



Playing with Words: The Experience of Self-disclosure in Intergenerational Gaming

Sanela Osmanovic^(✉) and Loretta L. Pecchioni

Department of Communication Studies, Louisiana State University,
Baton Rouge, USA
{sosman3, lpecchl}@lsu.edu

Abstract. While small and large technological miracles have undoubtedly made our lives easier, they have potentially also made a significant part of our daily social routine obsolete. People live in the same space but rarely spend quality time together, interacting and bonding. One of the solutions to enhance family relationships may lie in the technology itself—video games. Previous research having shown the sociability of video games, and in this study, we examined their potential in creating closer family relationships, especially among different generations. Participants (n = 183) were asked to play video games together over a period of six weeks. Participants completed a modified version of the self-disclosure and relationship closeness inventories before and after the treatment and responded to a series of open-ended questions post-treatment. Results indicate an increase in breadth and depth of self-disclosure, and in relationship closeness in both younger and older adults. Gathering around a novel shared activity, both younger and older adults found new ways of connecting to their family members, whether through more frequent conversations, broader selection of topics, shared subjects, or pure entertainment. The findings suggest that video games can provide a platform for family communication, resulting in the rejuvenation and maintenance of intergenerational relationships.

Keywords: Family relationships · Video games · Older adults · Relationship closeness · Intergenerational gaming

1 Introduction

Decades of scientific research have placed family communication in a prominent position as the source for a child's attitudes, beliefs, and behaviors. Family members provide a foundation for the development of self, serving as primary socialization agents in the acquisition of interpersonal skills necessary for social wellbeing and relationship development [1, 2], and healthy behaviors [3] to name a few. While the emphasis in research is usually placed on parent-child relationships, the family as a unit affects the child's development and one of these influential family relationships is that between a grandparent and a grandchild. Distinct due to the usually large generational gap, positive grandparent-grandchild relationships have been shown to produce positive psychosocial outcomes for both parties, where grandchildren gain a source of

family values, beliefs, and history, as well as social support, and grandparents gain a source of pride and the feeling of being young again [4]. Studies have shown that young adults have a rather negative view of older adults, holding up the stereotypes of old age—deterioration of physical and mental faculties—undervaluing their competence, their perceived intelligence or abilities [5]. On the other hand, close relationships with grandparents have been found to generate positive stereotyping of older adults [6]. Thus, it is important to provide younger and older adults with an opportunity and means to create closer family bonds, improving not only their relationships, but also potentially affecting the views of and interactions among the generations on the whole. In this study, we examine the outcome of joint video gaming on intergenerational relationship development within families, especially as it pertains to an important element of relationships—the role grandparents and grandchildren play in each other’s lives.

1.1 Aging and Family Relationships

Population aging is one of the sturdiest demographic trends of the past few decades, particularly in developed countries. According to the National Institute of Aging [7], “in 2006, almost 500 million people worldwide were 65 and older. By 2030, that total is projected to increase to 1 billion—1 in every 8 of the earth’s inhabitants” (p. 2). The rise in life expectancy combined with the decline in natality is making older adults an increasingly large fraction of the world’s population [7], leaving a significant mark on the relationships and the structure of families. Three and even four generations are now in a position to spend significant parts of their lives together, with older adults having a much larger span of years to perform their family roles, and “intergenerational relationships...take on an added dimension as the number of grandparents and great-grandparents increase” (p. 10). Thus, it becomes increasingly important to form and maintain strong bonds among older and younger adults in families, especially since these relationships are typically involuntary and tend to be sacrificed on the altar of the all-consuming adolescence and newfound independence. As adolescents become involved in the unforgiving whirlpool of new romantic, academic, and social activities, family ties take a back seat and the frequency and intensity of relationships weakens, especially with the grandparents [8, 9]. One way to maintain important intergenerational relationships within families is through shared activities appealing to both sides of the age spectrum and, potentially, also creating closeness to further strengthen the bonds.

1.2 Video Games as a Relationship-Building Tool

The technological advancements of the past few decades have created a large gap among younger and older adults, alienating them from each other’s worlds, and video games are a significant part of that process. While small and large technological miracles have undoubtedly made our lives easier, they have potentially also made a significant part of our daily social routine obsolete. Families and friends still gather, but now around television sets, or even more solitarily in the past decade, around computers, tablets and smartphones. Watching television, the activity on which families

spend five hours a day on average, does not require nor necessitate much interaction [10]. Thus, those gathered around the screen may share the space but they share little else, either preoccupied by the program or otherwise immersed into social media on other devices and being only physically present. Such lack of communication and interpersonal interaction has led to weaker family ties, distant relationships, and even a breakdown of families and friendships [11]. While popular media continuously emphasize the importance of meaningful interactions among family members and friends for the strength of the relationships, resulting in calls for sharing meals without distractions, with the wide introduction of personal computers, tablets and smart-phones, the silence and distance are becoming more pervasive. A toddler with a phone in her hands, swiping surprisingly expertly with yet-to-become-nimble fingers in search of its favorite *Dora the Explorer* episode on YouTube has become a far more common sight than a toddler on a swing in the park. So, technology is also serving as a replacement for interaction with developing children while science scrambles to uncover long-term consequences of this new trend in parenting.

However, as postulated above, there may be a solution, and it may lie in the technology itself—after all, as the old idiom says, we have to fight fire with fire. The fire of recovery in this case may lie in one of the most controversial and discussed outcomes of the technological golden age—video games. As the biggest entertainment industry in the world, perpetually drawing attention of young adults especially, video games may hold the potential to make people happier and help them maintain a healthy social life within and outside their families. Indeed, research has shown that video gameplay, especially in the circle of friends and family members, can yield positive physical and mental outcomes, as well as improve relationships and promote connectedness [12–15]. Older adults are increasingly responding to their call as well—between 1999 and 2011, the number of gamers older than 50 has increased from 9 to 26% [16, 17]. Older adults, it transpires, enjoy demanding, intellectually challenging games with rich narratives, and large, involved communities in which they can take part—in short, they just want to have fun [18]. And they especially enjoy the social side of gaming [19, 20], as a means to spending time together, requesting help and attention from children and grandchildren, or something to structure the conversation with friends and family. In intergenerational family gaming, in particular, positive emotions such as happiness and enjoyment coalesced with—and stemmed from—the bonding, the conversations, the feeling of being closer to loved ones and of maintaining relationships across distances [12, 13, 21–23]. To look at how the sociability of video games affects relationship closeness, we employed the Social Penetration Theory.

1.3 Self-disclosure in Interpersonal Relationships

Social penetration theory (SPT) posits that relational closeness develops as a product of interpersonal communication advancing from superficial to more personal levels, and mainly through reciprocal self-disclosure [24]. Self-disclosure encompasses exchange of information, expressions of positive and negative emotions, as well as mutual activities [25]. In other words, behaviors considered in social penetration theory range from disclosure of low-risk personal information to the sharing of personal experiences, hopes and dreams, ambitions, and goals.

When it comes to the selectivity of self-disclosure—with whom we share information about ourselves and to what extent—Altman and Taylor drew on Thibaut and Kelley's [26] social exchange theory, viewing relationships in economic terms and self-disclosure in terms of the cost/reward ratio. As humans are rational creatures seeking rewards and avoiding punishment, we make judicious choices on disclosing information, considering not only the interests of the relationship, but also what effect given information will have on the other person. The initial, low-level self-disclosures serve to reduce uncertainty. As the relationship progresses, higher-level self-disclosures serve to promote a close relationship, and with it potentially gain help and support, satisfaction and contentment. On the other end of the spectrum, higher-level self-disclosures also carry a higher cost through greater vulnerability, potential rejection, loss of trust and the relationship. In every relationship, individuals weigh costs against the rewards, and if the perceived mutual benefits outweigh the cost of greater vulnerability, the self-disclosure and with it the social penetration will continue.

With this in mind, in social penetration theory Altman and Taylor [24] postulated that, after the initial encounter, the closeness of the relationship progresses through the linear stages as the breadth and depth—or the number of topics discussed, and the importance of the topic to the person respectively—of self-disclosure increase. Positive responses to self-disclosure have a positive effect on existing relationships; in family relationships, which are of interest for this study, it has been strongly associated with openness in family communication, cohesiveness, identity development, and satisfaction with family relationships [27]. Reciprocal self-disclosure between grandparents and grandchildren was found to be positively associated with perceptions of shared family identity [28].

These findings were also reflected in the few studies of self-disclosure in a mediated video game environment. Taylor and Taylor [29] found that game-mediated conversations were characterized by intimacy, where participants reported feeling safe disclosing personal information. In a study of 6000 messages exchanged among the players of a task-oriented game, Peña and Hancock [30] found the majority of them not to be task-related, but rather socioemotional and positively valenced. However, besides this work, few studies have looked specifically at self-disclosure and how it is used and perpetuated around gameplay to advance relationships. In this study, we sought to examine how intergenerational gameplay among family members affects the breadth and depth of the players' self-disclosure and thus relational closeness, postulating that:

H₁: Regularly playing video games together increases the breadth and depth of self-disclosure among family members of different generations.

H₂: Increase in breadth and depth of self-disclosure is positively associated with relationship closeness.

To summarize, how technology and society shape each other in a reciprocal process is the basic question of this study, since video games are both shaped by and shape the lives of those engaging in them. Digital technology has changed the fundamentals of how we interact and bond in society, taking away old and offering new infrastructure through which we can act [31]. Therefore, the aim of this study is to provide an interactional understanding of social video gaming within families. More specifically, what are the effects of social gaming on relationships, and what is its current and potential role as a social leisure activity in everyday family life? The main focus of the

research presented here is the intergenerational social interaction in, around, and through video games, and how it potentially changes self-disclosure and closeness in family relationships.

1.4 Purpose of the Study

The aim of this study was to explore the effects of intergenerational video gaming on the bonds between older and younger family members. At the heart of the inquiry was the potential of the shared leisurely activity to build or maintain relationship closeness between family members, especially of different generations, through the increase in self-disclosure. To assess the effect of sharing the activity of playing video games as opposed to simply bonding over a conversation, we employed a mixed-methods longitudinal design to collect both survey data on self-disclosure and detailed personal accounts of the effects of gaming on dyadic family relationships. For comparison purposes, the same design was used to collect data on the effects of regular conversations on intergenerational family relationships, removing the shared gaming factor. The results of this investigation are presented below.

2 Method

To fully understand player interactions and relationship development in and around video gameplay, data were collected through a multi-method, longitudinal study. The participants were recruited from two classes at a large Southern USA university after receiving approval from the appropriate Institutional Review Board. Each participant was asked to select an older adult, age 55 and above, from their immediate family circle who will consent to play video games with him/her at least three hours a week, either in a mediated or co-located setting. Younger adults received partial course credit while older adults did not receive any compensation for taking part in the research. The data from the dyads was collected over a period of six weeks. The duration of six weeks was determined based on the research findings of a pilot study implemented during the summer of 2016.

Participants. The sample consisted of 182 participants: 89 older adults, 58 females and 31 males ($M = 1.65$, $SD = .48$), ages 55–77 ($M = 59.43$, $SD = 4.57$), and 93 younger adults, 51 females and 42 males ($M = 1.59$, $SD = .50$), ages 17–28 ($M = 20.39$, $SD = 2.05$). The older cohort ($n = 89$) comprised 75 (84.27%) grandparents, 11 (12.36%) parents, 2 (2.25%) stepparents, and 1 (1.12%) aunt. The younger cohort ($n = 93$) comprised 77 (82.80%) grandchildren, 13 (13.98%) children, 2 (2.15%) stepchildren, and 1 (1.08%) niece.

Data Collection. Considering the pretest-posttest nature of the study, self-completed questionnaires were used to collect standardized and thus comparable information from the participants. All questionnaires were web-based, administered using the Qualtrics survey tool. Web surveys were employed for being easily available and accessible, with the possibility to prompt for missing data or explain potentially difficult sections, which is important given the age of some of the participants and lack of funding for the study.

For the same reason and also given the potentially mediated nature of the study, thus placing participants at greater distances, the questionnaires were used to collect narrative data as well, allowing for a broader accessibility. The survey was distributed online. The questionnaire took approximately 30 min to fill out, with the narrative section approximated at 10 min.

All participants were tasked with completing a questionnaire at the beginning and the end of the study. The initial questionnaire consisted of six sections. The first section contained questions on demographic information (including gender, age, and relationship status) and the relationship between the two family members (i.e., parent-child or grandparent-grandchild) participating in the study. The second section comprised questions on previous gaming experiences (e.g. “Have you ever played video games?”, “What games do you play most frequently?”, “Do you play or have you played video games with older family members (age 55 and up)?”). The third section was available to those who positively responded to the query on previous gaming experience with older family members and comprised related to that experience (e.g. “With which older family member do you play video games most frequently?”, “Within the past three months, how often have you played video games with this family member?”). Participants were then asked to complete the following two sections addressing self-disclosure, and relationship closeness items which were coded per their respective scales, detailed below.

Self-disclosure Rating Scale. The fourth and final survey section comprised questions on breadth and depth of self-disclosure, measured using the Revised Self-Disclosure Scale developed by Wheelless and Grotz [32]. Both breadth (8 items, e.g., “I usually talk about myself for fairly long periods at a time”; $\alpha = 0.82$) and depth (10 items, e.g., “Once I get started, my self-disclosures last a long time”; $\alpha = .84$) were measured using a 7-point Likert-type scale ranging from 1 = “strongly disagree” to 7 = “strongly agree.” In hypotheses testing, both variables were treated as continuous.

Relationship Closeness. The fifth section comprised questions on relationship closeness, measured on a 7-point Likert scale using categories from the modified Friendship Qualities Scale [33], with predetermined questions for closeness (12 items; e.g. “_____ and I have a strong connection”; $\alpha = .77$). In hypotheses testing, the variable was treated as continuous.

The post-test survey, completed after six weeks of interaction, comprised five sections. The first section contained questions on demographic information and the relationship between the two family members participating in the study. The second section comprised questions on games played, gaming type (collaborative, cooperative, or other) and location (collocated, remote, or other) during the experiment. The following two sections comprised repeated self-disclosure, and relationship closeness measures.

Digital Postcards. The fifth and final section of the post-test survey was designed for narrative data collection, consisting of digital postcards asking the participants to share their experience of the six-week study in their own words. Participants were asked to reflect on their gaming/conversation rituals, the expectations, outcomes, and future

plans in relation to joint gaming or conversations. Questions to aid in reflecting on the experience and writing the postcards were provided on the same page.

Data Analysis. Responses to the scaled items for both groups were examined using pretest-posttest statistical analysis, which is presented in greater detail in the Results chapters for both experimental groups. Narrative data was examined using careful, line-by-line content analysis, investigating the context, perspectives, and overall character of the responses. Emerging patterns and themes were uncovered by searching for word repetitions, then analyzing keywords and their context. Themes were grouped and assigned colors, and the narrative data was highlighted accordingly. The detailed analysis of pretest-posttest studies and the narrative data for both groups are presented in the next section.

3 Findings

Based on the responses from our participants, we answer our questions about if and in what ways intergenerational game playing may affect self-disclosure and relationship closeness between family members. Both older and younger adults largely reported positive outcomes from playing video games with family members—while enjoyment was an important aspect, maintaining connections with each other and with the home, and training cognitive and physical abilities were repeatedly emphasized. The changes in self-disclosure were also noted, as both gained more insight into each other’s lives, knowledge, and thoughts.

Video Gaming Experience. The majority of the older adults who participated in the study—63 or 70.8%—reported never having previously played video games. None of the remaining 29.2% identified as active gamers or playing video games on a regular basis, but stated they had either tried video games in the past or play sporadically. Their gaming experience included a wide variety of games and platforms, from mobile apps to exergames and sports simulations, to more complex first-person shooters. Younger adults who participated in the study predominantly (82, 88.2%) reported playing or having played video games, of which 29 (31.2%) identified as active gamers who play six or more hours per week. They too reported having played or playing a variety of games on different platforms.

3.1 Self-disclosure

The first hypothesis posited that regularly playing video games together increases the breadth and depth of self-disclosure among family members of different generations. A paired t-test was employed to determine whether there was a statistically significant mean difference between breadth and depth of self-disclosure before and after the six-week gaming treatment. The results of the paired t-tests are presented in Table 1. Among younger adults, there was a statistically significant difference between pretest ($M = 34.07$, $SD = 6.28$) and posttest breadth of self-disclosure ($M = 38.90$,

SD = 15.00), $t(92) = 2.94$, $p = .0042$, CI.95 1.56, 8.09. Cohen's effect size ($d = .42$) suggests a moderate increase in the breadth of self-disclosure for this test group. Older adults also experienced an increase in the breadth of self-disclosure between pretest ($M = 33.16$, $SD = 5.26$) and posttest ($M = 36.25$, $SD = 9.18$), $t(88) = 4.62$ $p = .0041$, CI.95 1.75, 4.40. Cohen's effect size for older adults ($d = 0.41$) similarly suggests a moderate increase in the breadth of self-disclosure.

Table 1. Results of pretest and posttest self-disclosure dimensions for younger and older adults

Variable/Results	<i>N</i>	<i>Pretest-posttest diff. of M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Breadth of self-disclosure - younger adults	93	4.83	15.85	2.94	.0042
Depth of self-disclosure - younger adults	93	5.03	22.15	2.19	.0310
Breadth of self-disclosure - older adults	89	3.07	9.86	2.94	.0041
Depth of self-disclosure - older adults	89	3.98	17.49	2.15	.0347

Depth of self-disclosure also underwent a statistically significant increase for both groups. For younger adults, pretest ($M = 44.15$, $SD = 11.64$) and posttest ($M = 49.18$, $SD = 17.11$), $t(92) = 2.19$, $p = .0310$, CI.95 .47, 9.59, and Cohen's effect size value ($d = 0.35$) suggests a small to moderate increase in the depth of self-disclosure. Older adults also experienced a small to moderate increase in the depth of self-disclosure between pretest ($M = 39.62$, $SD = 12.41$) and posttest ($M = 43.59$, $SD = 11.68$), $t(88) = 2.15$, $p = .0347$, CI.95 .29, 7.66, and with Cohen's effect size score of $d = .36$. Therefore, the first hypothesis was supported for both older and younger adults, with a larger positive effect on breadth of self-disclosure than on depth.

3.2 Relationship Closeness

The second hypothesis predicted that an increase in the breadth and depth of self-disclosure results in an increase in the perception of relationship closeness. A Pearson's product-moment correlation was used to assess the relationship among the variables. Tables 2 and 3 present the results of the correlation analysis, where a statistically significant positive correlation was found between the change in the breadth of self-disclosure after the treatment, and the change in the perception of relationship closeness for both younger and older adults, with a more significant effect for the older cohort. In the same time, a statistically significant correlation was not found for the change in the depth of self-disclosure, and the change in the perception of relationship closeness for either younger and older adults. Thus, the second hypothesis was partially supported.

Table 2. Correlation matrix for relationship closeness, and breadth and depth of self-disclosure for younger adults

	<i>N</i>	Breadth	Depth	Closeness
Breadth	93	1.000		
Depth	93	.4461**	1.000	
Closeness	93	.3008*	.1427	1.000

Correlation is statistically significant at:
 * $p < 0.05$; ** $p < 0.01$

Table 3. Correlation matrix for relationship closeness, and breadth and depth of self-disclosure for older adults

	<i>N</i>	Breadth	Depth	Closeness
Breadth	89	1.000		
Depth	89	.6025**	1.000	
Closeness	89	.6523**	-.0141	1.000

Correlation is statistically significant at:
 * $p < 0.05$; ** $p < 0.01$

3.3 Qualitative Findings

In the final part of the closing survey, participants were asked to describe their six-week joint gaming experience—which games they played, did they compete or collaborate, what was the usual gaming ritual, what stood out to them the most, how did they feel about it at the beginning and the end of the study, will they continue playing video games together.

Games Played. Games were largely selected by the younger cohort, and comprised a variety of genres. Most of the dyads—60.7% (54)—played casual, turn-based app games such as Words with Friends and Trivia Crack. Other popular choices were Wii games (13, 14.6%), Minecraft (9, 10.1%), sports games such as Madden (6, 6.7%), first-person shooters such as Call of Duty (4, 4.5%), and simulations such as Need for Speed (3, 3.4%). An overwhelming number of older adults (80, 89.9%) reported enjoying the experience of playing games with their family members over the course of the study, citing fun, gratification of spending time together, learning something new, as well as feeling happy for being involved and able to help their child or grandchild with a school assignment. The majority of the younger cohort (77, 82.8%) also reported having enjoyed the experience of playing games with their family members over the course of the study, referencing connectedness, sharing an activity with a family member, and fun.

Self-disclosure. Both breadth and depth of self-disclosure featured prominently in the participants’ comments about their shared experiences. An abundance of conversation brought along a slew of topics, both previously discussed and not. The participants reported sharing more of their lives, past and present, with their family members as they played together. A male participant, age 55, said:

I used to teach him how to play these games; and now he teaches me. This realization brought our relationship to a new level. We spoke about his station in life and his plans, relationships with others and long and short terms goals and achievements. We spoke a lot about politics and life itself.

Another male participant, age 59, had a similar experience:

Me and my stepson enjoyed playing video games together. He asked me how life was when I was growing up. We talked about how things were so different. It was a great opportunity for us to catch up. We often joked about all kinds of different things, but we also had serious conversations about how times are changing. It was really a great opportunity to connect with each other.

Younger participants also found enjoyment in the communication and conversations with their gaming partner, and learned more about them. As one male participant (19) explained:

I liked that we had the ability to communicate and actually play a game together. I feel like I learned more about how my mom thinks, I can understand better our different choices. I did not like that she was really close to beating me every time.

A female participant (21) from the younger cohort concurred:

This was the first time that I have ever played a game with any older family member. Throughout these six weeks, I learned more about myself as well as my family members than I had in all this time living an hour away from each other. Playing this game caused my grandfather and I to joke and talk more than normal, which really helped our relationship. I now know where my competitiveness [comes] from.

Older adults hope to continue gaming together. Said a male participant (57):

We plan on continuing our poker competition and adding my other son into our competition. After partaking in this experiment, I can say that I feel like we were able to grow in our relationship and become better friends. I also learned that my son is better than me at online poker.

A female participant (63) had the same idea:

I would continue to play video games with my grandchildren to connect with them and learn personal information about them. It is a good relaxed and neutral ground for both parties. It gives us a chance to slow down and listen to one another. I wish I could have used it with my own parents to learn about their history and lives before my existence.

Overall, about one-third (30, 33.1%) of older adults and younger adults (27, 29.1%) listed examples of one or both dimensions of self-disclosure as a part of their six-week gaming experience.

Relationship Closeness. Time spent together and the resulting closeness were in the center of most responses. As one female participant (57) noted:

My daughter is my oldest child so we have an extremely close bond. Now that she's older, it's hard for us to do fun things together even though we live in the same city. Even though it was a silly phone game for school, I appreciated the extra time we were able to spend together and I was surprised at the amount of time we actually spent engaged in conversation while doing this project. I think that more than anything that time actually made our relationship stronger.

Younger adults shared similar experiences, as a male participant (19) elaborated:

I found that we exchanged text messages more often during this time because my dad is a big trash talker. My dad and I already are very close but I'd say that this added an extra element to our relationship! It was great doing something together and it gave us something out of the norm to look forward to!

For some, it was about feeling physically closer to their family member, said one grandmother (63):

Watching your children become their own person is something all parents wish for. Yet, you still feel this loss of your child not being in your daily routine anymore. With these video games, as simple as it may sound, reconnects you again no matter how far. While I played, it made me think of her, and when she played, it made me feel like we were connected even though we were not in the same city. It made me feel close to her and we enjoyed it.

A younger female participant (18) concurred:

I liked that we were playing together. It was a nice since the game put us both in position to have conversations about the game and other things in her and my life at the moment. She is about 900 miles away from me so it was a nice way to keep connected and share in each other's lives.

Others brought the family in on the gaming experience. A female participant (22) described her experience:

It made me want to expand my vocabulary. It also made me want to play more games with family members because it feels like you do get closer. You are constantly thinking about beating them when you play. Which means you are constantly thinking about them as well. Overall, I enjoyed this experience. I would not have started playing games with older relatives without this study. I will continue to do so now. The most fun was trash talk among and to family members because you shouldn't usually be doing that. When it comes to games though, it is totally acceptable to do so. I enjoyed playing games but I may switch to other games to play intergenerationally because I need spell check.

More than two-thirds of both older and younger adults (74.2% and 69.9% respectively) cited more frequent communication and spending more time together as the outcomes of the six-week joint gaming, while 24 (25.8%) younger adults and 31 (34.8%) older adults specifically cited an effect on relationship closeness. A female participant, age 74, said:

Playing games with my grandson keeps me sharp. We joke and talk and compliment each other on good moves. I love that he treats me as an equal and doesn't hold back. Playing games has brought us closer, in my opinion. Doing this with [my grandson] is now one of the joys in my life. I feel that playing games together has taught us both different things, we have learned from each other and about each other.

Participants' narratives provided a deeper understanding of their experiences, and perhaps an insight into potential moderating elements that occurred during the study. Primarily, both younger and older adults found new ways of connecting to their family members, whether through more frequent conversations, broader selection of topics, shared subjects, or pure entertainment. Gathering around the novel activity allowed participants the space to talk and listen in a relaxed environment, and they largely reported bonding and enjoyment, with older adults also placing emphasis on learning

and acquiring new skills. Not all was fun and games, however, as the repetitiveness and simplicity of the selected games resulted in boredom and loss of interest for some participants of both cohorts. Several dyads who played more demanding and involving games relished the experience, but some older were left frustrated after struggling with complex controls, while their younger counterparts were annoyed with having to repeatedly provide instructions.

To summarize, after spending six weeks playing video games together, both younger and older adults experienced a moderate increase in the breadth and depth of self-disclosure. The broadening of the range of conversational topics and the increasingly personal nature of self-disclosures were positively associated with the enhancement of relationship closeness for both groups.

It is important to note that biological sex, location (collocated vs. mediated play) or type of gaming (collaborative vs. competitive) were not significantly correlated with the difference in self-disclosure and relationship closeness for either group. This shows that physical presence is not imperative in gaining benefits from intergenerational gaming, and whether players prefer collaborative or competitive games is not likely to affect the relational outcome of their joint activity.

4 Conclusion

In this study, we explored intergenerational video game playing among family members, seeking to find whether such shared activity provides a platform for building and maintaining interpersonal relationships. Using a mixed-methods longitudinal design allowed us to collect both disclosure and closeness-specific quantitative data and detailed qualitative accounts of the effects of long-term gaming on dyadic family relationships.

Corresponding to the findings of previous studies [12, 13, 15, 19, 20, 23], the social side of gaming, the opportunity for conversation and bonding, drew in both younger and older adults. The older cohort, largely consisting of individuals who have never played video games before, found the experience entertaining, interesting, and gratifying. The younger cohort enjoyed the opportunity to display their expertise to older family members while in turn discovering more about them and receiving the benefit of an interested listener and adviser. While they played video games, in the background their relationships changed. In this study, we hypothesized that joint video gaming will increase the breadth and depth of self-disclosure between family members, as well as that said increase will result in higher perceived relationship closeness. The first hypothesis was supported as self-disclosure thrived during the shared activity—indeed, there was a moderate increase in breadth and depth of self-disclosure for both younger and older adults after the six-week gaming period. These findings resonate with the postulates of the Social Penetration Theory [24] that, as relationships progress, breadth and depth of self-disclosure increase. Breadth of self-disclosure was positively correlated with relationship closeness, more so for older than for younger adults. However, the correlation between depth of self-disclosure and relationship closeness, while positive, was not significant, thus the second hypothesis was not supported.

Again, narrative accounts may shed more light on these findings. Participants largely reported sharing more with and finding out more about their family members, connecting and understanding each other better. However, almost two-thirds of dyads played online games in a remote setting. While this platform provides for joking, small talk, and challenging each other, it is not the best channel for deeper, more intimate questions or revelations. It did still, however, provide a connection.

With each year, the aging population grows. In the same time, especially in the Western world, the use of technology has led to people living in the same space but rarely spending “quality time together,” actually interacting and bonding. While popular media continuously emphasize the importance of meaningful interactions among family members and friends for the strength of the relationships, resulting in calls for sharing meals without distractions, with the wide introduction of personal computers, tablets and smartphones, the silence and distance are becoming more pervasive. In order to enhance lives across generations, the same technology can be used to counter this effect. With careful design and consideration of current and potential players, video games have the capacity to positively impact families, and social life in general, bridging the distance and drowning the silence.

5 Implications

With each year, the aging population grows [7]. In the same time, especially in the Western world, it seems that the use of technology has led to people living in the same space but rarely spending “quality time together,” actually interacting and bonding. While popular media continuously emphasize the importance of meaningful interactions among family members and friends for the strength of the relationships, resulting in calls for sharing meals without distractions, with the wide introduction of personal computers, tablets and smartphones, the silence and distance are becoming more pervasive. However, as this and other recent studies show, the same technology can be used to counter this effect and enhance lives across generations. With careful design and consideration of current and potential players, video games have the capacity to positively impact families and social life in general, bridging the distance and drowning the silence [12, 13, 23].

6 Limitations

As with any research, this project has its limitations. The number of participants was relatively small, and they were all from the United States. As a consequence, we should not over-generalize our findings. In addition, for younger adults the participation was a part of the course requirement, which may have impacted their perception of the project—must vs. want—and thus the level of their participation and satisfaction. Future research should address the limitations to this study, as well as examine more specific aspects of influences, examining the effect of existing relationships, family patterns, and emotional and physical states. These additional motivations are important to gaining a more complete picture of shifts in family relationships and how video games can be used to help balance them.

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