


Social Interaction Between Older Adults (80+) and Younger People During Intergenerational Digital Gameplay

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Abstract. The objective of this study was to explore the ways in which collaborative digital gameplay facilitates intergenerational interaction between older adults aged 80+ and younger people. Five intergenerational pairs played two Wii games once a week for six weeks. Analyzing participants' conversations during gameplay reveals that guided participation in the form of question-answer is the main way through which the two age groups can maintain shared focus and participate in the meaning-making process. Older adults play the roles of students, followers, and storytellers while younger people play the roles of teachers, leaders, encouragers, and caregivers during the game sessions. The findings also show that intergenerational play facilitates prosocial behaviors in younger people.

Keywords: Older adults · Younger people · Intergenerational interaction · Digital games · Guided participation

1 Introduction

1.1 Understanding the Oldest Old

The oldest-old (80+) has become the fastest growing age segment in most European populations, UK, and North America [1, 2]. The rapid transformation of later life and the increased longevity demand that we change attitudes towards ageing and move towards a strategy that fully integrates the oldest old into an active ageing strategy [3]. Ageing is not a matter of advanced chronological age but is more a consequence of restricted activities [3]. The oldest-old have a higher average loneliness rating than those between 65 and 79. They are also the least likely to have a close friend and confidante [2]. Emotional and social isolation is the result of a number of factors such as loss of family and friends, poor health, decreased mobility, and reduced income. Social trends such as geographical mobility, reduced intergenerational living, and less cohesive communities also play a role [4]. Older adults aged 80 and over need to be supported so they can continue to participate and engage in social life [3]. One's social relationships, social roles and activities all influence the quality of life as one grows older [3].

1.2 Intergenerational Interaction

Intergenerational separation has become a social issue in industrialized society [5]. A large number of people, including older adults themselves, believe social disengagement with younger people is a natural part of aging [6]. Generativity, the concern for establishing and guiding the next generation [7], reflects older adults' desire to be needed [8]. It is beneficial to wellbeing in later life in the form of assistance to unrelated others and civic engagement [9]. McAdam and de St. Aubin [10] pointed out that the motivational sources of generativity is in the inner desire to do something that transcends one's death and in the cultural demand of devoting personal resources toward the advancement of the next generation. Nowadays, factors such as the fast pace of technological change, the growth of human knowledge, and the changing cultural norms and larger social forces widen the gap between younger people and therefore contribute to the loss of older adults' capacity for generativity [11].

Lloyd [6] suggested positive and strong intergenerational contact and communication were key factors in the transmission and exchange of human capital within society, values, moral codes, culture, and history. Intergenerational ties provide older adults with opportunities to feel younger, share the easiness of the younger generation, rediscover their abilities, and find their way back to be happy, which leads to regeneration and an increased sense of well-being [12]. Through intergenerational contact, younger adults can learn how to take responsibility for other people and find their identity through common cultural activities [5]. As young people build skills and talents they develop personal meaning and direction in their lives [7]. These positive experiences motivate younger people to take part in intergenerational programs [13].

1.3 Intergenerational Digital Gameplay

Play can act as a connecting force between the two age groups, providing opportunities for them to build relationships [14], enjoy each other's company [15], learn together, resolve problems with the help of another perspective, and laugh over shared mistakes or difficulties [16]. While digital games are generally played by younger people, the number of older adults playing digital games is increasing. Based on the findings of ESA 2016, the average game player is 35 years old, and 26% of game players are aged 50 and over [17]. Digital gameplay is an importance source of connectedness for older adults, as it provides opportunities for them to request help and attention from children, or facilitate conversations with friends [18]. Several research studies are focusing on designing digital games to facilitate intergenerational interaction, such as Collage [19], TranseCare [20], Age Invader [21], e-Treasure [18], etc. The goal of these games is to promote intergenerational contact between grandparents and grandchildren over distributed distance, connect older people with younger people, build meaningful intergenerational relationships, facilitate knowledge transfers between younger and older people, and improve the quality of life of older adults [22].

Chua et al. [23] examined the effects of digital gameplay on intergenerational perceptions among 25 older adults and a corresponding 25 younger people. An older person paired with a younger person played Nintendo Wii once a week (30 min) over

two months. These video game participants reported greater reduction in intergroup anxiety and an improvement in general attitudes towards the other age group compared to the intergenerational participants who did not play video games together. Chua et al. mentioned that the recreational aspect of gameplay can easily bring about a change in roles between the two age groups. However, this quantitative study did not examine how older adults and younger people interacted with each other during intergenerational play and how they accepted the role reversal. Rice et al. [24] investigated the social interaction and general perceptions of engagement while playing Xtreme Gardener across three user groups (i.e., Young-Young, Old-Old, and Young-Old). Each group consisted of 10 pairs of participants and completed five levels of the game in 30 min. Within the young-old group, the younger players would often help their older partners by physically playing the game for them and assisting them to select certain game features. However, the older partners occasionally followed the body actions of the younger players. The older participants found it difficult to become accustomed to their new social role. One problem of this study is the short duration of game intervention. Rice et al. also recognized that half hour might not be enough to improve the social interactions between the two age groups. Taken together, there is a need for future research with rigorous study design and methods to investigate the social interaction between older adults and younger people during intergenerational play.

1.4 Research Questions

Society is typically organized in peer-groups, which has resulted in an intergenerational gap in industrialized countries [5]. It is important that we find sustainable solutions that overcome this dichotomy and take the needs of both age groups into account [5]. Previous studies have focused on the nature of intergenerational gameplay in the family context. There is still a lack of studies examining how collaborative digital gameplay facilitates non-kin intergenerational relationships, especially between older adults aged 80+ and younger people. The objective of this research was to explore the ways in which collaborative digital gameplay facilitates intergenerational interaction between older adults and younger people.

The research questions were:

- How does intergenerational play facilitate social interaction between older adults and younger people?
- Which roles do older adults and younger people play respectively during intergenerational play?

2 Method

2.1 Research Design

Participants included 11 older adults aged between 65 and 92 from senior and community centers in Greater Vancouver and 11 younger people aged between 18 and 25 recruited from the undergraduate programs at Simon Fraser University in Canada.

Each older adult (O) was paired up with one younger person (Y) based on their schedules. The two players in each pair sat side-by-side (see Fig. 1) and played two Wii Sports Resort games (i.e., Cycling and Canoeing) for two weeks each (45 min per week), followed by playing the two games in the last two weeks. These two games are simple to play, but require the two players to coordinate and communicate with each other in order to win. All participants were new to the two Wii games before this study, but the younger participants had played other digital games at least once a week before our study. The data of this paper are collected from the five intergenerational pairs in senior centers. The five senior participants from senior centers could be considered as oldest-old with an average age 80+. All of these five senior participants and four of the five younger people were females.



Fig. 1. Intergenerational digital gameplay

2.2 Data Analysis

The research team audio recorded the game sessions of each pair rather than videotaping them because of the static nature of their game play which focused mainly on the emerging scenes on the screen. Participants' conversations were analyzed within the conceptual and methodological framework of conversation analysis (see Appendix). Conversation analysis (CA) refers to the study of the systematic analysis of the talk-in-interaction produced in everyday situations [25]. The act of conversation follows a set of rules and is used to accomplish various social orders and goals (e.g., inform, invite, suggest, show emotions) in different contexts [26]. The emphasis of CA is how interactants "show their understanding or interpretation of the utterance and orientation to each other using talk as evidence" [27, p. 1079]. The features of talk-in-interaction organization compose the basic work of conversation analysts [28]. Turn-taking is the sequential organization of talk in conversation and is the basic component of talk-in-interaction. Turn form, turn content, and turn length are the interests of CA and are affected by the situation [27]. The turns are comprised of turn construction unit (TCU),

which can vary from single lexical items (e.g., “thanks” and “yes”) to larger constructs, such as clauses and sentences [28]. The TCUs can project the possible directions and completions of utterances [29]. The next speaker can either self-select or be selected by the current speaker. **Adjacency pairs** are sequences of paired actions, such as question-answer, proposal-evaluation, and invitation-acceptance. They are normatively structured into pairs and the second part is conditionally relevant to the prior turn.

In the following session, specific excerpts will be presented to show how older adults and younger people interact with each other during the six-week intergenerational play. The focus of this study is the interactional opportunities and relationships formed in the course of intergeneration play. The selection criterion is whether the two age groups orient to each other’s utterances. The following excerpt is excluded from the analysis because the older player seems to be detached from the conversation and only provides minimal response.

Excerpt 1

- 1 Y: Oh, we have to change our Wii? (o.3) Ok, you see the pictures? So click.
- 2 O: This one?
- 3 Y: It’s up to you.
- 4 (5)
- 5 Y: So the beginner is easy, and then we go to expert.
- 6 Oh, we can just pick the same one. Ok, I think we just did that.
- 7 (3)
- 8 Y: Whatever you want. We can do easy.

3 Results

3.1 Learning How to Play and Getting into Game Flow

Excerpt 2 comes from a game session at the point where the older adult and younger people finished their first game task in week one. In line 1, the younger player says, “Oh! We are done!”. The older player’s response (“=What?”) indicates she has not realized they finished the game task. In line 3, the younger player is describing their game performance to the older person. The older adult is not sure how to interpret this description and asks her young partner, “So, we did good?” The younger player confirms they have done well and explains that they are at the mid-point position when compared to other competitors. The older adult’s question is the first pair part (FPP) of a adjacency pair and the younger player’s answer is the second pair part (SPP). This question-answer sequence helps the older adult understand the winning status of the game. Her next turn (“£Oh! This sounds like fun£”) is delivered with smiling voice, indicating she feels pleased with the gameplay results. The younger player continues the sequence by highlighting their progress using concrete information (e.g., “last place” and “19th”). In her response to the older player, she expresses her satisfaction with their performance and expresses gratitude to her younger partner (“That is good. Thank you ↑partner.”).

The older player then starts another turn-taking sequence by asking her younger player what their next step might be (line 9). The younger player suggests trying another race, but also asks the older player for her opinion (line 11). The older player’s response, “Anything you say, I will say yes too”, indicates her deferring to the younger player.

The younger player then takes the lead on what they should do next (“Okay. °Let’s see. °”). In lines 14–16, the older adult explains that she is a novice gamer and her goal at this stage is not to “make a lot of mistakes”. In line 17, the younger player does not comment on the older adult’s emotional utterances, but based on their good performance decides to try a higher level, directing the older player’s attention to the new stage in their gameplay. The older adult’s response, “Okay”, shows she agrees with the younger player’s strategy. In line 19, the older adult starts another round of question-answer sequence by asking for status report on where they are. The younger player explains their current level in the race, and expresses confidently, “But I think we can handle three”. The older adult responds, “If you think, I will be with you”, confirming her status both as a follower and as a team member. Then, she starts a new round of question-answer sequence to confirm her actions. This excerpt shows how the collaborative play improves. The older adults continues to be more comfortable following the younger player’s instructions and her willingness to do so.

Excerpt 2

- 1 Y: Oh! We are done!
- 2 O: =What?
- 3 Y: 19th place.
- 4 O: So, we did good?
- 5 Y: Ye:ah! I think we were kind of in the middle ((Laugh))
- 6 O: ~~£~~Oh! This sounds like fun£
- 7 Y: We were on last place and we got to 19th.
- 8 O: Oh! That is good. Thank you ↑partner ((Laugh))
- 9 So:, what do we do next?
- 10 Y: We can try:: (2.2). We can try a different race¿
- 11 Do you want to try another race?
- 12 O: Anything you say, I will say yes to it.
- 13 Y: Okay. °Let’s see.°
- 14 O: I am easy to get along with as long as I do not make a lot of mistakes.
- 15 Y: Yeah.
- 16 O: Because I am new.
- 17 Y: Maybe:: Let’s try. I think we were pretty good at this.
- 18 So, we can move up a level.
- 19 O: Okay. Where were we? = On the third stage?
- 20 Y: We were on one stage. (.) But I think we can handle three.
- 21 O: If you think, I will be with you. (1.2) But, just the same motion all along?
- 22 Y: Yeah.

Excerpt 3 occurs as the two players finish the last game task of their first game session. In lines 1–3, the older adult doubts her ability to play the game. While she feels she has improved, she looks at her younger partner and becomes discouraged. The younger player encourages the older player by commenting on their good performance and highlights the older player’s improvement (“I think you are getting the hang of it”). The older adult’s short and minimal response (“Okay”) suggests she still doubts her ability. To further develop the older adult’s confidence, the younger player again encourages her older partner (“I think you got it”). In line 7, the older player shows that she appreciates her younger partner’s positive assessment and starts another turn-taking sequence by verbalizing the in-game instructions. At this point, she still defers to her

younger partner and allows the youth to choose what to do next. The younger player tries to engage the older player in the decision making process by saying, “<Let’s see what the other options are>”. However, the older player verbalizes that she will follow her younger partner’s lead (lines 9–10). The younger player does not respond to this turn, but instead offers two options (i.e., “race each other” and “be a team”). The older player chooses to play as a team and repeats she wants to win. This excerpt shows the older player accepts the role as a student and directs the younger player to take the lead, but she also wants to contribute to the team’s victory and be an equal partner as she gains more experience.

Excerpt 3

- 1 O: I do not know what I am doing. I just keep going this way.
- 2 And now and then that I take a look at you and I say,
- 3 I am doing the wrong thing.
- 4 Y: I think we are looking good. I think you are getting the hang of it.
- 5 O: Okay.
- 6 Y: I think you got it.
- 7 O: That sounds ↑good. (.) Play again, (.) change the race. So, what do we do?
- 8 Y: < Let’s see what the other options are>
- 9 O: You tell me what to do and what kind of game we are playing.
- 10 And I will listen. Whatever you say, I will try.
- 11 Y: I think there is one where we can race each other.
- 12 Do you want to try that one? Or do you still want to be a team?
- 13 O: Well, I want to be a team until I am sure on myself.
- 14 And I know if I can beat you or something. I try to win too, you know;
- 15 I do not want you to do all the winning. (.) I want to win, too.
- 16 Y: Okay.

3.2 Encouraging and Building Team Work

Excerpt 4 is selected from the fourth game session. In line 1, the younger player is guiding the older player (“There you go:”). “↑Oh, NO:” signals the failure of the game task. The older adult’s turn (“What happened?”) is the FPP of a new question-answer sequence. The younger player explains that they run out of time. This question-answer sequence indicates the older adult still does not understand the winning status of the game in the fourth week although she has been improving her game skills. The older adult’s next utterances express her worries of “spoiling” the game task. The younger player immediately reassures the older adult (“=No:. I think you are doing Okay”) and modifies utterances to direct her to focus on their achievement rather than failure (“We made 155.9 yards”). This strategy seems to be successful because the older player’s next turn shows her rebounding, moving forward, and willingness to learn and correct (line 6). She asks the younger player to tell her where she went wrong. The younger player attempts to explain the reason and suggests that the sensor might not register her. The older adult doubts herself (“I haven’t go the neck of it”) and invites the younger player to the conversation (“you know”). The younger player says “Yeah” to accept the invitation and comments on the “hard” task to reassure her. In lines 11–14, the younger player repositions the sensor and directs the older player’s attention to the new activities.

The older adult's utterance "Okay" indicates she agrees with the younger player's guidance and is ready to move forward. Then, she asks her younger partner to confirm her action ("So, hold like this?"). The younger player corrects her actions by displaying and explaining the techniques. In line 19, the older adult expresses her understanding of her younger partner's action ("Okay"), and takes leadership to suggest to start the gameplay, which is usually done by the younger player. This excerpt shows how the younger player encourages the older player and builds her confidence in coming new activity. The younger player's unfinished utterances (e.g., "°We just.°" in line 5, "I think sometimes" in line 10) indicates they are learning how to deal with the older adults' negative emotions and problems as well.

Excerpt 4

- 1 Y: Try. There you go::. (1.7) ↑Oh, NO::!
- 2 O: >What happened?<
- 3 Y: We run out of time.
- 4 O: Oh, no. Because I am not sure. I am spoiling this one.
- 5 Y: =No::. I think you are doing Okay. °We just.° We made 155.9 yards.
- 6 O: Well. We will have to go there again. And correct it.
- 7 Okay, tell me where I went wrong there.
- 8 Y: I think it was not registering you going on both sides. So, for some reason
- 9 O: I haven't go the neck of it, you know_i
- 10 Y: Yeah. It is hard to kind of get it to. (0.7) I think sometimes. (1.8)
- 11 I am going to try moving this ((sensor)).
- 12 So, it is facing you a little bit more too.
- 13 Because sometimes I don't think that picks it up. (3.5)
- 14 That is where it should be. (1.2) So, it is getting us 165 yards again.
- 15 O: Okay. So, hold like this?
- 16 Y: Like THIS. And then arch, (.) like come back and arch kind of,
- 17 and then bring it up back to the other side.
- 18 And it should register when you do that.
- 19 O: Okay. Oh, let's start. Save the energy.

3.3 Coping with Setbacks

Excerpts 5 and 6 show how the two age groups cope with the elusive goal of winning. Excerpt 5 also comes from a game session in week four when the two players failed a game task. The sequence starts with the younger player's comment on the game performance. The utterances are encouraging because instead of mentioning failure, the younger player focuses on the closeness to win (line 1). The word "Look" is an invitation to the conversation. The older player accepts the invitation and suggests to "do this again" and "get it". In lines 3–4, the two players orient to each other's turn and comment on the closeness to win. In line 6, the older player starts another sequence by displaying and verbalizing her game strategy repeatedly. The younger player directs her by highlighting the core action ("Just back (.) and back"). After confirming her correct actions, the older player suggests to "try again" and repeats their goal to build shared focus ("We got get it"). The younger player takes her suggestion and announces starting a new round of gameplay.

Excerpt 6 immediately follows Excerpt 5. The younger player delivers their second failure after a period of quiet collaborative play. In line 2, the older player says, “Time is up again”, which is a verbalization of the on-screen information. It shows the older adult is able to concentrate on the emerging core information on the game screen. The younger player continues the sequence by commenting their worse game performance, but immediately says “All right” to close it and starts a new one by asking the older player whether she wants some water. The older adult replies, “Yes. ↑Oh::, boy::. I haven’t been taking my deep breath”, which suggests she was fully engaged in the previous round of gameplay. It also indicates the younger player takes the role of caregiver.

Excerpt 5

- 1 Y: Oh::. Look, how ↑close we were.
- 2 If they just gave us ONE more second, we would have made it.
- 3 O: Well. We have to do this again. We got get it.
- 4 Y: Yeah. We were ↑so close on that one.
- 5 O: I know.
- 6 I don’t know, but I should be just going like this (.) and like this.
- 7 Y: Yeah. Just back (.) and back.
- 8 O: Okay, we will try again. We got get it.
- 9 Y: Yeah. All right. Let’s try this. START.

Excerpt 6

- 1 Y: Oh::. We are not going to get this time.
- 2 O: Time is up again!
- 3 Y: Yeah. We did a bit worse on that one.
- 4 All right. Do you want some water?
- 5 O: Yes. ↑Oh::, boy::. I haven’t been taking my deep breath!
- 6 After this water, then I take deep breath. That is what I did not do.

Excerpt 7 immediately follows the Excerpt 6. The younger player checks whether the older player is ready to start a new round of gameplay. The older player says “Yeah” and verbalizes her game strategy. The younger player agrees with it, but also makes a little adjustment to improve it (“You can start up here, and then just come down”). The two do not talk with each other during the collaborative play. Then, the younger player delivers the victory with loud voice and raised pitch (“We ↑did it! The deep breaths worked”). Lines 10–13 indicate the older player’s enjoyment and excitement of winning the game task. She attributes the winning to “the deep breaths and the water”, and mentions this a few times. Her utterances, “I hope you did not count those reckless ones. You did not;”, once again shows her willingness to win and contribute to the team success.

Excerpt 7

- 1 Y: Ready?
- 2 O: Yeah. I will start up this way.
- 3 Y: Yeah. You can start up here, and then just come down.
- 4 (12.3)
- 5 Y: We ↑did it! The deep breaths worked.
- 6 O: It must be the deep breaths and the water.
- 7 I got blame something good. I am ↑so:: ↑happy.
- 8 I hope you did not count those reckless ones. You did not,
- 9 Because, I like. If it is better (I won't come.
- 10 I am ↑so glad. I am happy!
- 11 Wow. I think that was the deep breath that did it.
- 12 Because the last time I came the deep breath that helps me.
- 13 I am going to take some more while I am seating.
- 14 Y: Okay.

3.4 Downtime Socialization

Four of the five older players shared their life-stories with their younger partners. This usually happened during the break. Excerpt 8 is an example of downtime socialization where the older adult shares her exercise habit and life stories with her younger partner. The older adult's long turns and the younger player's short turns indicate the older adult leads the conversation during this downtime socialization. However, the younger player's short responses (lines 4, 10, 13, 17, 19) stimulate the older adult to talk more. Receiving appreciation, surprise and praise from the younger player encourages her to share more life experience, which also shows the younger player's patience and kindness.

Excerpt 8

- 1 O: You know. I have got five stents in my heart.
 2 Y: Oh, yeah! Wow::, my gosh!
 3 O: I go to the specialist every once a year.
 4 Y: Once a year?
 5 O: That is going to be the 4th year now.
 6 Y: Okay. Wow.
 7 O: I know. But he saw me last time and he said that I was doing good.
 8 He said: “What are you doing?” I said: “I am exercising”.
 9 He said: “Very good.”
 10 Y: Oh! Great. So, do you do your exercises every morning?
 11 O: I love it. I used to live in Ocean Park, and I used to walk twice a day.
 12 I hate to be in the house. I am on the road all the time.
 13 One time I took my girlfriend and she got breathless,
 14 and she said: “I DO NOT want to walk with you”.
 15 I said, “Okay! Don’t. I will do it now,
 16 and I won’t ask you to come tomorrow. I know”.
 17 Y: Walking is great though, isn’t?
 18 O: I have been walking for 30 years.
 19 Y: That is wonderful.
 20 O: Have the baby, put the baby aside and go.
 21 Y: It is good to take time for yourself to do that too.
 22 O: Oh, yeah. Well, I get all my work done, sometimes I do housework at night.
 23 So in the morning I am free to go.
 24 Y: Yeah. That is good, that is really great.

4 Discussion

The findings of the conversation analysis showed that the joint gaming experience provides a rich social context for guided participation, which means the more experienced users (younger people in this case) would mentor the novices (older adults in this case) through play. The question-answer pair is a main feature of the talk-in-interaction between the two game groups, through which the older adults learn how to co-participate in the joint gaming experience, and at the same time the younger people learn how to interact with older adults. This also indicates the asymmetrical nature of intergenerational play. In order to achieve the shared understanding of the game activities, the younger people make public their understanding of the emerging scenes, addressing problems, displaying actions, providing positive feedbacks to increase their older partners’ confidence. The older adults, on the other hand, seek information and follow their younger partners’ instruction and guidance.

Digital games are often viewed as the core activities of younger people [23]. The underlying assumption of identified intergenerational programs facilitated by information technologies is kind of younger people as technology teachers and older adults as students [30]. The older participants of this paper could be defined as old seniors who did not grow up in a digital age and might suffer from cognitive decline. Although they improved their gaming skills with the guidance from their younger partners, they were

unable to play the game independently. Thus, they verbally accepted their role as learners and followers, and treated their younger partners as technology teachers and leaders from the beginning. As they learned more about the game and felt more comfortable to play the game, the older adults sometimes took the lead to inform upcoming activities, but they still needed their younger partners to confirm their actions. The older adults also took up the role of storytellers during breaks from playing to share their life stories with their younger partners.

Identity formation is regarded as the central motivation for younger people to participate in intergenerational programs [13]. It refers to the search for skills and talents and the development of personal meaning and direction [7]. Kessler and Staudinger [13] indicated that “the motivational sources of identity formation lie in the interplay between physical and cognitive maturation and the societal expectation to take responsibility for oneself and others” [p. 691]. Intergenerational programs offer opportunities for the younger people to learn how to serve and take responsibility for older adults and find their identity through common cultural activities [5]. This study found younger people play more mature roles as instructors, leaders, encouragers, and caregivers. They stay patient when responding to the unexpected questions asked by their older partners, and offered options to engage the older player in the decision making instead of making monologue decision. They always verbally express encouragement and confidence in older players who are discouraged when met challenges. From these perspectives, younger people exhibit prosocial behaviours during intergenerational play which is defined as “behaviour intended to help or benefit another” [9, p. 323].

5 Conclusion, Limitations and Implications for Future Research

Much of the literature to date on the features of intergenerational play focuses on the interactions within the family context, but the current study investigated the interaction between old older adults aged 80 and over and undergraduates. Results indicate that guided participation in the form of question-answer is the main way through which the two age groups can maintain shared focus and participate in the meaning-making process. Older adults play the roles of students, followers, and storytellers while younger people play more mature roles as teachers, leaders, encouragers, and caregivers during the game sessions. The findings also show that intergenerational play facilitates younger people’s prosocial behaviors. They learn how to deal with older adults in a friendly and respectful way.

The authors are also aware of the limitations. The participants were mainly females, and the younger participants were well-educated, thereby, limiting the generalizability of the findings. Future research should examine the intergenerational interaction facilitated by digital games with larger and more diverse groups. Although the findings cannot be generalized to other circumstances, this study sheds light on non-kin intergenerational interactions mediated by digital games and contributes to future studies that aim to bridge the intergenerational gap in industrialized societies.

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Appendix: A List of CA Transcription Symbols

Symbol	Meaning
=	No gap between two utterances; latching
(0.0)	Timed interval (pause) in 1/10 of a second
(.)	A tiny gap
<u>Word</u>	Stress
::	Prolongation of sound
¿	Stronger rise than a comma, but weaker than a question mark
↑↓	Shifts into higher or lower pitch
WORD	Especially loud sounds
°	Quieter sounds (symbol placed before and after)
< >	Slowed down speed
> <	Speeding up
£	Smiling voice (before and after the particular words)
()	Inability to hear what was said
(())	Descriptions, e.g. ((laughter))

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