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Comparative Effectiveness of Different Child Play Therapy Techniques in Improving Social Skills of Children with ASC

Part 1: Introduction

It is a well-established fact that children with Autism Spectrum Condition (ASC) encounter difficulties in social interactions, particularly in forging peer relationships, regardless of the differences in their experience and attributes (Davidson & Stagnitti 2021; Salter et al. 2016; Bauminger-Zviely et al. 2019). Play therapy, and its associated techniques, are valuable interventions to enable children with ASC to develop social interaction skills in a non-threatening environment (Deniz et al. 2022; Bauminger-Zviely et al. 2019, Elbeltagi et al. 2023). The acquisition of these skills contributes to the cultivation of adaptive peer engagement and is of critical importance in fostering robust and favourable peer relationships.

Play therapy employs various interventions to facilitate the therapeutic process, some of which include Child-Centred Play Therapy (CCPT), Learn to Play Therapy (LPT) and DIR/Floortime Play Therapy among others. Several studies have been conducted analysing the effectiveness of these individual techniques (Salter et al. 2016; Boshoff et al. 2020; Deniz et al. 2022; Mercer 2017). These studies provide valuable insight on the efficacy and feasibility of the specific play therapy techniques in managing ASC in children. However, there is a gap in the literature concerning the comparative effectiveness of these methods. This deficiency results in difficulties during the tailoring of treatment to meet the specific needs of individual children.

As such, I propose a research project aimed at comparing the effectiveness of CCPT and Floortime Play Therapy. The project will be guided by the research question: “What is the comparative effectiveness of the two play therapy interventions: Child-Centred Play Therapy (CCPT) and DIR/Floortime Play Therapy; in enabling children with ASC to improve

their social interaction skills?". The question will be addressed by testing the following hypothesis: "Child-Centred Play Therapy is more effective than DIR/Floortime Play Therapy in enabling children with ASC to improve their social interaction skills".

According to Salter et al. (2016), CCPT is crucial for the social, emotional, and cognitive development of children. On the other hand, Lal and Chhabria (2013), posit that Floortime Therapy offers a structure for developing emotionally significant learning interactions that facilitate the enhancement of important functional and emotional developmental skills. With both techniques being generally well endorsed according to the available literature, it is unclear how they would weigh against each other. The suggested research project will illuminate the relative strengths and weaknesses of the two interventions.

Ethical Considerations

The increasing recognition of the rights of children and the acknowledgement of their competencies have led to a greater appreciation for the importance of incorporating the perspectives and experiences of children in research (Canosa, Graham and Wilson 2018). However, it is difficult to reconcile the protective and participatory dimensions of children's rights, which stem from the concepts of vulnerability and agency (Martins, Oliveira and Tendais 2018). Consequently, the children who will participate in the research project should be protected, and the researcher is responsible for adhering to ethical principles and guidelines that prevent coercion, exploitation, invasion of privacy, or harm to them.

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What is the Comparative Effectiveness of CCPT and DIR/Floortime Play Therapy in Enabling Children with ASC to Improve their Social Interaction Skills

Introduction

The proposed research project addresses the following question: “What is the Comparative Effectiveness of CCPT and DIR/Floortime Play Therapy in Enabling Children with ASC to Improve their Social Interaction Skills?” To investigate this research question, the following sections will describe a quantitative study using POPE methodology on four children with ASC.

Sample

The target participants for the research project are children within the ages of 5 to 9 years who are diagnosed with ASC and are receiving play therapy in a clinical setting. This will allow for the monitoring and evaluation of the progress of their social skills as they receive the different play therapy interventions. The age brackets have been selected based on the premise that timely intervention services are critical for preventing the emergence of new challenges and remediating existing ones (Lord et al., 2012).

Additional inclusion criteria will be the availability of signed parental consent and confirmation of the absence of any medical conditions in the child's records, such as intellectual developmental disorder. The exclusion criteria will include: missing more than two therapy sessions, the presence of physical, motor, or sensory impairments, as well as any other behavioural issues documented in the child's medical record. Additionally, children who had previously attended therapy sessions similar to the proposed intervention program are to be excluded.

Purposive sampling will be used to select four participants who will then be randomly divided into groups of two which will receive CCPT and Floortime Play Therapy respectively. Purposive sampling will be employed to enhance the alignment between the

characteristics of the selected participants and the research goals and objectives, resulting in increased trustworthiness of the study's findings and data (Campbell et al. 2020).

Due to the health and medical aspects of the proposed research project, the researcher is required to apply for Health Research Authority ([HRA] 2023) Approval before proceeding. Once the project is approved, the researcher will reach out to a clinic that offers play therapy for autistic children, and provide a detailed overview of the research project, including the research question, hypothesis, methodology, ethical considerations, and expected outcomes. The project must receive ethical approval from the relevant Institutional Review Board (IRB) or Research Ethics Committee (REC) after a negotiation of the terms of the collaboration, such as the scope of the research project, the use of clinic facilities, patient recruitment, data sharing, and publication rights (Alderson 2013).

The project will employ the use of Playground Observation of Peer Engagement (POPE [discussed later]) for data collection (Kasari et al. 2011). Consequently, the researcher will simultaneously follow the same procedure to obtain approval from the schools which the four students attend, allowing them to unobtrusively observe the target children during recess. After giving their consent, the schools will provide a school letter of participation.

Even though the selection of a clinic as the location comes with ethical considerations that will affect the project (discussed later in the section), it increases the validity of the data collected seeing as the therapy interventions are professionally administered (Lausten et al. 2021). Additionally, the interventions will be implemented consistently and accurately across all participants. This, in turn, increases the reliability of the data collected and the validity of the study's findings.

Data Collection Tools

Certain studies aimed at evaluating early interventions as means of addressing social communication issues in children with ASC at a young age have employed the algorithm

scores or calibrated severity scores of the Autism Diagnostic Observation Schedule (ADOS), including its most recent version ADOS-2. These studies include the works of Pickles et al. (2016) and Rogers et al. (2019). However, the ADOS was primarily created for diagnostic purposes and may not be adequately sensitive to detect minor changes that may occur after CCPT and Floortime Therapy. ADOS developers advise against using it as a research metric, and have introduced a different system for this purpose (Grzadzinski et al., 2016).

Observing behaviour in a natural social environment, such as a children's playground, is one of the most authentic ways to assess it. Corbett et al. (2010) developed the Peer Interaction Paradigm (PIP) for this purpose. The PIP comprises a 20-minute session where a target autistic child interacts with two peers of the same age. At least one peer receives explicit training and instructions to initiate interaction during a set of semi-structured activities on the playground (Corbett et al. 2010). Other playground observation techniques employ an entirely non-intrusive observation in a conventional social environment.

The selected tool to measure progress in this project is the Playground Observation of Peer Engagement (POPE; Kasari et al. 2011). Researchers have used it to assess the social participation and communication of a specific child with their peers during school recess in the playground. The POPE methodology necessitates the coding of these interactions in successive 1-minute intervals, with 40 seconds devoted to observation and 20 seconds dedicated to coding. This is repeated for 15 minutes. Engagement is classified into one of the following levels: "solitary, proximity, onlooker, parallel, parallel aware, joint engagement, or games with rules" Kasari et al. 201 p. 536).

Over the course of 30 weeks, the four target children will receive weekly sessions of either CCPT or Floortime Therapy in the clinic. The type of intervention will remain consistent throughout the project duration. Before the commencement of the treatment, the researcher will administer a preliminary POPE evaluation on each of the three children. After

the treatment begins, the researcher will conduct POPE evaluations on all four children in the fourth week and continue to do so routinely after every three weeks (i.e., on the eighth, twelfth, sixteenth weeks and so on). The evaluations may take a week since the researcher is to evaluate all four children separately.

Data Analysis

The degree of social involvement of children will be evaluated by determining the proportion of time intervals they spend engaged in solitary play (encompasses times when the child is alone or interacting with an adult) and participating in joint engagement with their peers (Gilmore et al. 2019). In the same vein, social communication will be assessed by taking into account both initiations and responses. Initiations are classified into two categories: successful and unsuccessful. Successful initiations occurs when a target child uses either verbal or non-verbal language to communicate with at least one peer, who in turn responds verbally or non-verbally (Gilmore et al. 2019).

Conversely, unsuccessful initiations are recorded when the target child attempts to communicate verbally or non-verbally to at least one peer, but the peer does not respond. Additionally, the reactions to a peer's overture are classified into two groups: suitable and missed. Suitable responses are those that are appropriate to the social context, while missed responses occurs when the child does not react to the peer. Finally, dialogues are to be recorded only when there is a minimum of five exchanges between the child and one or multiple peers. (Kasari et al. 2011).

A descriptive analysis will be conducted to analyse the quantitative data, similar to Camfield (2012). To determine the frequency of each sub-code, the number of participants who exhibit it will be tallied, while the average duration in minutes of each sub-code will be computed to ascertain the time spent (Gilmore et al. 2019). Descriptive metrics will then be used to analyse engagement states. The amount of time the target child spends on either

solitary or engaged activities will be averaged, and these values will be indicative of the level of their social interaction skills. These metrics will be averaged for each intervention group by aggregating data from both children, resulting in the variables S and E. Specifically, variable E corresponds to the duration of engaged activities shared by both children in an intervention group, while variable S represents the duration of solitary activities shared by both children in an intervention group.

In order to evaluate the proposed hypothesis, a comparison between variables E and S will be conducted for both intervention groups. If the value of E_{CCPT} exceeds that of E_{FPT}, and S_{CCPT} is lower than S_{FPT}, then the hypothesis will be considered confirmed, thus indicating that CCPT is more effective in enhancing social skills among children with ASC compared to Floortime Play Therapy. Conversely, if the opposite occurs, the hypothesis will be rejected, indicating that Floortime Play Therapy is more effective than CCPT in improving social skills among children with ASC.

Time Frame

The proposed project is estimated to take a 42 to 47 weeks, with the following significant stages.

Process of Approval (4 to 6 weeks)

The successful execution of the project necessitates the acquisition of approval from several pertinent authorities. Specifically, the researcher must submit an application for approval from the HRA. Additionally, the project's implementation is contingent upon receiving authorisation from both the participant clinic and schools (HRA 2023; Alderson 2013). The researcher should do this six weeks before the commencement of the project.

Participant Selection (3 weeks)

This time frame encompasses the time required to vet the participants in purposive sampling and the time it takes to obtain parental consent for the selected candidates (Campbell et al. 2020).

Familiarisation (1 to 2 weeks)

The researcher must provide time for the therapist to familiarise themselves with the participants. This duration will also be used to conduct the preliminary POPE assessments.

Routine Therapy and POPE evaluations (30 weeks)

For the time span of 30 weeks, the target children will participate in weekly play therapy sessions and the researcher will conduct POPE evaluations every fourth week.

Data Analysis (4 to 6 weeks)

Once the data has been collected, it must be organised, processed, and analysed to extract meaningful insights and information.

Activity	Duration
Process of Approval (HRA; REC; IRB)	4-6 weeks
Participant Selection (purposive sampling)	3 weeks
Familiarisation	1-2 weeks
Routine Therapy and POPE evaluations	30 weeks
Data Analysis	4-6 weeks
Total	42-47 weeks

Ethics

Participant Age

The proposed research project entails the active engagement and involvement of children, indicating a growing recognition of their capabilities and entitlements. Nonetheless, reconciling the protective and participatory elements of children's rights presents certain

difficulties, necessitating the researcher's adherence to ethical guidelines to safeguard the children from any potential harm. Regardless of their age, the participant must ensure that the children provide informed consent (Canosa, Graham and Wilson 2018).

Sensitive Content Matter

Accessing and using children's medical records for research purposes raises important ethical considerations. The researcher must ensure that all relevant privacy and confidentiality regulations are strictly followed to protect the anonymity of the participants. Additionally, researchers must consider the sensitive nature of medical information and take appropriate steps to protect participants from potential harm, such as stigmatisation or discrimination (Martins, Oliveira and Tendais 2018). It is also important to ensure that the research is justified in terms of its potential benefits, and that the use of medical records is necessary and cannot be achieved through other means.

Clinical Setting

The use of clinical settings for research may blur the boundaries between clinical care and research, which can raise concerns around informed consent and confidentiality (Berkman, Hull and Eckstein 2014). The researcher must ensure that the participant and their guardian receive a full debrief concerning the clinical procedures. Finally, they must ensure that the research is conducted in a manner that respects the autonomy of the children involved, allowing them to withdraw at will (Martins, Oliveira and Tendais 2018).

Selected Research Method

The POPE methodology involves the consideration of every-day activities in the target child’s life. Recognising the everyday occurrences and routines should lead to an understanding that there can never be a definitive concept of "research ethics" that can predict everything (Horton 2008). Additionally, the abundant presence of these everyday occurrences presents an ethical challenge. Horton (2008), further posits that emphasising the minor

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occurrences of research, which often involve unpredictability and imperfections, could challenge common beliefs about ethical standards in research.

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Evaluation of Potential Relevance of the Proposed Study

Introduction

In terms of research and academia, this research proposal is the first to consider the relative efficacy of two different child play therapy techniques with existing research only focusing on only one technique at a time (Salter et al. 2016; Boshoff et al. 2020; Deniz et al. 2022; Mercer 2017). Additionally, the project will serve as a template for similar projects in the future, which will aim to compare aspects of other Child Play Therapy techniques. In practice, the proposed research will prove invaluable to practitioners in the field of Therapy for children with ASC. For instance, the answer to the proposed research question will improve the interventions prescribed by a therapist of an autistic child who wants to address the child's social skills specifically.

Significance and Limitations of the Proposed Study

Children with ASC

The findings of the proposed study will improve the quality of care given to children with ASC. The interventions offered will be the most effective.

Medical Practitioners

The results obtained from the study will allow medical professionals providing treatment to children with ASC to provide Evidence Based Practice.

Medical Researchers

The study will bridge gaps in the literature and provide a template for similar projects.

Limitations

One limitation is the small sample size, as only four participants will be included, which may limit the generalisability of the results. Another limitation is the use of purposive sampling, which may introduce bias into the study's findings. Additionally, the study's

location is limited to a clinic that offers play therapy for autistic children, which may not be representative of the broader population.

Dissemination Plans

Academic dissemination will involve presenting the study findings at relevant conferences, such as the European Society for Child and Adolescent Psychiatry. The researcher could also submit the study for publication in peer-reviewed journals in the fields of psychology, child development, and autism research (Robb 2013). Non-academic dissemination will include presenting the findings to the clinic where the study was conducted, as well as other clinics that offer play therapy for children with ASC. The researcher will also prepare a written report and video summarising the study findings for distribution to relevant stakeholders, such as parents of children with ASC, support groups, and advocacy organisations (Robb 2013).

Ethically, the researcher must consider ensure the participants give informed consent allowing the dissemination of their data and results. Additionally, the researcher must ensure that the confidentiality of the participants is protected. Finally, the researcher must ensure that they clearly credit all contributors to the research and acknowledge their contributions appropriately (Robb 2013).

Conclusion

The study seeks to address a significant gap in the literature in Child Play Therapy. It has the potential to significantly enhance the quality of care provided to children with ASC and enable medical practitioners to deliver evidence-based interventions. Although the study's small sample size and limited location may constrain the generalisability of the results, it provides a valuable template for future research in this domain. Dissemination strategies involve presenting the findings at relevant academic conferences and publishing them in peer-reviewed journals, as well as distribution to clinical settings, support groups, and

advocacy organisations. Overall, the proposed study has substantial potential to contribute to the field of therapy for children with ASC.

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