussed cross-gender play in *Audition*. We found that most straight players (both male and female) chose a same-gender avatar as their main account simply because they considered themselves female or male in the offline world. Players who developed feelings with their partner and decided to pursue a serious relationship tended to reveal cross-gender play to their partner either at the very beginning or very soon, because "cheating and lies" (including lies about gender) was cited as one of the major

reasons for ending an intimate relationship in *Audition*. For example,

HE was pretending to be a girl. I was like...WTF (P54, male, white, age 17)

He was a she. He ended up being 12. He pretty much lied about everything except his feelings towards me. He lied about numerous of accidents, pictures, gender, age, etc. (P241, female, Asian, age 20)

Yet for LGBT players cross-gender play is not merely a compromise to allow same-gender, but it is also a vehicle and a tool to experiment and explore one's real-life sexual identity at no risk. A gay teenager (P33, male, mixed, age 15) described, "I play a girl account as my main. I just feel I want to be a girl, not a guy. Also I can marry guys in this way." And a lesbian player (P34, female, African American, age 16) said, "In all my Audi marriages, it was me who created and played the male account. Most of my Audi-playing career, I've enjoyed playing as male than as a female. On a male account, I felt free to be whoever I wanted to be and say whatever I wanted to say. I'm more confident to be myself than before."

For both P33 and P34, performing as an opposite gender avatar allowed them to get married in the game, and liberated them from the mismatched expectations the game placed on their gender identity. Such performance helped clarify their beliefs about gender and facilitates the construction of sexual identities, making their in-game marriage subjectively intimate and meaningful.

Especially, P99 (female, mixed, age 25) posted an interesting story online about how she met her current partner:

When we first met on Audi[tion] we were both kind of on different spectrums. I was dating a woman and he was dating a man. He was playing a girl account and I was playing a guy account. But I always had a thing for him, because he had a personality that just drew me, and we were both very close. We got married in game just for a friendship ring. Then what started out as a very close friendship started to blossom into something more when we realized. We both weren't very happy in the relationships we were in. In the end it had nothing to do with our sexual orientation, we both ended up falling deeply in love with one another as two human beings as we've been together going on two years. I plan on going to see him soon, and eventually once he is out of school we plan on making a future together. To me he is perfect, creative, with an amazing mind that shocks me constantly, fun and easy to talk to. He makes me feel so comfortable, and so happy, just by talking! He's got a wonderful personality and I've never felt as close to anyone as I have him. Truly in love!

P99's story is impressive not only because it depicts how an originally design feature led to the emergence of intimacy, but also because it shows how two players who were "on different spectrums" eventually started a serious offline

relationship. P99's story raises many questions: Are sexual orientations fixed or fluid, especially considering the fact that P99 was one of the very few older *Audition* players in this study (25 years old)? Is *Audition* marriage so powerful that it can override adults' (not just teenagers') sexual orientations? At least, P99's example shows how an intimate experience that started in an online social space affected two adult players' perspectives on love and sexual identities.

Ethnic Minority Players Promote Their Own Cultures and Interact with Other Cultures

In contrast to some Caucasian-dominated MOGs, *Audition* attracts many ethnic minority players. Many of them are first or second generation Asian immigrants to the U.S. For some of these players, in-game marriage in *Audition* introduces the possibility of cultural appreciation. Many *Audition* players reported that they had dated a partner who was from a different culture or of a different ethnicity.

Eleven out of the 35 interviewees described that they had experienced cross-cultural romance. In this way, players came to learn more about other cultures, respect diverse perspectives, and tolerate differences. For example, P25 (female, African American, age 18) and P26 (male, Asian, age 22) is an inter-racial *Audition* couple. P26 described how they adjusted to each other's culture and social values in their relationship:

It was a little hard at first. She was a college girl in the U.S.. Me? I spent most of my childhood in China then I came to Toronto for college. I was about to graduate and got a job when I met her. She is always an independent one I think, has her own thoughts and plans. I guess this is a part of American culture? I'm from traditional East Asian culture so I always try to protect my girl haha. Things happened and she said I overprotected her. Anyways, now I know it's important that couples should spend time together, but it's equally important to have some "ME" time. I mean you're a couple and even when married(if) it's still important to have personal space. And now she also knows that it's all because I want to take care of her, not I think she is weak or something.

P25 and P26's faced almost all the challenges that a romantic relationship could have: very different cultural backgrounds, an inter-racial relationship, being at different life stages (one in college while one already started working), long distance (U.S. and Canada), and a seemingly trivial start (got married in an online game). However, their relationship seemed to work. They were proud of their relationship and were willing to publicize it. One of the most important reasons for their successful relationship was that they both tried to understand each other's cultures, especially the patriarchal part in traditional East Asian culture and the gender equity part in modern Western culture. They also actively adjusted to each other in order to resolve fights. In this process, they both became better people – more open-minded, tolerant, and considerate.

Of course, cross-cultural romances do not always work out. P15 (male, Caucasian, age 19) had four serious romantic relationships with his *Audition* partners – two with Asian females, one with a Latina female, and one with a Caucasian female. He wrote,

well with A, B, and C [names of the two Asian females and one Latina female], I didn't feel as close to them as I was with D [name of the Caucasian female]. I don't know if this is a culture thing or not. I mean, all of them are really nice girls but I just had so many difficulties to understand A, B, and C. It's not like I don't understand their English. I understood every word they said but I was not sure I followed what they meant.

He also added: “*But I still liked them. Audition is very Asian-dominated and I like Asian culture. Actually I learnt so much about their cultures and how different we can be. I just wish I could learn more so I could better understand them.*”

Even though the cultural barrier undermined P15's potential romantic relationships, he still much appreciated the opportunity to encounter and experience different cultural perspectives. In this sense, whether players' cross-cultural romances end well or not, their *Audition* marriage can still be a platform where they interact with other cultures and appreciate cultural diversity.

In sum, many players benefited from in-game marriages by getting opportunities to learn from others, grow up, express their opinions and sociocultural values, establish identities, as well as gain friendships, emotional support, and someone to talk to. Especially, their age, sexuality, and ethnicities actively shaped the particular ways in which their social and emotional needs were satisfied, making their *Audition* marriage quite intimate and meaningful.

DISCUSSION

The evolution of sociotechnical systems allows for the emergence of new and exciting social, psychological, behavioral, and organizational dynamics for all types of user groups in various contexts throughout the world. We have shown in previous section how players used *Audition*, along with supplementary collaborative technologies external to the game, to stay in contact with each other, foster intense one-to-one relationship (e.g., through a virtual marriage), and generate intimate experiences. By using data collected from a collaborative online system featuring a different genre, a distinctive social dynamic, and a diverse user group, our findings both confirm and expand existing theories of computer-mediated intimacy.

A Universal Human Experience Constituting Emotional Connections, Mundane Activities, and Sexuality.

Our data is quite different from the datasets used in previous empirical studies of computer-mediated intimacy. Yet our findings still confirm that intimacy is a universal human experience characteristic of emotional connections, mundane activities, and sexuality. Regardless of online or of-

fline, in a dyad or a group, in a Caucasian-dominated or a non-Caucasian dominated social space, experiences of intimacy are in nature experiences of affection, care, and warmth, including “expressions of tenderness, acts of devotion and habits of demonstrable affection” [33, p. 471]. Many *Audition* players were well aware that romance and love were not just a “five-day-passion,” and preferred to spend a substantial amount of time to develop familiarity, trust, and emotional attachment to their partner. As they gradually got to know more about their partners and grow closer day by day, they were brave to take responsibilities for their own decisions.

Especially, experiences of intimacy often emerge in conducting mundane activities. Even in a fantasy theme such as *WoW*, players can pick flowers together and feel intimate with each other [25]. Similarly, experiences of intimacy in *Audition* are articulated around a variety of domestic activities. For many players, *Audition* marriage was felt as a subjectively meaningful intimate experience because it afforded a low-pressure and family-like social experience. Players are “husband” and “wife” in the game, who are supposed to be nice to each other and work together to finish daily chores according to the social norms of the offline world. Thus, players consider their partners “friends,” “lovers” or even part of their daily lives, rather than random strangers who play the game with them. At the same time, players are not really “husband” and “wife,” and they do not have the same responsibilities as what married couples in the offline world have. Thus, players in *Audition* have great flexibility to control the pace at which their relationship develops and to decide where the relationship will lead – for example, whether limiting it in the gaming world or using external technologies to expand it to the world outside of the game.

In addition, though implementing a binary gender choice and a heterosexual view on marriage, *Audition* still offers players flexibilities to explore their sexualized identities. In-game marriage thus becomes “a conduit of sexuality” [26] that characterizes intimacy: By working both within and around the rules of *Audition* marriage, players have the freedom to experiment with their sexual orientations in a safe way, which makes their *Audition*-mediated intimacy more meaningful and socially satisfactory.

A Special Emphasis on Collaboration in Dyad.

Our findings also point to some aspects of computer-mediated intimacy that may have been overlooked in other studies. One is how dyadic gameplay affords intimate experiences. Though intimacy has been long considered a private interpersonal dynamic, very few studies of online intimacy point to the importance of dyad in understanding intimacy. In many collaborative online systems that have been studied in CSCW and social computing, intimacy is an outcome of group dynamic. In these systems, collaboration as in small teams allows users to attach themselves to a group, automatically follow and better understand one another, and naturally compete with other groups. However,

the marriage system in *Audition* allows players to experience a social dynamic that is completely different from what they may have in other collaborative systems. For *Audition* players, marriage as the main game feature encourages exclusive, one-to-one relationships between players (unless they create and invest extensive time in managing multiple avatars), suggesting a possibly stronger interdependence: In a large group, players can play with many teammates and take many roles in game-based tasks. Thus, power and responsibilities are divided, shared, and assigned across many individuals. In contrast, the dynamic of a one-to-one relationship is condensed: In an *Audition* marriage, players can only rely on their partner to accomplish tasks. There are two and only two members, and both parties have equal power in the dyad: No gameplay can be conducted without either one of the two.

A Particular Context of Teen to Adulthood, and of Ethnicity Identities.

Though previous studies (e.g., [1]) have described self-identity as a related issue to online intimacy, our findings add nuances to this issue by shedding light on how *Audition*-mediated intimacy is situated in and driven by players' desire for transiting from teen to adulthood and constructing cultural identities.

Audition players are generally young ethnic minority (especially Asian) females who have never been married and who may have never even been in a serious romantic relationship offline. Online romantic relationships, especially those that emerge in online games such as *Audition*, pose multiple challenges for them: They have to be capable of distinguishing people as avatars from people as human beings; they need to identify what role-playing is and what a serious relationship is; and, further, they must make appropriate ethical choices to maintain and develop their romantic relationships (e.g., Is it moral to have multiple online relationships? Is it moral to have both online and offline relationships?). Of course, not every player is able to resolve these difficult challenges successfully. Choosing a partner who turns out to be a jerk or making an immoral decision that can emotionally hurt both partners happens often. Yet it is through experiencing online intimacy that they gradually develop stable and consistent identities, including self-definition (e.g., who I am and what I want), the roles and relationships one takes on (e.g., what I should do), and personal values or moral beliefs (e.g., what I should not do).

In addition, some ethnic minority players struggle to balance different cultures in their offline lives. Many of them were raised with traditional Asian values and tried to adjust to the Western culture. Experiencing intimacy in *Audition* thus becomes a way in which they either connect to other people who have the same cultural background and similar lifeworld experiences for emotional support, or share ideas and communicate with people from other cultures to better understand, promote, and appreciate their own cultural

identities. Through the process of handling online intimacy, these players become cognitively and emotionally more mature and better able to understand complex human experiences such as love, romance, intimacy, identities, and cultural differences.

In sum, collaborative online systems such as MOGs “have evolved into places for people to meet up, find romantic partners and maintain relationships” [19, p. 251]. Especially, intelligent in-game features both afford traditional essences of offline intimacy and add special experiential values to online users' intimate experiences. In contrast to using standalone technological artifacts or physical intimate objects to simulate intimacy, today's online users are actively appropriating and incorporating various technologies from different domains (e.g., both gaming and non-gaming technologies, both in-game and out-game collaborative features) in their everyday lives, in order to seek personalized and meaningful experiences of intimacy. This insight suggests further avenues of research in HCI and CSCW to explore how the convergence of multiple technologies shape intimate experiences.

CONCLUSIONS

We understand that existing theories of computer-mediated intimacy include two aspects: a) a conceptualization borrowed from traditional social theories of offline intimacy that intimacy is a universal human experience featuring emotional connections, mundane activities, and close relations to identities such as sexuality; and b) a series of new qualities afforded by computing technologies, including the less important physical contact and FTF interaction as well as higher levels of fantasy, social desirability, and freedom. While our findings of intimate experiences in *Audition* confirm or at least do not evidently contradict these characteristics (especially the first aspect), we identify the need to update the current theories so as to accommodate two dimensions of computer-mediated intimacy that have not been thoroughly explored before: A dyad dynamic, and a care for online users' sociocultural background including demographics such as age and ethnicity. Thus, we revisit computer-mediated intimacy as three intertwined elements: 1) an exclusively one-to-one, equal relationship between two online users; 2) special experiential qualities afforded by the specific sociotechnical systems; and 3) the rich sociocultural context in which the former two are situated, including age and ethnicity. Collectively, the three elements explain the very moment when an experience is felt subjectively “meaningful” and “intimate” for a given user. We hope that this reconceptualization can contribute to a better understanding of the specific ways in which interactive technologies affect and support intimate experiences, in order to arrive at more inclusive, supportive, and fulfilling collaborative online systems.

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