



## In.Tra Project: Intergenerational Transfer Transformative processes in the individual group from the use of play and psychoeducation

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**Abstract:** Introduction: The present paper highlights the interaction between play and neurobiological, cognitive and emotional dynamics.

Method: 10 subjects from the general population took part to a project which aimed to assess concomitant changes in individual and group functioning through the use of competitive and cooperative games. Self-report survey instruments and semi-structured interviews were administered to assess personality traits, psychopathological symptoms, traumatic conditions, value systems, psychosomatic dysregulation, fluid intelligence and emotional regulation. All the participants, at the end of each game session participated to guided psychoeducation conducted by the instructors in order to reframe and mentalize the emerged thematics stimulated by the previous sessions.

Conclusions: Mentalizing dynamics fostered individual growth paths based on lived experience with respect to the group and the game. Intergenerational Transfer emphasizes the importance of bi-directional integration and regulation, the embedding of the individual's existential experience through group dynamics which can foster the discharge of symptoms attributable to pathological gambling.

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## Introduction

**T**he concept of play, intrinsically and from a generalized perspective, invokes a pleasurable, motivating, and aggregating meaning among individuals and is characterized by a strong didactic and developmental nature (Piaget, 1936;1945). Piaget's constructivist perspective, highlighting play's connection with cognition, sees it as a tool for the interaction with the external environment and, consequently, as a stimulator of the individual's neurobiological and cognitive development. In addition, play enables children to develop essential skills such as imagination and individual structuring of emotions.

In this regard, imaginative mental activity is a foundational prerequisite of the human capacity for mentalization (Fonagy & Allison, 2013). First of all, it is essential to say that mentalization (composed, for example, of desires, beliefs, thoughts, and feelings) contains a vast number of cognitive operations essential to the self-other relationship, concerning mental states such as attention, recognition, reflection, description, and imagination (Allen & Fonagy, 2006). Therefore, the individual's ability to mentalize is a necessary prerequisite so that through others' recognition, thereby understanding his or her intentional mental states such as needs, desires, feelings, and beliefs, an effective and optimal relationship with the external world can be built (Bateman & Fonagy, 2012). Moreover, such capacity structurally grounds two primary conditions of human beings: self-organization (who I am, how do I represent myself) and emotional regulation (how do I manage and modulate my emotions?).

Such theoretical assumptions highlight how fundamental play is to child development so much that mother-child interaction in the context of play seems to be essential for creating skills such as mentalization, affective regulation, and symbolization (Halfon et al., 2017).

Moreover, it is essential to report the dimensional construct of alexithymia (Taylor & Bagby, 2000), which seems to go hand in hand with the individual's ability to mentalize (when there is a difficulty in recognizing and understanding others' mental states). Alexithymia, a construct with both cognitive and affective characteristics, represents a deficit in the interpersonal regulation of emotion and the cognitive-experiential component of the subject. These issues translate into difficulty in identifying one's feelings and consequent difficulty in verbalizing and accurately describing such experienced feelings; deficient imaginative abilities; and, finally, a cognitive style markedly biased against the external world. Therefore, as a consequence, one observes a great difficulty in resonating with the external world and a lack of emotional sharing, basic assumptions of lacked self-organization (self-esteem, self-efficacy).

As previously mentioned, imagination is necessary to construct complex internal images that give dynamism to an emotional and rich inner life. Therefore, when this is lacking, the ability to express emotions will be more impaired, and the thinking style will be more concrete and practical.

From these theoretical assumptions, the present project sets out to understand how much, through psychoeducation as a tool for reframing personal and group themes that emerged through play, effective individual and group changes could be observed in terms of mentalization and enrichment of imaginative capacities and self-regulatory skills.



## Method

### *Participants*

This pilot study involved subjects in an age range between 19 and 25 years and subjects older than 60 years. Therefore, to facilitate the identification of the group members, we define the first age range as “under” and the second age range as “over”. Since this is a pilot study, which means it aims to verify the adequacy and feasibility of the intervention, it was considered appropriate to recruit an entirely normative sample through a *snowballing* method through the recruitment channels proposed by the LUMSA University of Rome. Participants were 10 subjects, respectively five participants of the category under and five of the category over who were subsequently divided into Group A and Group B. The process of subdivision took place through the pairing of subjects on the basis of gender and category of membership (*under/over*), defined in the preliminary phase.

### *Procedures*

The present research project’s rationale and operational plan are aligned with government provisions because it took place during the period of full health emergency from Covid-19. All the meetings with the participants happened remotely via the virtual platform Google Meet. In December, the first meeting took place with all the participants, where the research project, the times, and methods were presented. Furthermore, we explained the information on processing personal data, and the informed consent form was also completed.

The research paradigm comprises three main phases, for a total duration of six months and 46 total meetings, respectively 23 for Group A and 23 for Group B, each weekly, lasting two hours. The experimental procedure is characterized by the use of different games, psychological evaluations, and hours of psychoeducation, divided through a bottom-up criterion from the first to the last month, depending on the gradient of collaboration, individual growth of the members of the two groups and the topics covered during interviews. The assessments involved the administration of self-reports and semi-structured interviews, which investigated the patient’s personality functioning, emotional regulation, physical symptoms, and fluid intelligence. There were three different times of assessment: *ex-ante*, *in itinere*, and *ex-post*. During the first hour of each meeting, the participants only dedicated it to videogames through their devices. The second hour was dedicated to psychoeducation, aimed at reworking the cognitive-emotional stimuli that arose in the previous hour of play. In addition to this, a third hour was dedicated to the analysis of game data and the drafting of the emotional-communicative path that emerged during psychoeducation.

### *Phase I: Bimonthly January - February*

The first two months were characterized by using individual games capable of simultaneously stimulating the two cerebral hemispheres, as they activated the right cerebral hemisphere in emotional and visuospatial tasks and the left hemisphere in organizing, planning, and carrying out calculations. Before the start of the two months, a first psychological assessment (T1) was carried out through the administration of the following reagents and clinical interviews:



- Symptom Check List-90 (SCL-90; Derogatis et al., 1976);
- Psychosomatic Dysregulation Inventory (PDI; Caretti et al., 2019);
- Relationship Questionnaire (RQ; Bartholomew, Horowitz, 1991);
- Childhood Trauma Questionnaire - Short Form (CTQ-SF; Bernstein & Fink, 2003);
- Toronto Alexithymia Scale-20 (TAS-20; Bagby et al., 1994);
- Toronto Structured Interview for Alexithymia (TSIA; Bagby et al., 2006);
- Personality Assessment Inventory (PAI; Morey, 1991, 2007, 2016);

### ***Phase II: Bimonthly March - April***

During the second two months, participants were offered the use of competitive games. The competition was solicited by creating challenging contexts during the game hour and, subsequently, reworking and motivating during the psychoeducation hour. At the end of Phase II, the second psychological assessment (T2) was administered, consisting of:

Portrait Values Questionnaire (PVQ; Schwartz, 1992, 2001);  
Symptom Check List-90 (SCL-90; Derogatis et al., 1976).

### ***Phase III: Bimonthly May - June***

In the final phase, the subjects were proposed to use collaborative games that consisted in finding the solution to riddles of increasing difficulty. The final psychological evaluation of Phase III (T3) proposed the administration of the interviews and self-report questionnaires proposed during the Phase I (T1).

### ***Measurements***

*Symptom Checklist-90-R (SCL-90 R) (Derogatis, 1994; Prunas et al., 2011):* it is a 90-item self-report questionnaire that evaluates psychological problems and psychopathological symptoms, measuring internalizing and externalizing symptoms in the last week. It considers 9 primary symptom dimensions: Somatization (SOM), Obsessivity-Compulsivity (O-C), Interpersonal Hypersensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), Psychoticism (PSY). There are also 7 additional items (OTHER) that evaluate appetite and sleep disorders, and 3 global indices complete the evaluation: Global Severity Index (GSI), which is a global indicator of the current intensity of mental distress perceived by the subject; Positive Total Symptom (PST): reflects the number of negative symptoms from the subject; Positive Symptom Distress Index (PSDI): response style index.

*Psychosomatic Dysregulation Inventory (PDI) (Caretti et al., 2019):* it is a self-report questionnaire composed of 100 items, based on a 4-point Likert scale (1 = "Never"; 2 = "Sometimes"; 3 = "Often"; 4 = "Very often or always"). The PDI detects the risks of psychosomatic dysregulation, specifically the symptoms and alterations in body experiences that show dysregulation in acquisition and processing. The PDI is based on current research related to attachment trauma and consequent effects on the brain, integrating current conceptualizations of psychosomatic disorders in the light of the theories of Porges, Damasio, and Panksepp. The instrument has a good internal consistency between 0.71 and 0.93.



*The Relationship Questionnaire (RQ)* (Bartolomew & Horowitz, 1991; Carli, 1995): it is a questionnaire that evaluates the general orientation of the individual towards intimate relationships. Bartholomew's innovation has introduced a quadripartite classification of adult attachment: Safe, Worried, Avoidant of the Distanting / Deprecating type, and Avoidant of the Fearful type. The tool consists of two parts. In the first section, the subjects are asked to read four short paragraphs, each of which describes one of the prototypes of attachment styles (Secure, Detached / Deprecating, Worried, Fearful), and select the paragraph that best describes their way of life, present and past experiences and sentimental relationships. In the second section, subjects are asked to indicate, on a seven-step Likert scale (from 1 = "Not at all like me" to 7 = "Completely like me"), the degree to which each of the four prototypes attachment corresponds to their general style in intimate relationships. The RQ allows us to evaluate the style of attachment in which the subjects identify themselves most and the degree to which they think they resemble each of the four styles proposed.

*The Standard Progressive Matrices (SPM)* (Raven, 1998; Raven, 2009). It is a test that aims to evaluate non-verbal intelligence in children and adults aged 11 to 65 through abstract reasoning tasks. It consists of 60 questions (five groups of twelve), each involving completing a model or figure with a missing part: the interviewee is asked to choose the correct alternative from 6 proposals. It does not imply a set duration but generally reports an estimated completion time of 15 to 45 minutes. The results translate into a raw score, which is then converted into a percentile ranking.

*Toronto Structured Interview for Alexithymia (TSIA)* (Bagby et al., 2006): It is now considered the most reliable criterion for measuring the alexithymia construct. The tool systematically and comprehensively evaluates the construct's four salient dimensions: Difficulty in identifying feelings, Difficulty in describing feelings to others, Outward-oriented thinking, Fantasy, and other imaginative processes. It consists of 24 items, (questions) six items for each of the four dimensions. The items are ordered in such a sequence that a question for each dimension follows. Each item contains in-depth questions followed by a request to provide examples consistent with the previous answers, which is useful for obtaining more accurate information. In order to decrease acquiescence to the answers, some questions express the absence of the symptom in question rather than the presence. The method of formulating the questions aims to elicit types of answers suitable for being evaluated on a scale arranged along a linear continuum with three points (from 0 to 2), except for questions that express a negation to which the value is attributed (reverse value). For some items, the score is based on the frequency of the characteristic under consideration. In contrast, for others, the score derives from the degree of invasiveness.

*Childhood Trauma Questionnaire - Short Form (CTQ-SF)* (Bernstein & Fink, 2003): it is a questionnaire that aims to identify traumatic conditions of childhood. It consists of 28 items and includes five subscales: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. The tool also includes a minimization/denial scale to detect the tendency to underestimate traumatic events, made up of 3 items. All the childhood trauma questionnaire questions are preceded by "During my childhood and my adolescence (from birth to 15 years)...". The interviewee evaluates what is reported in the individual items and chooses the answer that best describes his experiences on a five-



point Likert scale (1 = never; 2 = almost never; 3 = sometimes; 4 = often; 5 = very often). The total score (from 5 to 25) of each subscale is given by the sum of the individual items that compose it. The tool also provides the range for establishing four levels of abuse/neglect for each subscale: None; Moderate; Acute; Extreme.

*Portrait Values Questionnaire (PVQ) (Schwartz, 1992, 2001):* it is a self-report questionnaire that aims to investigate the way of thinking by evaluating 10 universal human values: Benevolence, Universality, Security, Achievement, Hedonism, Stimulation, Power, Self-direction, Tradition, and Conformity. It consists of 40 items or statements on a 6-point Likert scale (from “Not at all like me” to “Very similar to me”) in which the interviewee is asked to define how much they consider similar to him/her the question is asked. The tool stems from what emerged in the literature, according to which people from different countries and, even with different life paths, have distinctly distant profiles when considering which of the values they consider most important.

*Personality Assessment Inventory (PAI) (Morey, 1991, 2007, 2016):* it is an effective atheoretical personality questionnaire, designed for adulthood (from 18 years onwards) and can be easily administered and understood, due to its shortness (45 for administration) and diagnostic exhaustiveness, even by subjects with a low level of schooling; it does not require the use of complex correction grids for scoring but offers an automated scoring system. The tool aims to evaluate personality and psychopathology and investigates five areas: Validity of responses, Clinical symptoms; Interpersonal styles; Complications for treatment; Additional indices to evaluate aspects of the reliability and validity of the test. The PAI considers both the validity of the content, which guarantees the representability of the constructs examined and the severity of the content (e.g., the Suicidal ideation scale includes different levels: from vague ideas of suicide to separate plans for self-harm). It consists of 344 items on a 4-step Likert response scale that include 11 Clinical Scales, 5 Treatment Scales, and 2 Interpersonal Scales, which cannot be superimposed on each other. The Clinical Scales include three broad categories of disorders: the neurotic area, the psychotic area, and those associated with behavioral disorders and addictions. Two scales are specific for antisocial characteristics and for borderline characteristics. The Treatment Scales allow to formulate hypotheses on compliance and the complications of the same, detect the potential risk for oneself and others, the impact of any recent stressors on the areas of life, the level and quality of social support, and a motivation index to undertake any treatment. The Interpersonal Scales provide essential information regarding the person’s relationships and interactions, which are evaluated along two poles: warm and sociable - cold and reluctant. The tool also includes 4 Validity Scales: Inconsistency (INC / 10 pairs of items: indicates the degree of consistency with which the subject replied to the entire inventory), Infrequency (INF / 8: indicates whether the subject replied absently, randomly, or idiosyncratically), Negative Impression (NIM / 9: suggests excessive unfavorable impression or simulated disturbance), Positive Impression (PIM / 9: suggests presenting a very favorable impression or a reluctance to admit small defects). The questionnaire presents 27 critical items which evaluate pathological behaviors that may require immediate attention (e.g., suicidal risk).

In addition, the following indices are measured: Defensive index (9 scales), Caschel discriminating



*function, Disease simulation index (8 scales), Rogers discriminating function, Suicide potential index, Violence potential index, and Treatment process index.*

### **Psicoeducation**

*The methodology of psychoeducation is effective in making a person aware of the disorder he brings. Introduced in the field of mental health sciences in the 1980s, it aims at awareness and the acquisition of means to cope with the problems arising from a disorder.*

*The psychoeducational interventions, applied to groups A and B, followed the phases of the game and took place over three stages, in line with the game modes: the phase of the individual game, the phase of the competitive game, the phase of the game cooperative. The psychoeducational intervention, conceived with a view to sharing and confrontation, envisaged a series of didactic units aimed at raising awareness of the person on the issues addressed from time to time during the game sessions. Past studies have confirmed the strong correlation between neurocognition and social functioning, from the neurocognitive phase to the emotional phase to the phase of recognizing others (Galderisi et al., 2014). Psychoeducation interventions immediately following the game phase focused on the stimulus - word association.*

*The interventions, divided into three times (T1; T2; T3), followed the phases of the project.*

*T1: Individual game time. Psychoeducation interventions focused on individual stimuli shared with the rest of the group.*

*T2: Time of competitive play. The psychoeducational interventions focused on the individual stimuli from the comparison with the other group members.*

*T3: Time for cooperative play. The interventions focused on the individual stimuli arising from comparison and collaboration.*

*The goal of opening a mentalizing window (Fonagy, 2013), through the passages from “what happens to me / what the other causes me / what I can give to others”, can be considered necessary for a good ability to “keep others’ mind in order to reduce and improve the relationship with the outside world (Fonagy, 2012).*

### **Conclusions**

*This pilot study is the result of the Intergenerational Transfer Project, aimed to enhance young and adult individuals’ emotional and cognitive resources through two main tools: play and relational dialogue.*

*The current historical period, mainly invaded by the Covid-19 pandemic, has highlighted the need to use these tools to foster our participants’ psychological and physical health processes.*

*Play and relational dialogue as core factors of change to which were added secondary factors such as continuity of meetings, respect for the virtual setting, structuring of meetings, and management by the conductors, enabled the promotion of change and the realization of the study. However, due to these factors, which were certainly associated with other individual-type variables such as personality traits, three drop-outs were found, so the six-month course ended with seven participants. The change observed was identified directly, gradually, and then retrospectively by analyzing the scores on the questionnaires administered.*



*The individual, competitive and collaborative game allowed to strengthen cognitive resources and favored mentalization concerning oneself and others, indirectly improving the relational dynamics within the group.*

*The first phase was characterized by the need for a group constitution where each participant offered their skills to achieve the set goals while playing.*

*In this phase, the over-participants showed more feelings of anger, annoyance, nervousness, and irritation in using technology, although expressing them less defensively than the under-participants. On the other hand, the under-participants showed a significant sense of inadequacy and relational insecurity.*

*The second phase, dictated by the competition game, determined the emergence of subjectivities in the group. Each person's uniqueness brought into play their beliefs, resources, and skills, enhancing the dynamics of a match, mismatch, and relational reparation.*

*Finally, following the expression and recognition of similarities and differences, during the third phase, the effectiveness and efficiency of the group itself emerged. Participants gained a greater sense of self-fulfillment and satisfaction through and with others. Both over- and under-participants showed assertiveness in communication and cooperation, stimulating dynamic co-construction behaviors of resolutions and achieving set goals.*

*Alongside play, relational dialogue, stimulated by the conductors, characterized all three phases of the study using the cognitively oriented psychoeducation technique. The latter inverted the intergenerational information/training flow, favoring an inter-subjective exchange based on the shared creation of mentalizing dynamics. Thus, the transmission of knowledge took place bi-directionally: the older participants taught the young participants, and the young participants taught the older participants.*

*The mentalizing dynamics fostered individual growth paths based on lived experience concerning the group and the game. Inevitably, due to the human bias of generalization, this lived experience was extended to the complexity of each individual's entire existential experience, which was thoroughly addressed in individual psychotherapy sessions organized by the Intergenerational Transfer project. In conclusion, this Intergenerational Transfer Project promoted dissemination meetings to allow replication of the study and implement interesting modifications such as the inclusion of a clinical group characterized by individuals diagnosed with gambling disorders.*





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