

# Exploring Intersubjective Mechanics in a Digital Game: a Case Study in the Context of Sexual Violence Against Children

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## Abstract

This study concerns the design of a game aimed at raising children's awareness of sexual abuse and grooming. Sharing responsibility for learning about grooming across the child's care network is important. Using a case study and Socially Aware Design techniques, we worked with game designers to investigate how to involve the child's trusted social circle in the game. We identified 44 stakeholders and 47 challenges they face in contexts of child violence. Applying brainwriting to generate social-interaction concepts produced 53 intersubjective ideas for the game. A thematic analysis grouped these ideas into four categories: (i) cooperation with adults; (ii) shared culture and nostalgia among players; (iii) education and information about sexual violence; and (iv) features for building trust. Drawing on Hanne De Jaegher's intersubjective framework, we evaluated whether the ideas conformed to the dimensions of autonomy, subjectivity, and participatory sense-making. We found concepts that can promote adult involvement in playing with the child, but also some that risk privileging adults over children, thereby limiting children's autonomy and turning play into a vehicle for transmitting knowledge rather than for co-creating it.

## Keywords

Intersubjectivity, Social Interaction, Games, Grooming

## 1 Introduction

Games are a relevant type of technology for supporting behavioral change [1], learning concepts [2], and fostering empathy with difficult situations [3]. This paper is situated within the context of empathic games, a genre of games that allows us to address taboo topics in society [4]. In this context, we are also interested in dynamics and mechanics that transcend the limits of the digital world and integrate with the offline world, allowing players to interact with others in an integrated way.

Our context is situated in an Extension Project at the Federal University of Paraná for the development of a game aimed at raising awareness among children aged 7 to 11 about sexual abuse

and grooming [5]. The game is being developed so that its puzzles address grooming strategies commonly used by abusers, and through solving these puzzles, children learn strategies for recognizing when grooming occurs and what to do to protect themselves. This game is being developed with the understanding that children are increasingly revealing violence spontaneously [6]. Therefore, these children must have more resources to help them recognize violence and cope with it, for example, by asking for help from a trusted adult.

However, it is not enough for a child to play independently and separated from their social network of trust and care. Playing alone can lead to isolation and guilt, placing the responsibility for playing and learning about abuse and sexual grooming solely on the child. The Brazilian Statute of Children and Adolescents defines responsibility for the care of children and adolescents as a duty of the family, the community, society in general, and the public authorities [7]. Therefore, it is necessary to consider how this game can be designed to engage and strengthen, through its dynamics, the broader protection network of children. The importance of games is further enhanced when they are considered elements that facilitate social engagement [8], as in cooperative, competitive, and multiplayer games. Investigating social interaction is relevant in the context of games, as it is one of the primary forms of engagement among children and young people. According to the Brazilian TIC Kids Online survey, playing online was the most common activity among users aged 9 to 10 (81%) [9]. Considering childhood and adolescence as important phases in the development of social skills [10], the investigation of social interaction is relevant in the context of games.

We believe that social dynamics are also important in "games with a goal," such as those aimed at "social good" [11]. Especially in contexts where the player is vulnerable in some way (e.g., illiteracy, violence, addictions, or unhealthy behaviors), we believe that it is not only the player, alone, who should be held responsible for achieving a goal through play (e.g., learning some concept or developing some behavior), but that there is also a great opportunity

to involve other people from their social context in supporting the achievement of the game's goal.

Thus, this game is aligned with the Sustainable Development Goals (SDGs) of the United Nations (UN), specifically Goal 11, "Make cities and communities more inclusive, safe, resilient, and sustainable," as well as Goal 16.2, "End abuse, exploitation, trafficking, and all forms of violence and torture against children." By investigating how a game about sexual abuse and grooming can involve the child's surrounding community, a step is taken toward building safer social communities when it comes to protecting children and adolescents from sexual violence.

To support the investigation of social relations in play, this research draws on the concept of "intersubjectivity" [12, 13], which refers to the encounter between different subjectivities. From an intersubjectivity perspective, social relationships are not seen as neutral exchanges of information, or as simulations or theorizations of the mind of the other (c.f. [14, Chapter 9] for more on the theory of mind debate). On the contrary, in this work, social relationships are approached as genuine encounters between people who affect each other. According to De Jaegher [13], intersubjectivity involves elements such as relating and interacting; experiencing the other as someone for whom things matter as much as they matter to me; someone I can connect with through feeling, but who at the same time is different from me and has their own perspective [13]. Thus, for example, intersubjectivity involves the co-creation of action or meaning [12], which is relevant in the context of digital games.

This paper presents a case study with game designers to investigate intersubjective features that enable a game to involve play among different stakeholders in both online and offline worlds. To achieve this objective, two research questions (RQs) were defined: RQ1. *What features in the game enable intersubjective play between the child and their trusted adults?* With this question, we sought to understand, in our situated context, the possibilities and requirements for a game oriented toward intersubjectivity. RQ2. *How was intersubjectivity characterized in the game design context?* With this question, we aimed to understand how intersubjectivity emerged in the ideas proposed by the participants.

In the case study, a Socially Aware Design (SAwD) workshop [15] was conducted, using the Diagram of Interested Parties, Evaluation Frame, and Brainwriting artifacts to support the design. These artifacts were used to understand more about the context of child sexual abuse and grooming, and to propose intersubjective ideas and requirements for the game under development. An inductive thematic analysis [16] was performed by the researchers to identify the main themes that emerged in the design.

As results, the participants identified 44 relevant stakeholders in the child's social circle and raised 47 challenges and problems that these stakeholders face in this context. In the Brainwriting activity, 53 intersubjective ideas for the game were produced. From the thematic analysis, we identified four themes in the ideas proposed by the designers. The participants suggested cooperative functionalities, such as puzzles and minigames, as well as representing the adult in the game through characters, and sharing information about the game with the adult, either in a dedicated area within the game or in connection with other applications that the adult uses. In the game ideas, social interaction emerged through the creation of moments in which adults and children are together, by

making the child depend on the adult to act (due to game rules or challenging puzzles), and by merging the worlds of child and adult through the game's themes, aesthetics, and music. We conducted an evaluation with two psychology students to verify whether the ideas were in accordance with Hanne de Jaegher's intersubjective theory. While we found ideas that promote cooperation between child and adult, we also found ideas that do not consider children's expression, ideas that promote the transmission of knowledge, but not co-creation, and ideas that can risk excluding children from the gameplay, undermining their autonomy.

## 2 Related Works

### 2.1 Games about Sexual Abuse and Grooming

Games can act as tools for preventing abuse and sexual grooming by teaching self-protection strategies, risk recognition, and assertive communication skills. The scientific literature on games presents initiatives aimed at raising awareness of violence among children [17]. The digital game Orbit Rescue [18], designed for children aged 8 to 10, is structured into four thematic phases focused on body privacy and self-defense, helping players recognize risky situations and develop self-protection strategies through interactive narratives. Similarly, Being Safety Smart [19], aimed at children aged 6 to 8, organizes its content into eight levels focused on abuse and kidnapping prevention to strengthen children's personal safety. Cool and Safe [20], in turn, was designed for children aged 7 to 12 and uses visual and textual mechanisms that aim to expand children's behavioral repertoire of self-protection and self-affirmation skills. In the Brazilian context, the game Safe Childhood [21] stands out for its interactive scenarios that simulate everyday situations of vulnerability while supporting children in practicing self-protection decisions in playful environments.

Despite the availability of games on this topic in both national and international contexts, there is difficulty in playing them in practice. Many games remained only as academic proposals and were not made available; other games were developed using technologies that are no longer in use. Thus, the demand for games that address the theme of child sexual abuse and grooming continues to exist [17]. Among the games mentioned, there are also no explicit features aimed at promoting play together between children and trusted adults. Therefore, playing can become a solitary activity for the child, without involving the protection and care network, such as family members and educators. Thus, this research seeks to investigate the dynamics of social interaction that allow awareness of sexual abuse and grooming to cease being an isolated activity and become a joint and integrated one.

### 2.2 Social Interaction in Games

Studies have identified the impact of games on social factors. Meirelles et al. [22], for example, investigated the influence of games on individuals' social interaction. Through an online questionnaire administered to 50 adolescents, the authors identified online games as a way to expand players' social circles, but also an imbalance in interactions when games are used to neglect face-to-face social events. Gammarano and da Costa [23] conducted a study to identify user profiles associated with virtual social interaction in the context of online multiplayer games, using netnography across forums

managed by Nintendo, Sony, and Microsoft. The authors identified users who group themselves in a “pack” effect, cooperating, competing, and combining efforts to achieve similar purposes. They also found users dedicated to maintaining and forming social ties in the online context, and who become frustrated when they lose access to their virtual groups. Ultimately, users used video games as a way to maintain their social ties in the offline environment. These studies inform this research by presenting evidence of the importance of gaming as a social act that can establish and strengthen bonds.

The literature also identifies works that use games to support social interaction. In a systematic literature review, Araújo and Seabra Junior [24] identified social interaction as a fundamental element in the development of games for students with autism. On the same topic, Calpa and Raposo [25] developed a synchronous game for a multi-touch table to encourage collaborative work and social interaction among young people with autism. The game employs challenges that require players to collaborate, for example, by sharing resources and information and allowing free joint exploration. In an evaluation with five young people with autism, participants were able to engage collectively, collaborate in the game, and express intentions for interaction in different situations. This systematic review presents evidence of the success of games in promoting synchronous social engagement, using a theory of collaboration to inform game design.

In addition to the different application context (sexual grooming of children, compared to collaboration in autism), our study differs from Calpa and Raposo [25] by involving play to raise awareness. Thus, this study investigates gaming as a social interaction in which players not only should collaborate to solve challenges, but also negotiate the knowledge acquired about sexual abuse and grooming.

### 3 Materials and Methods

This study used a case study methodology [26] to explore a problem in its context of occurrence. The objective of this case study was to investigate intersubjective ideas and features for the development of a game that raises awareness among children and adults about sexual abuse and grooming through play.

In this case study, the theoretical and methodological foundation was SAwD [15]. SAwD is a design framework for incorporating sociocultural concerns by involving diverse people in the design process [15]. This framework presents several artifacts and techniques to support designers in participatory design workshops. In this research, the Diagram of Interested Parties, Evaluation Frame, and Brainwriting were used. The Diagram of Interested Parties is an artifact to support designers in identifying stakeholders in the social context. The artifact presents four distinct levels of stakeholder influence on the problem and the prospective solution: (1) contribution, encompassing stakeholders who influence or are directly impacted by the proposed problem or solution; (2) source, consisting of individuals or groups possessing relevant knowledge or information about the context; (3) market, including partners and competitors involved in the problem; and (4) community, referring to less influential social actors, such as legislators, observers, or other indirect agents. The Evaluation Frame, in turn, extends the Diagram of Interested Parties to anticipate problems, difficulties,

and needs associated with the main stakeholders identified in the context under investigation. Finally, the Brainwriting technique is used to broadly generate ideas for a solution in a participatory manner. This technique allows the solution to be co-constructed among participants, with ideas being written down in a way that allows everyone to contribute to their generation.

In our context, the workshop was held with the development team of a game aimed at raising children’s awareness about sexual abuse and grooming [5]. The team is linked to the PROTECA Project at the Federal University of Paraná [27]. The Project consists of an interdisciplinary group from the fields of Exact Sciences, Psychology, and Literature, comprising faculty members and students from the University, as well as external professionals. The group works collaboratively on the development of the narrative, design, art, and implementation of the game. The invitation was sent to the coordinators of the game group. They, in turn, forwarded the invitation to other WhatsApp groups associated with the PROTECA project. The invitation highlighted the voluntary and optional nature of participation. Furthermore, it outlined the benefits of participating in the research, including contributing to the creation of a game and learning about the topics being addressed. We explained that the study did not collect any personal data, that the results are anonymous, and that participants’ identities would be protected both in the data and in the reporting of the results.

Finally, for the analysis of the qualitative data generated, the thematic analysis method was used to collect and categorize the proposals made by participants during the Brainwriting activity. The thematic analysis was performed inductively [16], in which themes or groupings emerge directly from the data, without the use of a previously defined categorization scheme. The activities of the inductive thematic analysis involved: i) reading the data in its entirety to become familiar with the content; ii) identifying relevant codes; iii) grouping relevant codes into broader themes; and iv) describing the themes. At each stage, the researchers reviewed the codes, groupings, and relationships being interpreted to verify whether they were adequate with respect to the data.

#### 3.1 Research Context: A Game Against Child Sexual Abuse and Grooming

The main objective of the game is to raise player awareness about groomers, their strategies, and means of prevention in relation to sexual abuse and grooming. The multidisciplinary approach encompasses the construction of a story involving protagonists represented by children of the target audience’s age (7 to 11 years old), close to everyday situations. The game develops a narrative that represent aspects of the real and virtual world in a playful way, presenting the characteristics of grooming. The game includes phases, activities, and customization of protagonist characteristics to create identification with the player. The game is characterized as a point-and-click genre, to encourage reflection through dialogues, puzzles, and open exploration of the game. Figure 1 illustrates the game’s artwork. The upper part shows the game’s characters. The lower part shows scenarios and moments of the game being developed, involving vibrant colors and a pixel art style, reminiscent of popular children’s games.



Figure 1: Game artwork for characters and objects.

The game is under development, as the narrative, art, game design, and implementation are currently being built, and not all game functionalities have been defined [5]. Therefore, the game is a relevant context for investigating social features, given the space it provides for social involvement and interaction in addressing the theme of sexual grooming.

## 4 Results

This section presents the results of the workshop held on November 8, 2025, which lasted 1 hour and 40 minutes. Nineteen participants attended the synchronous meeting, held via Google Meet. After a welcome and an introduction to the game’s context, the collaborative completion of the SAwD artifacts began with the Diagram of Interested Parties, followed by the Evaluation Frame, and finally the Brainwriting technique. For Brainwriting, the volunteers were divided into three groups. Then, in successive rounds, the members wrote ideas to foster social interaction in the game on slides in a shared Google Slides presentation. After the writing rounds were completed, a debriefing session took place, in which each participant presented their main ideas. Finally, acknowledgments were made, and the session was closed. All materials produced and completed artifacts are available online<sup>1</sup> in their entirety. Figure 2 shows moments from the workshop.

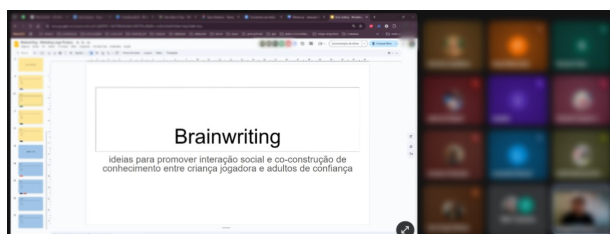


Figure 2: Online SAwD Workshop with game designers.

### 4.1 Results from the Context Understanding

In total, 44 stakeholders were identified in the Diagram of Interested Parties. Among the identified stakeholders, key figures include the

child and adolescent themselves, parents, guardians, family members, health and education professionals, religious leaders, neighbors, and the aggressor, among others. The mapping also included institutional actors, such as Federal Universities, and entities in the child and adolescent protection network, including DEDICA (Defense of the Rights of Children and Adolescents), NUCRIA (Center for the Protection of Children and Adolescents Victims of Crimes), and the Guardianship Council. The list of stakeholders also included game development companies, schools, the press, and representatives of the child and adolescent rights guarantee system, such as judges, public prosecutors, and police officers. The list also included governmental entities as strategic partners for implementing the solution, including the Federal Government, the United Nations (UN), and the United Nations Children’s Fund (UNICEF), which are broad and important institutional bodies that define norms and rules regarding the protection of the rights of children and adolescents.

The Evaluation Frame helped identify different problems for four different stakeholders: “child,” “friends/peers,” “parents and guardians,” and “teachers and educators.” In total, 47 problems were identified, of which 16 were linked to the “child” stakeholder. For “friends/peers,” eight problems were identified; for “parents and guardians,” 15 problems; and for “teachers and educators,” eight problems.

Regarding the child, problems related to socioeconomic vulnerabilities and children with disabilities, who are more exposed to the risk of violence, were identified. Difficulties in communicating abuse and sexual grooming were also identified, such as being disbelieved, feeling ashamed, and even being afraid to reveal the abuse and grooming. In addition, various other forms of physical, verbal, and psychological violence were present in this process.

Regarding friends/peers, possible behavioral changes toward the victims were identified, such as fear, bullying, and even withdrawal. Teasing from friends, who may touch the child’s private parts and normalize the violence suffered, was also noted. Regarding parents and guardians, participants mentioned problems such as a lack of information on the subject, leading to phenomena like silencing and blaming the victim, as well as difficulty in recognizing the signs of abuse and grooming. There is also difficulty in building a relationship of trust with the child, so that it is possible to maintain good communication and monitor their online behavior. Problems arising from the discovery of abuse and grooming, such as hatred toward the abuser, shame, and fear, were identified as possible biopsychosocial factors involved.

Regarding teachers and educators, the participants identified problems such as a lack of training, which can lead to omission on the subject. Also, educators can feel guilt for not being able to recognize the symptoms and signs of sexual abuse and grooming in children. Institutionally, teachers may feel helpless for not receiving support from the school to report sexual abuse and grooming. Finally, building on the understanding that emerged from the Diagram of Interested Parties and the Evaluation Frame, the Brainwriting resulted in 53 ideas for promoting social interaction and the co-construction of knowledge between children and adults in the context of play.

<sup>1</sup>Available at: <https://osf.io/duqvn/overview>

## 4.2 Results from the Thematic Analysis

The ideas from Brainwriting were grouped into four distinct categories, presented in Figure 3. In the first category, “*Participation and cooperation of adults*,” 26 ideas were identified: the presence of collaborative phases, increased scores when the child plays in partnership with an adult, and the presence of puzzles beyond the comprehension of the target audience (children), encouraging the search for cooperative participation from an adult.

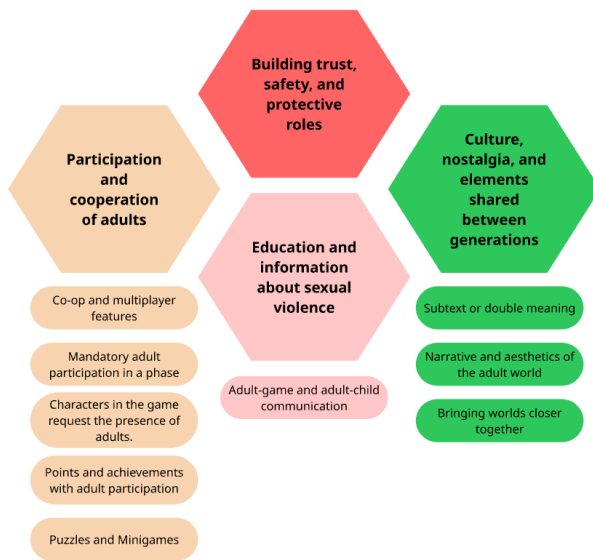


Figure 3: Categories and subcategories from analysis.

The second category, “*Culture, nostalgia, and elements shared between generations*,” encompassed 10 ideas, including the presence of cultural elements (narratives, music, films, games) from the adult’s childhood (parents, caregivers), promoting the curiosity of both the child and the adult and strengthening intergenerational bonds. The third category, “*Education and information about sexual violence*,” encompassed four ideas aimed at presenting educational information about sexual violence. This category involved ideas such as offering accessible language for people with limited digital understanding or specific needs, and linking the game to the adult’s WhatsApp to receive notifications about the child’s learning progress in the game.

The fourth category, “*Building trust, safety, and protective roles*,” encompassed six ideas. Among them, the following stand out: the creation of a trusted character by the child; the use of words and concepts by trustworthy Non-Playable Characters (NPCs) to encourage seeking help; and the gradual introduction of trustworthy NPCs during the game, establishing trust throughout the phases.

Three ideas could not be classified as suitable because they fell outside the scope of promoting social interaction, such as proposing the game as an educational tool for abusers, aiming to prevent the recurrence of abuse, and including playable elements that symbolize false rewards. Since this analysis was performed on the results of Brainwriting, it is common for not all ideas to be useful, as the purpose of the technique is idea generation.

## 4.3 Evaluation of the Ideas for Social Interaction in Games

To evaluate the identified ideas and requirements, Hanne de Jaegher’s [13] theory of intersubjectivity was used. In traditional cognitivist theories, social interaction presupposes the prediction and explanation of other people’s mental states. In Hanne de Jaegher’s theory, however, social interaction is understood from a human, subjective, and affective perspective, in which, rather than through mental simulation, interaction occurs through the affective relationship between embodied human beings.

Hanne de Jaegher’s theory holds that interaction is social only if the autonomy of the individuals involved is not dissolved in the process [13, 28]. If this autonomy is absent, the emergence of relevant phenomena of social cognition, such as participatory sense-making, is negatively affected. In the context of this research, this theory is relevant as an effort to respect the autonomy of children, who are individuals whose needs are often neglected in comparison to those of adults [29]. In the gaming context, by respecting the child’s autonomy as an individual in social interaction, playtime can culminate in the participatory creation of meaning about sexual grooming that brings children and adults closer together. For this analysis, we derived three dimensions from Hanne de Jaegher’s theory: i) autonomy of individuals, ii) subjectivity based on significance and value, and iii) participatory sense-making. These dimensions are presented in Table 1.

A form was created with guidelines derived from the intersubjectivity framework [13]. Based on the descriptions of the three dimensions in the framework [13], the authors identified relevant aspects of autonomy, subjectivity, and participatory sense-making. Each aspect was transformed into a guideline, in the form of a question asking whether that guideline is being considered in the ways the game is designed. In total, nine guidelines were developed, three for each dimension. Using the form, every game idea was evaluated for non-conformity with the guideline. Evaluators could also leave comments regarding the non-conformity of the idea.

Two psychology students were invited to participate as individual evaluators of the ideas, given the importance of this field in the care of children who are victims of abuse and sexual exploitation. Similarly, Psychology plays a role in learning and practicing concepts of human interaction and dialogue in sensitive scenarios such as depression, trauma, and various forms of violence.

The psychology students conducted an individual evaluation using Google Sheets. For each guideline, the evaluators checked whether the ideas were not in conformance. The guidelines were suggested to be used as heuristics, in the fashion of Heuristic Evaluation [30]. In this mode of evaluation, individuals iteratively explore the interface (in our case, game ideas) and analyze whether the guidelines are being followed. Both individual evaluations were consolidated by the authors, who checked similarities and differences between the evaluators and resolved any conflicts.

The evaluators identified 30 ideas that did not conform to the nine guidelines for intersubjectivity. More specifically, in the Autonomy category, 19 ideas were found to be non-conforming; in the Subjectivity category, three ideas were found to be non-conforming; and in the Participatory Sensemaking category, eight ideas were found to be non-conforming.

**Table 1: Intersubjectivity Dimensions from De Jaegher (2018) and guidelines created in this research for promoting intersubjectivity in games**

Dimension	Description	Guidelines
1. Autonomy	An organism is autonomous when it can self-organize under precarious circumstances. Social interaction does not destroy the autonomy of the individuals involved.	1.1 Does the idea preserve the player's autonomy during play? 1.2 Does the idea allow the player to participate in decisions and discussion? 1.3 Does the idea avoid excluding the player from the action or the experience itself?
2. Subjectivity	Sensemakers engage with their environment in terms of meanings and valences. That which is beneficial is seen as meaningful, and the opposite occurs with that which is detrimental to their self-maintenance. Through these meanings, sensemakers can adapt to the precarious circumstances they encounter in the world. Thus, things matter to sensemakers insofar as they affect them. The meanings, valences, and affects that emerge from this living constitute what is understood as subjectivity.	2.1 Does the idea take into account what matters and is meaningful to the player? 2.2 Does the idea allow the player to express their values, worldview, expectations, and desires? 2.3 Does the idea allow the player to perceive the qualities, strengths, and values expressed in the game?
3. Participatory Sensemaking	Individual sense-making processes are affected by interaction. New domains of social sense-making can be generated, which in turn were not available to each individual on their own.	3.1 Does the idea support the co-construction of knowledge through play with others? 3.2 Does the interaction allow the player to construct knowledge that would not emerge alone? 3.3 Does the idea enable participatory involvement in the game through joint action and joint perception?

Regarding ideas not in conformance with **Autonomy**, the evaluators found ideas centered on the adult figure and, in a way, excluding children from decisions or actions in the gameplay. For example, idea eight demands the creation of a game level in which adult participation is mandatory; idea 15, in turn, demands the deliberate creation of complicated elements in the gameplay, in such a way that children cannot progress and thus would be forced to ask for help; in the same way, idea 34 suggests creating puzzles too complex for children in order to encourage them to ask for help from an adult. In this sense, it is not as if children could choose whether to involve adults: they will need to involve adults if they want to make progress in the game. As a result, children can be excluded from the play process. These ideas illustrate how a collaborative game could undermine a player's autonomy. Instead, exploring more participatory sense-making features is a way to involve adults while still keeping the child as part of the game. In this way, adult participation is not an obligation but a meaningful involvement.

The ideas that were not in conformance with **Subjectivity** generally involved including the adult's expression in the game, but not the child's. Idea 10, for example, suggests creating a puzzle to ask questions about the cultural elements of the parents/guardians. While this idea is relevant, it lacks reciprocity: it does not allow adults to learn more about the elements of value in the children's world. In a way, the idea conveys that only children must undergo this movement of entering, understanding, and appreciating the adult world. Adults, in turn, are free from this task. The idea should be refined to include this reciprocal movement from the adult: they could also participate in the task of appreciating what is meaningful and valuable in the child's world and expression.

Finally, the ideas not in conformance with **Participatory Sense-making** involved not meaningfully involving adults in play and not including children in the joint process of creating knowledge. Idea 28, for example, suggests: "*The information can then be shared on the adult's WhatsApp, in a format geared towards adults (and not in the playful format intended for children)*." Idea 49, in turn, suggests two aspects: "*Link the game to the adult's WhatsApp account, so*

*they will receive notifications about the child's learning progress. On WhatsApp, the adult can send messages to a bot and trigger helpful actions within the game.*" In the first part, idea 49 suggests linking the game with WhatsApp so that the adult receives notifications. The second part suggests that the adult could interact with the game via message commands using a WhatsApp bot. Both ideas 28 and 49 enable the adult not to participate deeply in the play. Through notifications and prepared information, the adult could follow the child at a distance without fully engaging, because all the information the adult needed would be on their personal mobile screen. Part of the idea behind 49 is to enable the adult to affect the play through message commands. However, this can enable a superficial form of play rather than one that meaningfully brings players together to co-create meaning around the game's complex themes.

Another set of ideas can exemplify how they may not promote participatory sense-making. Idea 25 suggests creating elements in the game in such a way that only the adult could understand them, using subtexts; and idea 32 suggests creating elements of "double meaning," in which the adult could understand something that the children could not. The idea of subtext or double meaning implies some knowledge that children cannot or should not have access to. Once the adult recognizes the double meaning, they must transmit this knowledge to the children. While we admit that adults have access to knowledge that children do not, the reverse is also true. In this way, adult involvement will not be achieved in the game communicating "secret messages" which only adults have access, but by providing an opportunity for co-creation. The child being passive, only receiving information, is an approach already criticized by Paulo Freire as the banking model of education, in which education is based on transmission, "depositing" information in the child's brain [31].

## 5 Discussion

RC1. *What features in the game enable intersubjective play between the child and their trusted adults?* The game designers suggested features such as a quiz that must be played with adult help, multiplayer

options that allow cooperative play, and collaborative minigames that challenge two people to solve problems. Game puzzles involving the adult cultural world were identified, leading the adult to feel a desire to participate in the game, as adult references are present for them to engage with. Although not a feature, ideas about incorporating aesthetics, music, and themes from the adult world into the game were also mentioned to allow a fusion of worlds and horizons between the adult and child. Features were identified in which the child invites or asks an adult for help to identify situations of abuse and sexual grooming, as well as sharing information about the topic on the adult's WhatsApp. Finally, the designers suggested that creating trustworthy characters in the game was a way to involve adults.

These ideas manifest cooperative activities and characteristics. Classic co-op games, such as “Fireboy and Watergirl” and “It Takes Two,” present examples of puzzles, minigames, and other mechanics that can inspire playful involvement from adults and children in the gameplay. The merging of two worlds to encourage adults to play with children is an interesting way to foster social play. As discussed in the evaluation, this must be reciprocal, with the child's expression also being leveraged in the game. In this way, the players can together customize the game using elements from their shared contexts, such as real names and locations, cultural signs, and inside jokes. In the same way, it seems to be a promising feature to represent the trusted adult in the game as a character. However, this must be enabled not only for the adult, but also for the child. Finally, the idea of forcing children to ask an adult for help should be revised to mitigate the risk of creating inadequate experiences, such as a sense of insufficiency in the child and a burden on the adult.

*RC2. How was intersubjectivity characterized in the game design context?* Social interaction emerged by involving the adult in the child's world, that is, by bringing the adult into the game through challenges, minigames, and the sharing of information about the game. Intersubjectivity also emerged as the child's involvement in the adult world through nostalgic elements or aspects of the adult's culture, such as their music, television programs, and technologies. As we discussed, this must also occur with children, creating a way for adults to perceive and appreciate the expression of the children's world in the game. In this sense, intersubjectivity was characterized by the creation of an encounter between worlds and horizons between child and adult, whether in joint moments of play, in the sharing of information about the game, or through content and aesthetic elements that bring the subjectivities of both parties closer together. The meeting of different worlds, through the dimension of participatory sense-making, is a way to co-create new meanings and experiences that would not be available if children or adults were to play the game alone. By combining world and co-op features, the game can promote playing together as a concrete encounter between two valuable subjectivities, strengthening bonds and building trust as important aspects in combating violence.

### 5.1 Limitations and implications for design

This work has some limitations. First, we conducted only a single SAwD workshop with a limited number of participants (19 members of the game design project). Additional workshops could

have generated different ideas and led to more consolidated findings. However, the aim of this study was not to exhaust the design space, but rather to understand the designers' emerging interpretations and suggestions based on their prior involvement in a project already focused on designing a game about sexual abuse and grooming. Since these designers were already making decisions about the game, the workshop built on their ongoing experience while inviting them to reflect specifically on intersubjective mechanics.

A second limitation is that the idea-generation process did not employ a structured supporting technique. The literature describes several methods that may foster empathy during design, such as empathy maps [32]. In this study, however, the absence of such instruments was a deliberate research decision. Our intention was to understand the natural and emerging patterns in the participants' ideas, grounded in their existing theoretical and practical knowledge of the topic. As a situated and qualitative design experience, this study was primarily concerned with describing and understanding the phenomena that emerged in context. For this reason, the ideas produced are necessarily situated: they are tied to the specific participants involved and to the ways in which they enacted empathy, knowledge, and experience in relation to the problem of sexual abuse. At the same time, the group was diverse, comprising undergraduate and graduate students as well as professors from different fields, including Computer Science, Biomedical Informatics, and Psychology. Moreover, as part of their involvement in the broader project, these participants regularly engaged in study sessions and meetings about sexual abuse, which suggests that the ideas generated were grounded in both theoretical reflection and practical engagement.

This work also aligns with recent investigations in which enactivism and phenomenology have been used as theoretical foundations for game studies [33, 34]. In our exploration of intersubjectivity from an enactive perspective, the guidelines proposed for promoting intersubjectivity should be understood as initial and exploratory. They emerged from the authors' reading and discussion of enactive theories of intersubjectivity, as well as from an exploratory effort to translate these ideas into the domain of digital game design. Therefore, these guidelines should not be treated as definitive. Further research is needed to refine and consolidate them, including collaboration with specialists in intersubjectivity and their application in other design contexts. Even so, despite their exploratory character, the guidelines already helped identify important directions for the design of intersubjectivity-based features, particularly those related to autonomy and participatory sense-making.

## 6 Conclusion

In this paper, we explored the design of intersubjective features for a game aimed at raising children's awareness of sexual abuse and grooming. Through an SAwD workshop, we investigated the problem context and generated ideas for sharing the game experience between the child, as the game's target audience, and a trusted adult. A central concern was to avoid placing the burden of learning about sexual abuse, grooming, and self-protection solely on the child. The ideas generated were organized into four groups, reflecting: (i) forms and phases of participation and cooperation

with an adult; (ii) the use of culture, nostalgia, and other personal elements shared across generations; (iii) aspects related to teaching, prevention, and information about sexual violence; and (iv) the construction of trust, safety, and protective roles.

These ideas point to forms of play in which social interaction takes place through shared moments in the game, either directly, through joint challenges and collaborative participation, or indirectly, for example by sending information from the game to the adult's mobile phone. The workshop suggested the possibility of an encounter between different worlds, bringing together fun, aesthetics, history, affection, and intergenerational culture within play, so that child and adult may jointly construct understanding about sexual abuse and grooming.

This work contributes to an important discussion on intersubjective features in games designed around sensitive and difficult themes. From an enactive perspective, intersubjectivity appears promising as a way to involve both children and adults, supporting not only participation, but also a shared space in which both can preserve their autonomy while contributing to the emergence of meaning together.

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