The Effect of Sandplay Therapy on the PTSD Symptoms and Resilience of Street Children in Uganda

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<Abstract>

Poverty has forced over a million children in Uganda to live on the streets. These children often come from families where they suffered violence and sexual abuse. Besides starvation and unhygienic conditions, street children face physical and sexual abuse. The perpetrators range from adults such as the police to other street children. For our study, we recruited sixteen former street children, eight boys and eight girls. They were living in a child welfare facility at the time of research. We used the mixed research method for our research design. For quantitative research, we used two measures: CRIES-13 (Children’s Revised Impact of Event Scale-13), CYRM-28 (Child & Youth Resilience Measure). We used a qualitative case research method to analyze the themes in the sandplay process. The quantitative results indicated that the group sandplay therapy improved PTSD Symptoms and resilience. The qualitative results revealed several common themes such garbage, salvation and big project.

Keywords: Uganda, street children, PTSD symptoms, resilience, group, sandplay therapy

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I. Introduction

Uganda is a country located in East Africa with 52% of the population under 15 years of age (Uganda Bureau of Statistics, 2014). Although the law imposes an obligation to report on any orphans or children in need of protection, it is not well enforced (UNICEF, 2015). A significant number of children are thus living in the streets, many of them from families that fell apart from death, abuse, neglect or poverty. It is only estimated that the number of street children in Uganda is in the tens of thousands, but no real surveys have yet been made.

Prior studies suggest that the majority of street children in Uganda experienced abuse before they started living in the streets (Blender, et al., 2015). Street children most often make a living by rummaging through garbage. There are children who end up in accidents while trying to run away from the police. Many also witness other street children getting into accidents. Both girls and boys experience some form of physical violence, which may come from adults, such as the police, or from other street children. Boys are more physically abused, while girls experience more emotional and sexual violence (Walakira, et al., 2014). 70% of street children have at least once sniffed or sucked glue (Plummer, Kudrati & Yousif, 2007) and are exposed to alcohol consumption. Glue abuse may lead to psychic problems such as antisocial behavior and reduced learning ability (Park, et al., 2003) and is also related to post-traumatic stress disorder (PTSD) (Pluck, et al., 2015). It is a traumatic experience that may result in higher levels of anxiety, depression, somatization, post-traumatic stress, attachment problems with spouse or children, misconduct and addiction in adulthood (Nierop, et al., 2018; Franz, 2015; Lowell, Renk, & Adgate, 2014; Krause, Mendelson, & Lynch, 2003; Roemer, et al., 2001).

Direct and indirect trauma or stress exist in everyday life, coming from various life events that bring change to the status quo such as a family breakdown or the experience of abuse or neglect. Even under the same circumstances, the ability to respond to and overcome stress or crisis differs from person to person; it depends on the psychological and emotional health of each individual. The ability to overcome traumatic experiences and crises is referred to
as resilience. Factors of resilience include individual and emotional capabilities, cultural values, religious beliefs and relationships with supportive peers. Resilience is a very important factor that allows people with traumatic experience to return to their ordinary lives (Hills, Meyer-Weitz, & Asante, 2016; Ungar, 2008). Prior studies suggest that resilience is related to local community networks, peer support, self-efficiency, access to basic life needs, intelligence, problem-solving ability and social-cultural resources (Theron & Malindi, 2010; Kombarakaran 2004; Cheunwattana & Meksawat 2002; D’Abreu, Mullis, & Cook, 1999; Donald & Swart-Kruger 1994). Resilience has a significant effect on PTSD and serves as a protective factor (Reyes, et al., 2019; Song, 2017).

Play therapy is a low-threat approach to trauma that utilizes the non-verbal senses (Goodyear Brown, 2010). Sandplay therapy, in particular, is a therapy approach that allows clients to express traumatic experiences through symbols created with sand and figures. Throughout the process, clients recreate their inner world and make a recovery by integrating their internal experiences with the external experiences. By reproducing their inner worlds in a safe environment created by the emotional support of therapists, clients attain the ability of self-healing. For this study, the group sandplay therapy approach was adopted. Group sandplay therapy enables clients to experience the immediate response and sensitivity of other clients. For clients who experienced abuse or failure, the experience of helping another in itself could serve as a treatment factor (Berg, Landreh, & Fall, 2006).

In prior studies, sandplay therapy was found to be effective in treating adolescents with trauma and substance abuse disorder (Freedle, Altschul, & Freedle, 2015), reducing PTSD symptoms of parents who survived the Nepal earthquake (Hwang, 2017) and improving the resilience of adolescents who survived the earthquake (Lee, 2016).

This study also involves a qualitative analysis of the therapy process to gain an in-depth understanding of street children in Uganda. Although there are prior studies that have surveyed street children in regards to abuse, violence and substance abuse, there have been no studies that looked into the effects of sandplay therapy.

Therefore, this study seeks to carry out a qualitative analysis of the themes and symbols that were displayed in the sandpictures created by street children in Uganda to verify
whether sandplay therapy is effective in reducing symptoms of PTSD and improving resilience. The analysis will also help understand the psychological characteristics of these children, serving as a base reference for future efforts to address their psychological difficulties.

II. Research Method

1. Participants

In this study, group sandplay therapy was performed on Uganda street children living in a child welfare facility. Eight boys and eight girls between the ages of twelve and sixteen who agreed to participate in the study were selected. The average age of the participants was 13.94, and at the time of research they have lived more than twelve months at the welfare facility. All sixteen participants said that they have experienced some form of physical or sexual abuse from another person, including parents and relatives.

2. Research Procedure

The participants were divided by gender into four groups of four. Prior studies suggest that group sandplay therapy is more effective for same-gender groups rather than mixed-gender groups when the participants are children or adolescents (Ha & Shin, 2016; Cho & Kim, 2014; Cho & Kwon, 2011; You & Park, 2010).

The participating children, the superintendent and teachers of the child welfare facility received an overall briefing on the objective and details of the study, including information on the recording of sessions. Consent forms were filled out accordingly. A tent was set up within the child welfare facility as a temporary venue for group sandplay therapy. Due to local circumstances at the time of research, the study did not involve a control group. The sixteen participants in the experimental group each attended three group sandplay therapy sessions within a period of three weeks. A test was administered to the participants before the sessions began, and again after all sessions were completed.
In each session, two participants were assigned to a team. After separately creating their own sandpictures, the participants discussed their work with each other. The researchers focused on providing a “safe and protected space” that Dora Kalff had mentioned, and repeatedly emphasized that all things said during the sessions should remain confidential.

3. Tools

1) The Children’s Revised Impact of Event Scale; CRIES-13

The CRIES-13 was developed by the Children and War Foundation to identify children suffering from PTSD. For this study, the English version was used. The CRIES-13 is comprised of 13 question items that are scored on a 4-point Likert scale (0 = not at all; 1 = rarely; 3 = sometimes; and 5 = often). The items are categorized into three subsfactors: reexperiencing, avoidance and hyperarousal. The maximum total score is 65. When the score for re-experiencing or avoidance is 20 or higher, the score for hyperarousal 25 or higher, and the total score 30 or higher, a clinical diagnosis for PTSD is possible. The Cronbach’s alpha for this study was .68.

2) The Child and Youth Resilience Measure-28; CYRM-28

The CYRM-28 was developed by Ungar (2008) as a measure of children’s resilience levels. For this study, the English version was used. The CYRM-28 is used to evaluate the subsfactors of resilience including personal factors, relational factors, and community or cultural factors. The CYRM-28 may be applied to children and adolescents between the ages of 10 and 23. There are a total of 28 question items that are scored on a 5-point Likert scale. The total score ranges between 28 and 140, and depending on the total score a participant is identified to be in one of the five categories: very low resilience, low resilience, normal resilience, high resilience and very high resilience. The Cronbach’s alpha for this study was .64.

4. Data Analysis

With consent from the participants and the superintendent of the child welfare facility,
the researchers collected questionnaire forms that were used during the pretest and posttest, videos of sandplay therapy sessions and photos of sandpictures. The researchers also conducted individual interviews with the participants and their teachers to gain a deeper understanding of each participant, including their growth history and adjustment process at the welfare facility.

Two researchers assisted the group sandplay therapy sessions, one as a general instructor and the other as the data collector. The assisting researchers recorded the participants’ verbal and non-verbal expressions and comments about the sandpictures with an objective view.

As a privacy measure, data collected from the participants were coded. The SPSS 24.0 program was used to perform a t-test verification for quantitative analysis. For qualitative analysis, case studies were conducted. Case studies involve collecting a variety of data from everyday context and circumstances to learn about a certain phenomenon, writing about the case and reporting on related themes (Creswell, 2007).

The case study approach was deemed appropriate for this study, as it would help reveal the characteristics of the subjective experiences that Uganda street children went through by carrying out an examination of the themes and expressions displayed during group sandplay therapy. According to Stake (1995), there are three types of case studies: instrumental, collective and intrinsic. To focus on the specific circumstances that Uganda street children are in and to gain a deeper and more extensive understanding of the cases, the collective case study approach was adopted. In a collective case study, several cases are examined simultaneously or consecutively.

To analyze the common themes and expressions that were displayed by the participants during group sandplay therapy, documentation of their verbal and non-verbal expressions based on transcripts of video clips taken during the sessions, written records taken by the assisting researchers, and photos of individual sandpictures were used. By repeatedly reading through the documents and written records, the researchers summarized the various verbal, non-verbal and visual expressions and how the narrative themes diverge or converge with one other (Johnson, 2004).

To analyze the data, either the categorical aggression or direct interpretation approach
described by Stake (1995) was used. Direct interpretation was used for single-instance cases, and cases with multiple instances were aggregated into single categories. Specifically, the researchers listed the various themes or expressions displayed by the participants and conducted an intuitive categorization. Beginning with a more general and preliminary categorization, the researchers refined the categories by re-categorizing cases based on relevance. By repeating this process, the researchers were able to come up with common themes and expressions that would help understand the participants’ experiences.

5. Study Discipline and Ethical Considerations

Discipline in qualitative research is associated with the reliability and veracity of the study in terms of its outcome and interpretation. For this study, a triangulation approach was adopted to improve the validity of the qualitative analysis. Triangulation is a process that brings together various research methods, researchers, subjects, spatial and temporal settings and theoretical approaches to improve the validity of a qualitative study (Flick, 2004). The triangulation of data involves using different sources of data. In this study, data was taken from transcripts of all group sandplay therapy sessions, photos of sandpictures and observation records taken by the assisting researchers.

Discipline was strictly maintained throughout the duration of the study, and peer reviews were conducted to ensure this. The researchers of this study have experience in a wide range of qualitative studies including narrative studies, participatory studies, ethnographic studies and case studies. Based on these experiences, the researchers analyzed the data and focused on improving the validity of the analysis by modifying and complementing the process with endless opinion-sharing and reviews.

To meet the ethical conditions of the study, the researchers provided the participants and their legal custodians a written document clearly and concisely explaining the objective of the study and its confidentiality measures. All participants agreed to participate in the study voluntarily, and their legal custodians signed consent forms in advance. The researchers made it clear to the participants that at any time throughout the study they can refuse to participate and explained to them how the recorded videos and photos will be used and managed.
Furthermore, strict anonymity and confidentiality were applied to the transcribed documents and presentations of the study to ensure privacy protection.

III. Research Results

1. Quantitative Research Results

1) PTSD symptoms of street children in Uganda

The results of the pretest and posttest conducted to verify the effects of group sandplay therapy on PTSD symptoms of street children in Uganda are presented in Table 1.

The results indicate that group sandplay therapy has a statistically significant effect in lowering the scores for all subfactors of PTSD, including reexperiencing ($t=7.09$, $p<.001$), avoidance ($t=3.88$, $p<.001$), hyperarousal ($t=4.24$, $p<.001$) and the total score ($t=10.48$, $p<.001$).

<table>
<thead>
<tr>
<th>Subfactor</th>
<th>Score (M,SD)</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re-experiencing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>14.63(2.87)</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>10.88(2.58)</td>
<td>7.09***</td>
</tr>
<tr>
<td>Avoidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>17.06(1.77)</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>14.88(2.06)</td>
<td>3.88***</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>15.50(4.23)</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>12.13(4.06)</td>
<td>4.24***</td>
</tr>
<tr>
<td>CRIES-13 Total Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td>47.19(5.61)</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>37.88(6.48)</td>
<td>10.48***</td>
</tr>
</tbody>
</table>

*** $p<.001$
2) Resilience of street children in Uganda

The results of the pretest and posttest conducted to verify the effects of group sandplay therapy on the resilience of street children in Uganda are presented in Table 2.

Table 2. Verification of changes in scores for resilience before and after sandplay therapy (N=16)

<table>
<thead>
<tr>
<th>Subfactor</th>
<th>Score M(SD)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>Personal Capability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Capability</td>
<td>20.06(2.49)</td>
<td>22.31(2.24)</td>
</tr>
<tr>
<td>Peer Support</td>
<td>7.69(1.78)</td>
<td>8.50(1.27)</td>
</tr>
<tr>
<td>Social Skills</td>
<td>15.56(2.85)</td>
<td>18.06(1.39)</td>
</tr>
<tr>
<td>Total Score</td>
<td>43.31(4.88)</td>
<td>48.88(3.24)</td>
</tr>
<tr>
<td>Caregiver Relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Care</td>
<td>6.19(1.83)</td>
<td>7.88(1.15)</td>
</tr>
<tr>
<td>Emotional Care</td>
<td>20.31(2.52)</td>
<td>20.81(2.69)</td>
</tr>
<tr>
<td>Total Score</td>
<td>26.50(4.09)</td>
<td>28.69(3.16)</td>
</tr>
<tr>
<td>Context</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiritual</td>
<td>12.81(1.94)</td>
<td>13.00(1.97)</td>
</tr>
<tr>
<td>Educational</td>
<td>9.56(1.21)</td>
<td>9.75(5.8)</td>
</tr>
<tr>
<td>Cultural</td>
<td>18.25(2.59)</td>
<td>20.06(3.02)</td>
</tr>
<tr>
<td>Total Score</td>
<td>40.63(4.16)</td>
<td>42.81(4.58)</td>
</tr>
<tr>
<td>CYRM-28 Total Score</td>
<td>110.44(8.12)</td>
<td>120.38(6.58)</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
The results indicate that group sandplay therapy has a statistically significant effect in improving the scores for the following subfactors of the personal factor of resilience: personal capability, peer support, social skills and the total score for personal factors. It was also found that group sandplay therapy has a statistically significant effect in improving the scores for the following subfactors of the caregiver relationship factor of resilience: physical care, emotional care and the total score for caregiver relationship. The same applies to the subfactors of the factor of resilience that have to do with context, including the spiritual, educational and cultural contexts and the total score for contextual factors. The total score for CYRM-28 was also significantly improved ($t=-6.09$, $p<.001$).

2. Qualitative Research Results

By means of qualitative analysis, the sandpictures created by the participants were categorized into three large themes: garbage, salvation and big project.

1) Garbage

The participants were abandoned like garbage and ended up living in piles of garbage on the streets.

Some stated that when one or both of their parents passed away, they went from one relative’s house to another, where they were often abused. Others said they came out into the streets to find food for their parents who were ill or disabled. They went through garbage centers, rummaging for food and objects that could make money. The children were aware that street life is very dangerous and harmful. But they had no choice. Street life was their only option, and it was the only thing they had. During group sandplay therapy, several participants made sandpictures of garbage centers that held desirable items. Figures of children, wolves, bugs and police officers aiming guns were placed in front of the garbage centers. Though their lives on the streets were shadowed by danger and garbage, garbage was the only lifeline they had. In that sense, garbage may be something of great value to these children.
“I had to find food before the street dogs, bugs and other children did. There was nothing to eat at home, and I had to take care of my mother who was sick in bed. Once, I was walking around in hunger and went into a store and stole something. The police came after me and I ran away.” - Child G (14 years old, male, session 1)

“My house was full of bugs and there were uncles who beat me so I would wander around the streets before going home. When I got hungry, I went to the garbage center with my friends. On days I couldn’t find anything to eat, I had to starve.” - Child P (15 years old, female, session 1)

2) Salvation

During the days when the children were struggling to make a living on the streets,
staff members of the child welfare facility approached them. At first, the children were suspicious and defensive. But with continuous care and interest, they started to open up. The welfare facility provided a new home and school for the children, and now the children consider the welfare facility and its staff their saviors. The participants expressed their gratitude by using figures of princesses, queens or Elsa to depict the superintendent and staff members of the welfare facility. At the same time, a queen or princess is not someone anyone could easily approach. The number of staff at the child welfare facility was far less than the number of children living there, which made it very difficult for any individual child to receive intimate and emotional care.

"I met the superintendent on the streets with my friends. The superintendent helped me get into school, gave me food and saved me." - Child A (16 years old, male, session 2)
“My teacher asked me if I wanted to go to school, and offered to help. We are on vacation now and I’m bored so I can’t wait until school starts again.” - Child J (15 years old, female, session 2)

3) Big project

The participants talked about the big projects they have planned for the new life they gained at the child welfare facility and depicted them with sandpictures. Stating they want to become journalists, teachers, nurses, doctors and lawyers, the participants added that they wanted to help children like themselves and depicted these dreams with sandpictures. The participants built large houses with farms and cars that could accommodate street children. They mentioned that the houses could be protected with fences and barriers.

The big projects contained images of selflessness that are well accepted by adults and the society, such as dedication and service, but only a small part was set aside for the children themselves. This excessive expression of selflessness may have come from the children’s lives at the welfare facility. The children here are socialized to care for one another, with older children often taking care of the younger ones.

“My friends and I are working on a big project. We will be building a facility that rescues children like me, and I will be making houses and schools. I will also build a place where my family and I can live together.” - Child C (16 years old, male, session 3)

Fig 5. Sandpicture of Child C (session 3)
“I will bring in children living in the streets, put them in school and feed them. There are chicken and cows, a big house and a car. I want to become a nurse who treats sick people.” - Child J (14 years old, female, session 3)

IV. Conclusion And Discussion

This study looks into the effects of group sandplay therapy on Uganda street children, with a qualitative analysis of the sandpictures that were created by participants. The results of the study are as follows:

First, sandplay therapy was effective in reducing PTSD symptoms of street children in Uganda. Having the opportunity to express traumatic experiences in the presence of therapists and peers and receiving psychological support from them in a safe environment provided by the tent and the sandbox may be the main reason behind this improvement. The results are also consistent with the studies of Hwang (2017), Jung (2010) and Cho & Kim (2010), which also found that sandplay therapy is effective in reducing PTSD symptoms.

Second, sandplay therapy was effective in improving the resilience of street children in Uganda. The results are consistent with the studies of Lee (2016) and Yoo and Park (2010). However, the results show that sandplay therapy did not have a significant effect on the peer support subfactor of the personal factor of resilience, the emotional care subfactor of the
caregiver relationship factor of resilience and the spiritual and educational subfactors of the contextual factor of resilience. This may be due to the fact that even though sandplay therapy was conducted on a group basis, in most cases the children find it difficult to receive support from other children living at the welfare facility. Furthermore, the children lack dedicated and emotional care due to the fact that number of children at the welfare facility far outnumber the caregivers. The length of the study program was also too short to bring significant change to the long-term spiritual and educational contexts. The change observed in the cultural context may have come from a shift in the participants’ expectations about a new form of culture that involves play.

Third, the participants created sandpictures representing the three main themes of garbage, salvation and big project. The participants shared stories of their past with the therapists and peers in a safe environment provided by sandplay therapy. Throughout the sessions, the participants talked about their dreams and how their lives have changed from the past to the present, and their expectations for the future. However, only three sessions of group-based sandplay sessions were conducted, so there is a need to explore deeper into and analyze each individual participant.

The study presents some limitations and suggestions for future studies:

First, the study was conducted on only sixteen street children in Uganda living in one child welfare facility. It is thus difficult to generalize the findings to the entire population of Uganda street children.

Second, only three sandplay sessions were conducted due to local circumstances and the given environment. More time will be needed to make an impact on the participants’ everyday lives. In addition, no follow-up monitoring took place to check if the effects of sandplay therapy are lasting. Follow-up studies should be conducted to allow for long-term intervention that brings real change, and to verify the durability of the effects.

Third, only one group of participants took the pretest and posttest. In other words, the effect of group sandplay therapy was tested only on a single experimental group and not a control group. As there was no other group to compare and verify the effects of group sandplay therapy, there are limitations in generalizing the findings of the study.
In summary, group sandplay therapy was found to be effective in reducing PTSD symptoms and improving resilience of street children in Uganda, and is expected that longer-term interventions will bring even more positive results. This study may also serve as a base reference for future studies that seek to understand the emotional characteristics of children living in child welfare facilities who have experienced street life, neglect and abuse, and to implement psychotherapy interventions.

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