EFFECTIVENESS OF THE IMPLEMENTATION OF ATTACHMENT-BASED PLAY ON ADOPTED CHILDREN

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Abstract: This research describes the process and result of the implementation of attachment-based play to change the Internal Working Model (IWM) of adopted children to build a secure attachment between adoptive parents and adopted children. The subjects of this research receive intervention in the form of attachment-based play in 8 sessions. The intervention is planned under four-dimension approach for attachment-based play according to Booth and Jernberg theory. Measurement of the degree of secure attachment of adopted children uses the Attachment Q-Set (AQS), whereas observation on the interaction between the adoptive parents and the adopted children uses Marschack Interaction Method (MIM) before and after the intervention. Results of the research show that there is a difference in the total score when the pretest and posttest are held by using the AQS. It means that there is a difference in the degree of secure attachment of adopted children before and after the intervention is applied. The results imply that the attachment-based play can change the IMW of adopted children.

Keywords: attachment-based play, internal working model (IWM), attachment, adopted children

INTRODUCTION

Initial attachment of a child to his/her nanny is an important thing since it relates to the social behavior of the child in the next development stage. The secure feeling aroused from attachment influences the emotional, social, and cognitive competencies (Van Ijzendoorn & Sagi, 1997 in Papalia, 2009). In the reality, not all children live in an environment that may support the establishment of a secure attachment. In addition, attachment does not naturally occur by itself when a child has just been delivered. It should be learnt through interaction between the nanny and
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the child (Levy & Orlans, 2000 In Perry & Gerretsen, 2002; Booth & Sandra, 2000; Wenar & Kereg, 2005 In Artati, 2008).

One of the examples is adopted children. In normal care, there is a primary caregiver role, consisting of father and mother (Risnawati, Nuraqmarina, & Wardani, 2021). However, unlike adopted children who have various negative experiences which may obstruct or prevent the development of a secure attachment, namely the loss of continuous relationship with their biological parents, the inconsistent and irrespnsive manners of the nannies as the “replacement mothers”, and the abstinence of reciprocal interaction, positive manner, warm behavior, and acceptance.

On the other side, adoptive parents must deal with the needs and behavior of adopted children, which might have been prepared by them. Many adoptive parents expect that providing a good family and love are sufficiently enough for adopted children to get healthy emotion. Adoptive parents are surprised when some behavior problem happens, and they might not recognize it as a signal for a deeper problem. It is difficult for adoptive parents to accept the reality that having experiences of separation and loss at the beginning may lead to prolonged effects for adopted children.

Bowlby (1988) says that creating new experiences, which are healthier for children, is a possible matter to apply on children at any age. The Sroufe’s longitudinal research and others also support this belief. Even though there is sufficient evidence that the category of initial attachment (secure or not secure) is permanent and stable, there is also evidence that any changes, positive or negative, may take place.

By using the four dimensions of attachment-based play, namely structure, engagement, nurture, and challenge, it is re-created the process of initial attachment for the couple of adoptive parents and adopted children (Booth & Jernberg, 2010). The Internal Working Model (IMW) of adopted children is changed by giving them a new experience, which is more positive, responsive, and joyful when interacting with their adoptive parents (Booth & Jernberg, 2010).

The change will make the adopted children see themselves more positively, view the other world as a secure and predictable place, as well
as able to expect sufficient assistance from the adoptive parents. In line with the changes occurred in the adopted children, the new interaction pattern also changes the way how the adoptive parents see themselves, namely as a loving figure with a lot of care and can be relied upon. Therefore, this research is very important to do to get a complete picture of the process and results of using attachment-based play activities as a clinical intervention technique to change the internal work model (IWM) of adopted children to build a safe attachment between adoptive parents and their adopted child.

In addition, this research is also expected to provide benefits for adopted children so that they can see themselves more positively, feel that they are special and loved. And they can see the outside world as safe, interesting, and predictable. Likewise, adoptive parents can be more responsive, caring, and know the needs of adopted children and know how to respond to these needs to help adopted children become emotionally healthy. Adoptive parents are also expected to see themselves as loving, caring, and reliable.

Based on the description described above, the researcher is interested in conducting a study on whether attachment-based play activities can change the internal working model (IWM) of adopted children to build a safe attachment between adoptive parents and adopted children especially aged 3 years who have been cared for in orphanages from birth to age 2 years?

**METHOD**

**Research Design**

The research plan used is the quasi-experimental design. The quasi-experimental design used is the Interrupted Time-Series Design (Christensen, 1997). There are two variables, namely attachment-based play as the independent variable and secure-based behavior as the dependent variable. Attachment-based play activities are a series of play activities that include the dimensions of structure, engagement, nurture, and challenge that are carried out with the aim of changing the internal working model (IWM) of adopted children to build a secure attachment between adopted children and adoptive parents (Booth & Jernberg, 2010).
Implementation of a series of play activities which include organizing and managing children's experiences, setting boundaries, defining body boundaries, keeping children safe, and helping to complete a sequence of activities (structure); relate to children in a fun, positive way, focus attention on children, and encourage children to enjoy new experiences (engagement); reinforce the message that children deserve care and that adults will provide care without the child having to ask (nurture); encourage children to take age-appropriate risks to encourage feelings of competence and mastery (challenge); which is carried out systematically in accordance with activity plans that have been prepared and implemented within a certain period of time, with the aim of changing the internal working model (IWM) of the adopted child in order to build a secure attachment between the adopted child and the adoptive parents.

Furthermore, "Security-based behavior" is defined as smooth organization and the right balance between proximity seeking and exploration (Posada, Gao, et al., 1995 in Solomon & George, 1999). In this study, security-based behavior is the mother's perception of the child's attachment security behavior in the home environment. The form of the Interrupted Time-Series design in this study can be seen in the table 1 below:

<table>
<thead>
<tr>
<th>Table 1: Research Design</th>
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</thead>
<tbody>
<tr>
<td>Pre-Test</td>
</tr>
<tr>
<td>$O_1O_2O_3$</td>
</tr>
</tbody>
</table>

Legend:
$O_n$ = Measurement of the degree of security attachment before and after treatment (Attachment-based play activities)
$X_n$ = Giving treatment in the form of attachment-based play activities (Play activities consist of structure, engagement, nurture, challenge)

The research approach used is a single-subject design. The use of a single-subject design approach in this study was carried out with the following considerations:

1. The number of research subjects who meet the criteria and are willing to take part in the attachment-based play activity treatment is only 1 person.
2. According to Munns (2009), positive changes after the treatment of attachment-based play activities often occur for at least 8 sessions.
Participants
The participants of this research consist of adopted children and adoptive parents (mothers). Characteristics of the adopted children in this research are as follows:

a. Children whose deliveries are not expected by their parents and released to the Society for Development and Mother Care (PPAB) and further adopted by an adoptive family.
b. Ever taken care by an orphanage, since they were born until 2 years old, having characteristic experiences that may obstacle or prevent the development of a secure attachment, such as losing sustainable relationships with their biological parents, having inconsistent and responsive nannies as a “replacement mother”, and having no reciprocal interaction, positive manner, warmth, and acceptance.
c. At the age of 3.

Instruments
There are two measuring instruments that can be used in this research, namely Measuring instrument for pre and post treatment (Attachment Q-Set Questionaire developed by Everett Waters, 1987) and measuring instrument used during the observation session used the Marschak Interaction Method (MIM) (behavior observation form of adoptive parents (mothers) in having interaction with adopted children under the four dimensions of attachment-based play, which is constructed based on the basic principles of attachment introduced by Booth & Jernberg, 2010).

The primary theme of this research is the attachment-based play applied to adopted children and adoptive parents (mothers) as the research subjects, which contains a series of playing activities consisting of 4 dimensions, namely structure, engagement, nurture, and challenge (Booth & Jernberg, 2010). The treatment is conducted in eight sessions within duration of 30-40 minutes for every session. Each session covers three main stages, namely opening (greeting), contents (structure, engagement, nurture, and challenge), and closing (return to the parents).

Validity
This study tested in 2 ways, namely internal validity, and external validity. Internal validity relates to the certainty that the formation of a secure attachment between the adopted child and the adoptive parent is the result
of attachment-based giving activities, not other factors. Various factors that need to be considered to ensure internal validity in this study are as follows (Cook and Campbell, 1979 in Graziano, 2000):

<table>
<thead>
<tr>
<th>Defining factor</th>
<th>Factors in research</th>
<th>How to control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maturation</td>
<td>Research period</td>
<td>The research was not carried out in a very long term, namely for 3-4 months</td>
</tr>
<tr>
<td>Normal maturation of participants</td>
<td>instrument used is the same, namely the Attachment Q-Set (AQS)</td>
<td>The measuring instrument used is not influenced by the individual learning process</td>
</tr>
<tr>
<td>Testing</td>
<td>Room</td>
<td>Select and arrange a suitable, safe, and comfortable treatment room.</td>
</tr>
<tr>
<td>Previous testing</td>
<td>Support tools</td>
<td>Use appropriate activity support tools</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>Research measuring instrument</td>
<td></td>
</tr>
<tr>
<td>Any changes in the calibration of measuring instruments or procedures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Meanwhile, external validity refers to the degree of generalization of research results to similar participants, conditions, times, and other places (Graziano, 2000). This study involved adopted children and adoptive parents, therefore external validity was carried out by drawing conclusions that only applied specifically to adopted children and adoptive parents who were the subject of the study.

Research Procedure
This research was conducted in several stages, namely the preparation stage, the implementation stage, and the completion stage. The following will be explained the details of each stage carried out:

1. **Preparatory Stage**
   Some of the steps carried out at the preparation stage are as follows:

   1. Establishing research topics that are motivated by phenomena in the surrounding environment and consulting with supervisors.
   2. Conduct literature studies to find theories related to research topics, from literature books, journals or articles found on the internet.
   3. Conducted a preliminary survey with interviews with adoptive parents (mothers) which was used for initial reference in this study.
   4. Develop research proposals based on research topics.
   5. Menyusun framework of thought used as a benchmark for the research thought flow.
6. Establishing research methods including research design, processing techniques and appropriate data analysis.

7. Designing measuring instruments and conducting trials of measuring instruments.

8. Designing activities consisting of:
   
a. Goal Setting
   The general purpose of the series of attachment-based play activities that include the dimensions of structure, engagement, nurture, and challenges is to change the internal working model (IWM) of adopted children to build a safe attachment between adopted children and adoptive parents.

   b. Method Determination
   The methods used in attachment-based play activities are as follows:
   
   - Play for adopted children. Through play, adopted children are given new experiences that are more positive, responsive, and enjoyable when interacting with others.
   - Discussion, observation and role-playing for adoptive parents. Through discussion, observation, and role-playing, adoptive parents are helped to be able to better empathize and understand the adopted child.

   c. Tools Used
   The tools used in attachment-based play activities are paper, markers, balmut, balls, baskets, storybooks, snacks, cloths, cotton balls, stickers, lotions, ping-pong balls, fans, balloons, and powder.

   Another supporting tool used in attachment-based play activities is a camera to record Marschak Interaction Method (MIM) sessions and Treatment sessions. Through video footage, researchers were able to review the interactions that occurred between the adopted child and the adoptive parents during the session.

9. Preparing research personnel.
The implementation of attachment-based play activities involves several personnel, including:
a. Researcher as executor, the researcher carries out all this research and is fully responsible for the course of the intervention process.

b. Observer, the observer oversees assisting researchers in making observations of adoptive parents (mothers) during observation sessions using the Marschak Interaction Method (MIM) Beginning and End. Before conducting the study, the observer received a briefing on the basic principles of attachment and the four dimensions of attachment-based play according to Booth and Jernberg as well as on how to fill out the observation form for the behavior of adoptive parents (mothers) in interacting with adopted children in all four dimensions of attachment-based play activities. The observer also performed a roleplay filling out the observation form by observing the roleplay of the Marschak Interaction Method (MIM) session conducted by roleplayers (research colleagues, housewives and 3-year-old daughters). The accompanying observers (observers) involved in this study were 2 students of the Master of Professional Psychology in the Child Clinical Section who had passed the Curative Course.

c. Roleplayers for Roleplay, the role player for roleplay is a housewife with her 3-year-old daughter. This role player performs roleplay of Marschak Interaction Method (MIM) sessions and Treatment sessions.

2). Implementation Stage
The implementation stage is carried out in several stages, namely the approach stage, the initial measurement stage, the treatment stage, and the final measurement stage. The implementation phase consists of 17 meeting sessions. The following is a summary of activities at each stage of research implementation:

<table>
<thead>
<tr>
<th>Session</th>
<th>Activity Details</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Inform Consent</td>
<td>Approach Session</td>
</tr>
<tr>
<td>2nd</td>
<td>Intake Interview with adoptive parents (mothers).</td>
<td>Initial measurement session (pre-treatment)</td>
</tr>
<tr>
<td>Adoptive parents (mothers) are required to fill out the Attachment Q-Set (AQS) questionnaire.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>Tell the adoptive parent (mother) that the next step is a videotape observation session in which the adoptive parent (mother) and the</td>
<td></td>
</tr>
<tr>
<td>4th</td>
<td>“Instructions for activities will be written on the card. I'll record the interaction and then take a close look at the videotape to learn more about how to help the adopted child and you interact</td>
<td></td>
</tr>
</tbody>
</table>

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adopted child will play some simple activities together. You can tell the adopted child that you brought him here so that you and he can learn how to have more fun together."

5th The observation session uses the Marschak Interaction Method (MIM) in which the adopted child and the adoptive parent (mother) at a time perform a series of interactive tasks together.

6th Play Session I

7th Play Session II

8th Play Session III

9th Play Session IV

10th Playing Session V

11th Play Session VI

12th Play Session VII

13th Play Session VIII

14th The observation session uses the Marschak Interaction Method (MIM) in which the adopted child and the adoptive parent (mother) at a time perform a series of interactive tasks together.

15th Feedback

The intervention implementer showed the adoptive parents (mothers) part of the video recording of play sessions to help the adoptive parents (mothers) see the changes that have occurred during the treatment and strengthen the adoptive parents (mothers) regarding the effectiveness of the new ways the adopted parents (mothers) interact with the adopted child.

Adoptive parents (mothers) are asked to refill the Attachment Q-Set (AQS) questionnaire.

16th

17th

3). Completion Stage
This stage is a process of data processing until a conclusion is drawn based on the results of the research obtained. The steps in the completion stage are as follows:

a. Collected all data that had been obtained from intake interviews, Attachment Q-Set (AQS) questionnaires, observations during the Marschak Interaction Method (MIM) session, and observations during treatment sessions.

b. Summarizes all the data that has been obtained and presents it in the form of a table.

c. Interpreting the entire data that has been obtained is associated with the theoretical review used.

d. Draw conclusions based on the results of the interpretation of all the data that has been obtained.
RESULT AND DISCUSSION
In general, from all the intervention processes done, the adopted children and adoptive parents (mothers) indicate positive changes. This is reflected from the Attachment Q-Set (AQS) questionnaires expressing that there is a difference in the degree of secure attachment of adopted children before and after the treatment is applied in the form of attachment-based play.

Figure 1: Q-Set (AQS) Attachment Questionnaire Results

Based on figure 1, the result of Attachment Q-Set (AQS) questionnaires, there is an improvement in some behaviors of the adopted children viewed by the adoptive parents (mothers) in their home environment after joining the treatment sessions, namely the children often hug their mothers, without any prior request from the mothers (item 11, score 7→8); the children will accept and enjoy the loud or rough voice during the game, whenever the mothers smile and show that it should be joyful (item 47, score 7→8); the children will put their hands on their mothers and put their hands on their mothers’ shoulders when their mothers lift them up (item 53, score 7→8); when the children feel happy, they tend to be at such condition during the day (item 62, score 7→8); the children immediately greet their mothers with a big smile whenever their mothers entering the rooms (showing toys to their mothers, expressing their body language, or saying “mother”) (item 70, score 7→8); when the children are under the hug of their mothers, they stop crying and immediately recovered after being afraid or angry (item 71, score 7→8); when the visitors are laughing or accepting something just done by the children, the children repeat it
again and again (item 72, score 7→8); when the mothers are laughing or accepting something conducted by the children, the children repeat it again and again (item 72, score 7→8).

Result of the research by using the Marschak Interaction Method (MIM) measuring instrument indicates that there is a difference in the adoptive parents (mothers) in interacting with the adopted children in the engagement and nurture dimensions of attachment-based play before and after the treatment application. According to the Marschak Interaction Method (MIM) result, after joining the treatment sessions, at the engagement dimension, the adoptive parents (mothers) are sufficiently able to have a relationship and fun with the adopted children. The interaction is more dynamic and mostly filled with two-way conversation. The adoptive parents (mothers) and the adopted children laugh together. Meanwhile, at the nurture dimension, the adoptive parents (mothers) are sufficiently able to provide reassuring contacts. The adopted children have enough initiatives to give attention to their adoptive parents (mothers). The adoptive parents (mothers) prepare the adopted children for the farewell, and then when the adoptive parents (mothers) return, the adopted children rebuild their positive interaction with their adoptive parents (mothers) by calling the adoptive parents (mothers) and continue their collective activities.

The result mentioned above is supported by the result of treatment sessions, which show that after joining the treatment sessions, at the
structure dimension, adoptive parents (mothers) become more confident in providing a clear direction/structure to the adopted children; whereas adopted children become having more will to follow the rules. At the engagement dimension, adoptive parents (mothers) become more able to involve the adopted children in a fun activity without any need for direction; whereas adopted children become more comfortable and responsive against any effort of the adoptive parents (mothers) when they get involved in an activity. At the nurture dimension, adoptive parents (mothers) become more able to provide reassuring contacts accurately, both physically and emotionally, for the adopted children, whereas the adopted children become more acceptable and having more initiatives in providing reassuring contacts to the adoptive parents (mothers). For the feeding activity, it is seen that some rules given by the adoptive parents (mothers) related to the feeding activity become less, the adoptive parents (mothers) seem more enjoying the activity together with the adopted children; whereas the adopted children become more able to control their will related to food. At the challenge dimension, the adoptive parents (mothers) become more able to recognize and respond any inability signals of the adopted children; whereas the adopted children become having more will to try again when they fail in their tasks.

To acknowledge whether the changes occurred are aroused from the treatment or other factors, it was conducted an interview on the teachers and matrons regarding any matters experienced by the adopted children in some range of time for one month. The result achieved is that at the structure dimension, according to the teachers, the adopted children have more will to follow the directions and instructions given by the teachers. Adopted children do not do something according to their own will. For example, the adopted children begin to have a will to wait for their turns. According to the matrons, the adopted children become calmer. At the engagement dimension, according to the teachers, adopted children become having more wills to learn and play together with their classmates. According to the matrons, the adopted children seem to have closer relationship with the adoptive parents (mothers). At the nurture dimension, according to the teacher, adopted children become to more able to control their wills related to food. According to the matrons, the adopted children seem to enjoy physical contact with their adoptive parents (mothers). For example, when the adoptive parents (mothers) pick them up, the adopted
children directly run for approaching and kissing their adoptive parents (mothers).

Based on the explanation mentioned above, it may be concluded that there are changes in the behaviors of adopted children and adoptive parents (mothers) after receiving treatment in the form of attachment-based play. The changes are due to changes in the Internal Working Model (IMW) of adopted children. Through the attachment-based play, the IMW of adopted children is changed by giving the adopted children a new experience, which is more positive, responsive, and fun when they are interacting with their adoptive parents (mothers).

Meanwhile, specifically, positive changes ensue in the structure, engagement, and nurture dimensions. This conforms to the Booth & Jernberg (2010) concept, which says that structure, engagement, and nurture are dimensions that re-create the experience of initial attachment and more emphasized than challenge that focuses on competence and independency.

Based on the qualitative result, namely observation during the implementation of attachment-based play, it is found that the physical health of the children and the parents influence the effectiveness of implementation of intervention on attachment-based play. One of the factors that influence the children’s play is health. The healthier the children, the more energy they have for playing actively, such as for games and sports. Children with less energy prefer entertainment.

Furthermore, commitment of the adoptive parents (mothers) in the implementation of treatment sessions and homework is required in order that the consistency of the new healthier interaction pattern can be continuously trained and maintained.

**Implication**

1. Parents need to be provided with understanding by giving an explanation on the importance of parent commitment in joining treatment sessions and implementing homework to bring a new way in having interaction to the house so that the consistency of the new healthier interaction pattern can be continuously trained and maintained.
2. There is necessity of follow-up, according to Booth and Jernberg (2010), which should be done once a month in the first three months after the treatment, and then continued every four months to maintain the sustainability of the new interaction way between the adopted children and the adoptive parents, and then discussing any problems or issues aroused after the intervention ends.

3. There is necessity of further development and research on the attachment-based play as an interaction technique whose aims at testing the effectiveness or can be used as a reference to develop the new intervention technique upon psychology problems with different characteristics, so that it can be achieved a richer effectiveness result.

4. To the practitioners, in this case the psychologist, should use attachment-based play, as a clinical intervention technique to change the IMW of adopted children with the adoptive parents, by taking into account the physical condition of the adopted children and the adoptive parents and the commitment of adoptive parents in joining the treatment sessions and in implementing the homework to bring a new way in having interaction with their home in order that the consistency of the new healthier interaction pattern can be continuously trained and maintained.

**Research Limitation**

1. There is necessity of monitoring against any activity and event experienced by the research subjects, held through interviews on the parents, teachers, and matrons for recognizing any important events experienced by the subjects and may lead to changes in the behaviors.

2. There is necessity of repeat test for filling up the adoptive parents (mothers) observation form in interacting with adopted children under the four dimensions of attachment-based play in order to assure the consistency and similarity of measurement result if used by different persons or time. After that, in the data processing, the observer’s measurement result must be discussed for conclusion.

3. There is necessity of controlling when the research is held, (1) the range of time between one measurement and the others to assure the consistency of measurement result, (2) the range of time between one session and the others to assure that the consistency of the new healthier interaction pattern can be continuously trained and maintained.
CONCLUSION AND RECOMMENDATION

Based on the research result obtained, the conclusion which may be taken is that the attachment-based play can change the Internal Working Model (IMW) of adopted children in order to build a secure attachment between the adoptive parents and the 3-year adopted children ever taken care by an orphanage since born up to 2 years old. Meanwhile, specifically, positive changes are ensued in the structure, engagement, and nurture dimensions. In the structure dimension, the adoptive parents become more confident in giving a clear direction/structure to the adopted children; whereas the adopted children become having more will to follow the rules. In the engagement dimension, the adoptive parents become more able to involve the adopted children in a fun activity without any need for direction, whereas the adopted children become more comfortable and responsive to the adoptive parents’ effort of involving them in an activity. In the nurture dimension, the adoptive parents become more able to provide reassuring contacts accurately, both physically and emotionally, upon the adopted children; whereas the adopted children become more acceptable and having more initiative to provide a reassuring contact to the adopted children. From the research result, it is also found factors that influence the effectiveness of the implementation of intervention in the attachment-based play, namely the physical health between the adopted children and the adoptive parents as well as the commitment of adoptive parents in the implementation of treatment sessions and homework.

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Author’s Contribution
Yenny has contributed substantially to the conception and design, data acquisition, data analysis and interpretation, involved in drafting or critically revising for important intellectual content, design, data acquisition, data analysis and interpretation, and given final approval of the version to be published.
REFERENCES


