

Using the Squiggle-Drawing Game in Assessment of Preschool Children

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This study centered around the two main questions, namely: confinement of the age-range of children the Squiggle-Drawing technique of Claman (1980) was designed for, and many inherent difficulties prevalent in today's popular methods of assessing younger children. With the view and hope of going beyond the present limitations, we experimentally administered the squiggle-drawing game to a group of preschool children in a modified fashion geared to a single purpose of psychological assessment. Analyses of children's responses to this approach provided some clues to their personal worlds in regard to the level of intellectual functioning, integrity of personality, soundness of affective development, and the degree of social development. The experiment implied that using the squiggle-drawing game for assessing younger children may be promising to overcome shortcomings of the conventional measures relating to younger children's language barrier, emotional fragility, and rapid development.

Recently, the use of art therapy has become more and more popular. It has expanded into use with an increasing range of children, including normal and retarded children (Nickerson, 1973a, 1973b, 1973c, 1980; Roth & Barnett, 1980; Wilson, 1977); and into work in school settings (Nickerson, 1973a, 1973b, 1973c); as well as in family settings (Burns & Kaufman, 1970; Kwiatkowska, 1967).

Advantages of art therapy include those shared by play therapy and some additional ones. Play therapy provides a child with a natural, easy, and nonthreatening opportunity to reveal fears, hopes, and fantasies through play. Thoughts and feelings which are perplexing and troubling are revealed through representational or symbolic play. According to Nickerson (1983), art is one form of this kind of symbolic communication which offers an opportunity for therapeutic treatment.

In addition, art is instant graphic communication directed toward someone or the self as an expression of emotion. Thus, art can help

children express themselves more openly and help the therapist understand problems they are unable to talk about. Through art activities the child can reveal concerns more readily and with greater ease than with the usual approaches of verbal therapy.

Because in art work there is a definitive end product, working in an art medium is an active, intuitive process which allows feelings of mastery and competence to emerge. Although the use of toys in play, for example, involves objects whose functions are largely predetermined, the use of art allows the child to create form and function. These creations may be as varied, imaginative, and personal as the child desires.

Moreover, art usually has special appeal to children. According to Kramer and Ulman (1982), artistic expression takes place more readily with children than with adults, because of their limited responsibilities and their need to prepare for adult life through symbolic living in play and fantasy.

Among specific art techniques which have

been proposed and used in art therapy, the Squiggle-Drawing Game is an art activity aimed at latency-aged children. The Squiggle-Drawing Game has been adapted by Claman (1980) from Winnicott's (1971) Squiggle Technique and from the storytelling approach of Gardner (1971). It is recommended as a useful technique for obtaining thematic material and communicating through metaphors with latency-aged children who tend to resist direct approaches to their problems and feelings.

Winnicott (1971) used the Squiggle Technique to communicate with his child patients. Essentially, it consists of asking the child to make a drawing out of the therapist's squiggle, with a squiggle being any variation of a straight, curved, or wavy line.

In the Squiggle-Drawing Game, Claman (1980) elaborated on this basic procedure by asking the child to make up a story about the drawing and asking a few of the usual questions about the drawing (e.g., What's going on in it?). Then Claman reverses the procedure with the child starting with a squiggle, the therapist making the squiggle into a drawing, telling a story about it and the child asking questions.

We thought about seeking benefit from using this game with much younger age-group of children than the age-group intended by the advocate. But a question arose. Is this extended use of the game practical? If so, with what kind of measures and for what objectives?

What seemed to us necessary and appropriate was to develop this art technique into an assessment measure for preschool children. This was based on two observations. First, diagnostic potentials of art remarked in the preceding discussion of art therapy were too appealing to overlook as we pursued effective means to understand and help young children in general. Some more authorities further underscore our position. Kramer and Ulman (1982) maintain that works of art, viewed as the result of many free choices both conscious and unconscious, sometimes dramatically reveal facets of personality not easily accessible through either verbal interviews or the observation of less highly individual forms of activity. The significant potential value of using

free art expression for psychological assessment is supported by evidence that important diagnostic indications may be discovered through it long before they can be identified by the more conventional projective procedures (Ulman, 1975).

Second observation relates to present situation of clinical practice with younger children. Although a number of techniques for assessing preschool children have been proposed, direct measures which involve formal test situations appear doubtful concerning appropriateness for very young children. Can they be correctly assessed and grasped in a test setting calling for particular attention and some expressive abilities? Young children are unique in that they are handicapped as compared to older children or adults in language use. Besides, most children of this age-group seem to be seeking self-assurance from sources of authority outside themselves. This need for emotional security can make them unstable and vulnerable under any kind of pressure in an assessment situation. Often not knowing for sure if their views or actions are acceptable ones, they tend to reserve them and try to respond to assessors in a way they perceive they are expected to. Finally, it should be noted that young children are still in the changing process of development. The data of assessment once obtained lose validity quickly. Repeated assessment using the same procedure, however, may reduce children's motivation and make it hard for assessors to obtain fresh and undistorted responses.

In what way could we overcome these problems of assessing younger children with existing measures? This is the second question which led us to conduct the present investigation. We attempted to apply Claman's (1980) method of squiggle-drawing game to a group of preschool children and devise ways to make their responses interpretable and useful for psychological assessment. Special efforts were made in regard to assessment of affective and social development in consideration of relative scarcity of presently available measures in these domains. Analysis of affective development focused on children's awareness of feelings, that is, an ability to differentiate affects, as well as their emotional experience. Assessment of social development beared

upon such issues as the social forces and milieu in which children are developing, or children's peer group membership and adjustment.

Method

Preparatory Work

The administrator of the game (the first author) read story books written for young children in preparation for the activity prior to the experiment. This was intended for the administrator to be better prepared to participate in the game on the same ground with children and to interact with them in an understanding and encouraging manner.

Experiment

Subjects. 23 preschoolers (9 males, 14 females, ranging from 3:9 to 6:6 years of age) who go to O nursery school in Ibaraki prefecture.

Procedure. A child was asked to sit face to face with the experimenter (the first author) at a desk in a room of the nursery school. Then, the experimenter drew a squiggle on a white page of a notebook and told the child to draw any drawing he or she would like by adding to this squiggle. The child was given a pencil and the notebook. After he or she was finished with the drawing, a tape recorder was turned on and the experimenter asked the child to tell a story about the drawing. Several questions were asked to clarify the meaning of the drawing, including the questions such as: "What is going on?," "How is the character feeling?," "What happened before?," "What will happen next?." The squiggles consisted mainly of the three types shown in Figure 1 and were selected randomly in order.

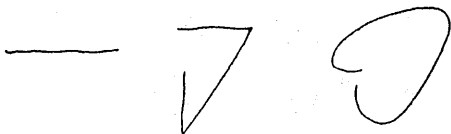


Figure 1. Squiggles used in the experiment.

Results

Children's Drawings and Stories

The results of detailed analyses and examination of children's responses are presented selectively for five cases. The initial of the name of the subjects as well as the gender (Female: F, Male: M) and the age (6:6 stands for 6 years 6 months of age at the time of experiment administration) are listed along with the number of the figures representing their drawings.

- Case 1. Y.Y.(F. 6:6) : Figure 2
- Case 2. M.N.(M. 6:2) : Figure 3, 4, 5
- Case 3. E.Y.(F. 5:0) : Figure 6a, b, c
- Case 4. M.A.(F. 5:0) : Figure 7
- Case 5. A.I.(F. 4:10) : Figure 8, 9, 10

The drawings for each child are presented in the order of administration. Subsequently, examples of the transcribed session records (Case 1, 4) are given.

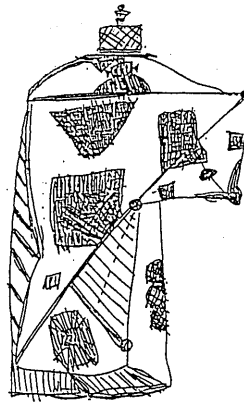


Figure 2. Case 1.

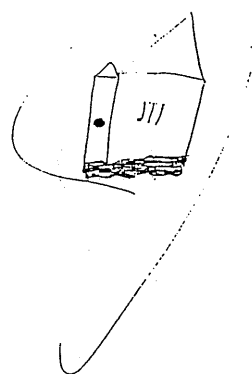


Figure 3. Case 2, Drawing 1.

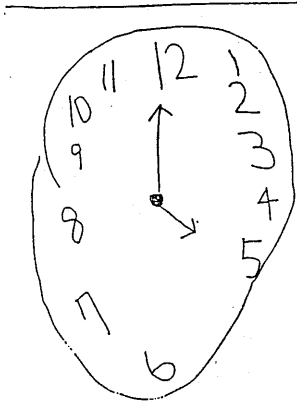


Figure 4. Case 2, Drawing 2.

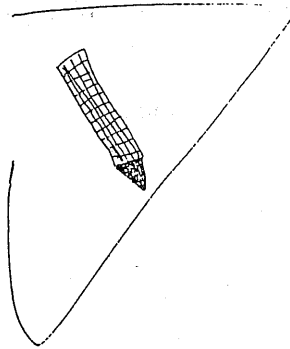


Figure 5. Case 2, Drawing 3.

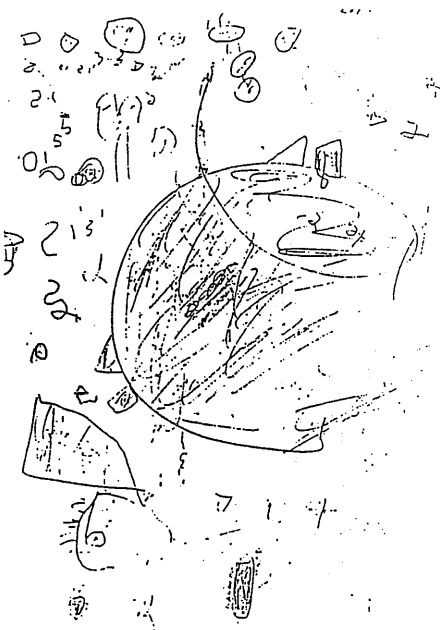


Figure 6a. Case 3.



Figure 6b. Case 3 (extension on the second page).

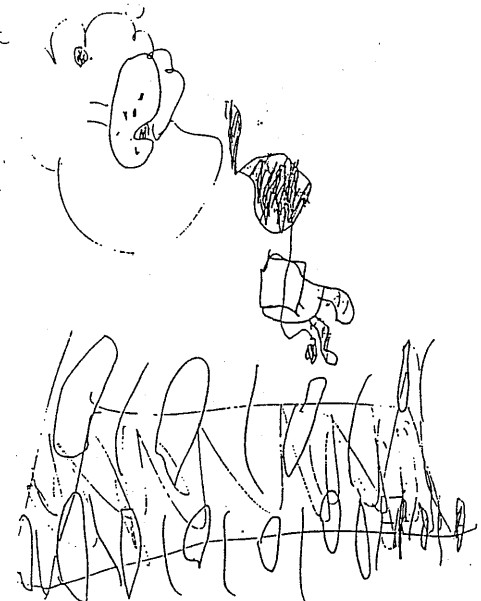


Figure 6c. Case 3 (extension on the third page).

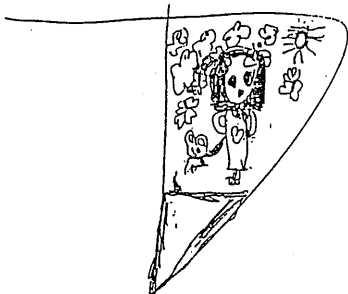


Figure 7. Case 4.



Figure 8. Case 5, Drawing 1.

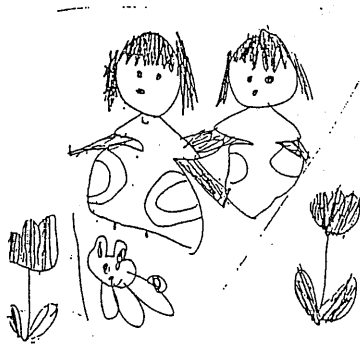


Figure 9. Case 5, Drawing 2.

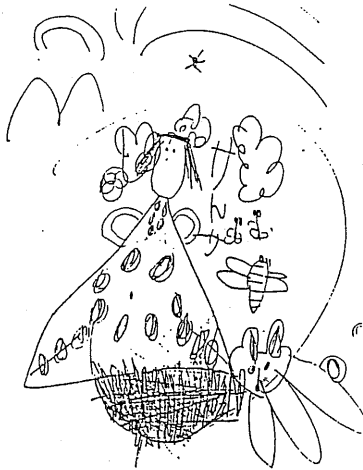


Figure 10. Case 5, Drawing 3.

Case 1. (じゃあ、ちょっとお話してほしいんだけど、これ何の絵だった？ 何かいた？・・・見せて。わあ、何、これ？)

おしゃれなペンギン。

(ん？)

おしゃれなペンギン。

(おしゃれなペンギン、あー、ペンギンちゃんか。このペンギンちゃんのお話してくれるかな、お姉さんに。)

ん？

(このペンギンちゃんのね、お話して・・・どんなペンギンちゃん？ どこに住んでるの？)

南極。

(南極、んー。ひとりぼっちで住んでるの？)

家族4人で住んでるの。

(家族4人。誰がいるの、他に？)

このペンギンと、

(うん。)

お兄ちゃんがひとりと、

(うん。)

弟がひとりと、

(うん。)

お母さんがひとり。

(あ、本当。うーん。お父さんはいない。どうしたのかな？)

死んじゃった。

(死んじゃった。ずーっと前に？)

去年。

(去年。何で死んじゃったの？)

ガンで。

(ガンで。じゃ大変だったんだね。ふーん。で、じゃあこの子は、おしゃれだから女の子かな？・・・男の子かな？)

女の子。

(女の子。んー。で、何してるところ？)

鏡で自分を見てるところ。

(あ、本当？ 何て思ってる、鏡見ながら？)

きれいだなと思ってる。

(きれいだなと思ってる。じゃこれからどうしようかなって思ってるかな？・・・どこかに行こうかなって思ってるのかな？)

ん。

(どこに行こうかなって思ってるのかな？)

公園。

(公園。うわあ。公園で何するのかな？)

滑り台で遊ぶの。

(滑り台で遊ぶ。うん。そこに誰がいるの、公園に行くとき？)

お友だちの、

(うん。)

NちゃんやRちゃんや、そういう子がいるの。

(あ、本当？ じゃ一緒に滑り台して遊ぶの？)

ん。

(NちゃんやRちゃんとはいいお友だち？)

時々けんかする時がある。

(あっそうなの？ どうしてけんかするの？)

おもちゃの取りっこ合いか。

(あ、うん。・・・で、どっちが負けてどっちが

勝つの?)
 三人では、
 (うん.)
 Nちゃんが、
 (うん.)
 んー、ひとりぼっちにされちゃうところがあるから、
 (うん.)
 んーNちゃんが少し負けてる。
 (あー本当。あ、じゃ、Rちゃんと、このペンギンちゃんが、二人で一緒になっちゃうの?)
 ん。
 (うん.)
 KちゃんとEちゃんとMちゃんでも三人だったらうまくいく。
 (あ、本当。どうして。気が合うの?)
 ん?
 (三人の方が……。ひとりになっちゃうってどうして?)
 ひとりになっちゃうってどうして?
 (うん。ひとりになっちゃうの、意見が違うのかな?)
 ん。
 (あっそうかな。……。じゃこのあとどうするの、公園で遊んで、そのあとどうするのかな?)
 ん?
 (公園で遊んで、そのあとどうするのかな?)
 おうちに帰って勉強する。
 (勉強する。何勉強するの?)
 国語と社会。
 (あーすごい。ふーん。へえこのペンギンちゃん どうしてこんなにおしゃれなのかな?)
 きれい好きだから。
 (きれい好きだから。うん。ちょっと説明して。何つけてるの?。。。冠。。。だよね。)
 ん。
 (うん。これ何?。。。お洋服かな?)
 ここからここまでがお洋服なの。
 (あー本当。で、じゃ、これは、何?)
 足。
 (足。これは?)
 洋服の模様。
 (模様。うん。これ全部模様?)
 ん?
 (洋服の模様、これ全部?)
 うん。
 (んー。すごい素敵だね、このペンギンちゃんね。おしゃれだね。。。。どんな気分でのいるのかな、

このペンギンちゃん?)
 素敵な気分。
 (素敵な気分。これからお出かけするから?)
 ん?
 (どうして素敵な気分なの?)
 これからお出かけするから。
 (これからお出かけするから。うん。ありがとう。すごい素敵な絵だね。ありがとうね。大事にするね、この絵ね。どうもありがとうね。)
 Case 4. (もういい、できた?)
 ん。
 (うん。じゃあMちゃんお話して。。。。何かいたの?)
 女の子。
 (女の子。で、ちょうちょがいて。)
 うん。
 (で、うさちゃんがそばにいて。ちょうちょがいっぱいいるのかな。で。。。)
 ~~~~~  
 (あー。止まってるの?)  
 ~~~~~  
 (あ本当だ。で。。。雲? いいお天気なんだ。これは何? 心臓?)
 うん。
 (ハート。わあ。)
 お洋服~~~~~
 (何してるところ?)
 後ろに手を隠してて。。。
 (うん。どうして隠してるの? 何か持ってるの?)
 ん。
 (何持ってるの?)
 後ろに何か隠してて。
 (うん。)

 (何かいい物かな、隠してるのは。。。わあー。贈り物?)
 ん。
 (誰にあげるの?)

 (誰かにあげるんだ。で、うさちゃんは? 何してるの?)
 うさちゃんはあっち向いてて、
 (うん。)
 何か見てるの。
 (何か見てるの。二人一緒に、何してるの、お散歩してるの?)

・・・うさちゃんがいる、それで、縛ってあるの。
(これから何するところ?)

あのね、お散歩してどっかに行くの。

(どっかに行くの。・・・どこに行くの?)

あのね、それでね、お散歩して公園に行つてうさちゃんと一緒に遊ぶの。

(ん?)

~~~~~うさちゃんと遊ぶの。

(うさちゃんと遊ぶの。何して遊ぶの、うさちゃん。)

・・・

(鬼ごっこ?)

ん。

(あー本当、わあ。・・・どんな気持ちでいるの?)

ん?

(どんな気持ちでいるの?・・・嬉しい?)

・・・

(可愛いね、この子すごく。この子誰? Mちゃん?)

・・・

(先生? あー本当? うわあ、こんな可愛くかいてくれたの。・・・これ何?)

ん?

(これは何?)

これ。土の中。

(ん? 何か?)

土。

(土。そっか。じゃここは道路? 公園に行く道?)

ん。

(あっそっか。どうもありがとう。)

### Analysis

*Procedures.* The results were analyzed using the procedures developed from two separate standpoints: ① artwork evaluation and ② structure and content analysis of the drawing and the story. The first procedure was adapted with modification from Kramer's (1977) checklist for art therapy evaluation proposed as the assessment procedure whereby art therapists gain insight into children's personalities. The second one derived from three different sources: Pitcher and Prelinger's (1963) Rating Categories for analyzing stories told by children from two through five years; Bellak and Bellak's (1949) variables for interpretation of the C. A. T.; and Palmer's (1983) writing from the book titled,

### *The Psychological Assessment of Children.*

The checklist and the items of analysis for these two procedures are given below.

#### ① The checklist for artwork evaluation

##### (1) Quality of the Artwork:

(a) No Product: Withdrawal; playful experimentation or play.

(b) Product in the Service of Defense: Banal, common stereotype; personal stereotype; bizarre stereotype.

(c) Product in the Service of Primitive Discharge: Chaotic; aggressive.

(d) Attempt at Formed Expression: Successful (a product with evocative power, inner consistency); nearly successful; failed (when and how did it fail?)

(2) Formal Character of Artwork: Empty, full, dull, original, fragmented, integrated, static, dynamic. Does the work give indication of skill or talent?

(3) Subject Matter of Artwork: What themes emerge? Is there any contradiction between overtly stated subject matter and the message actually conveyed by the work?

##### (4) The Child's Attitudes:

(a) General: Cooperative, withdrawn, rebellious, suspicious, ambivalent, clinging, ingratiating, charming, distractible, anxious, intense, and so on; changes of attitude in the course of the session.

(b) Toward His or Her Work: Highly invested, indifferent, proud, denigrating, destructive.

(c) Toward the Art Material: Acceptance, dissatisfaction.

#### ② The items of analysis of the drawing and the story

(1) Expansion (the greatest degree of expansion found in the drawing and the story indicated by specific mention of places such as world, zoo, woods).

(2) The Main Figure (MF) (Who is the figure about whom the story is woven primarily, and from whose standpoint the events are seen? : identity, self-image, interests, traits etc.).

(3) The Constellation of the Social World and the Features of Interpersonal Relationships

(4) Emotional Differentiation (amount, kinds, and

attribution of affects expressed in the drawing and the story).

(5) Relation to the Squiggle (cognizance and use of the stimulus).

(6) Degree of Originality (stereotyped vs. creative).

(7) Plot (the ability to go from a past background of the story to a future resolution and consistency of the thought process).

#### Results.

#### Case 1 (Y.Y.)

##### ① Artwork

(1) (d) Successful.

(2) Full, original, integrated; skill is indicated.

(3) A fashionable penguin girl.

(4) (a) Cooperative, (b) Highly invested, (c) Acceptance.

##### ② The drawing and the story

(1) The South Pole.

(2) A young girl adorned with fancy clothes and a crown who is looking at herself in a mirror. She thinks of herself as pretty. She likes to adorn herself because she loves pretty things. She is interested in playing on a slide in a park and studying Japanese, social studies, and so on at home.

(3) Figures around MF --- an older brother, a younger brother, a mother (a father died of cancer a year before); friends (N., R., K., E., M.).

Relationships --- MF is close to her friends, N. and R.. They sometimes have a quarrel over their toys etc.. N. is often left alone, because she tends to be rather oppressed by the other two. On the other hand, K., E., and M. get along well with each other, though their group is of the three persons as the group of MF.

(4) In the drawing --- No affects are shown.

In the story --- MF is in a fantastic mood, because she is about to go out.

(5) Drawn appropriately using the squiggle as an integral part of the finished work.

(6) Very creative.

(7) Formed in chronological order. Realistic and consistent.

#### Case 2 (M.N.)

##### Drawing 1

##### ① Artwork

(1) (d) Successful.

(2) Integrated; skill is indicated.

(3) A house.

(4) (a) Cooperative, anxious, (b) Highly invested, (c) Acceptance.

##### ② The drawing and the story

(1) Hanabatake.

(2) The subject. He lives in a two-storied new house which is painted in yellowish green and has a black roof. There is nothing nearby, but in a neighborhood park he plays riding in a jungle gym.

(3) Figures around MF --- his parents.

Relationships --- His parents stand by and watch the subject riding in a jungle gym.

(4) In the drawing --- Affects are not apparent, but the house is slightly tilted and looks as if it is swayed by the wind.

In the story --- No affects were mentioned.

(5) Used it only as an enclosure in the background.

(6) Personal and original.

(7) Plot is not present, but integrated thought processes were exhibited by the appropriate answers to the questions.

##### Drawing 2

##### ① Artwork

(1) (d) Successful.

(2) Integrated.

(3) A clock proclaiming five o'clock in the afternoon.

(4) (a) Cooperative, (b) Highly invested, (c) Acceptance.

##### ② The drawing and the story

(1) The nursery school.

(2) The subject.

(3) Figure around MF --- his mother.

Relationship --- MF wishes that his mother would come to pick him up at the nursery school soon.

(4) In the drawing --- No affects are shown.

In the story --- A happy feeling was indicated as an affect in response to his mother's coming.

(5) It was not ignored but was not integrated into the drawing.

(6) Original.

(7) Consistent and clear thinking was indicated.

##### Drawing 3

##### ① Artwork



- (1) (d) Successful.
- (2) Full, original.
- (3) A pencil.
- (4) (a) Cooperative, relaxed, (b) Highly invested, (c) Acceptance.

② The drawing and the story

- (1) The subject's room.
- (2) The subject. He uses a pencil to write Chinese characters.

(3) Figure around MF --- his mother.

Relationship--- MF shows the Chinese characters he has written by a pencil to his mother, and she compliments him on them. He learned Chinese characters from her.

(4) Not indicated.

(5) Used it only as an enclosure in the background.

(6) Original.

(7) Formed in chronological order.

Case 3 (E.Y.)

① Artwork

(1) (c) Chaotic.

(2) Full, fragmented.

(3) The administrator's face, a snail, Father, Mother lying with a glass of Sapporo beer by her side, a carrot, a field, the face of Brother, the face of Father, a maze, self, a house, a friend (T.), the feet and the body of Santa Claus, a row of 10.

(4) (a) Cooperative, ambivalent, defensive, (b) Proud, sometimes denigrating, (c) Acceptance.

② The drawing and the story

(1) The living area.

(2) The subject.

(3) Figures around MF --- the administrator, her father, mother, and older brother, a friend (T.), Santa Claus, a snail: Her mother is illustrated and explained as sleeping. (The drawing, however, shows that her eyes are wide open and she has a glass of beer in her right hand.) The subject considers her father to be lewd.

Relationships --- The subject does not like her brother because he was silly enough to have eaten their father's portion of a cake of pounded fish as well as his own.

(4) Not indicated.

(5) Used it as an integral part of her drawing of a snail.

(6) Original.

(7) No plot is identified, but various topics were mentioned in a chaotic and abrupt manner.

Case 4 (M.A.)

① Artwork

(1) (d) Successful.

(2) Full, original, integrated, dynamic.

(3) A girl with a rabbit.

(4) (a) Cooperative, charming, (b) Highly invested, (c) Acceptance.

② The drawing and the story

(1) A road and a park, under the sun and clouds.

(2) A girl described as the administrator. Looks lovely. Wears a dress.

(3) Figures around MF --- a rabbit, butterflies.

Relationships --- MF and the rabbit (tied with a rope) are taking a walk to a park and will play tag together there. A couple of butterflies alight themselves on the head of MF.

(4) In the drawing --- MF smiles and has a heart. She holds and hides something good in her back. The rabbit looks the other way and watches something.

In the story --- Unanswered.

(5) Used it only as an enclosure in the background.

(6) Very creative.

(7) Formed in chronological order. Integrated and consistent.

Case 5 (A.I.)

Drawing 1

① Artwork

(1) (d) Nearly successful.

(2) Original, integrated.

(3) A girl in a wood, peering into the footprints of a thief. (But the drawing actually suggests that the eyes and the face of a girl turn to the other way.)

(4) (a) Cooperative, (b) Highly invested, (c) Acceptance.

② The drawing and the story

(1) A wood.

(2) R. (A.I.'s friend).

(3) Figure around MF --- a thief.

Relationship --- Presumably, a thief entered MF's house.

(4) Not apparent.

(5) Ignored.

(6) Creative.

(7) Formed in chronological order.

## Discussion

### Drawing 2

#### ① Artwork

- (1) (d) Successful.
- (2) Original, integrated.
- (3) Two girls in a garden (stated as Cinderella, who is playing).
- (4) (a) Cooperative, ingratiating, (b) Highly invested, (c) Acceptance.

#### ② The drawing and the story

- (1) Not mentioned.
- (2) Cinderella.
- (3) Figures around MF --- a friend, flowers, a rabbit.

Relationship --- A larger girl has a smaller flower and a smaller girl has a larger flower nearby.

- (4) In the drawing --- Not clear.

In the story --- Cinderella feels merry because she is playing. A rabbit feels happy because she is with Cinderella.

- (5) Explained as a house.
- (6) Creative.
- (7) Not found.

### Drawing 3

#### ① Artwork

- (1) (d) Nearly successful.
- (2) Full, original, integrated.
- (3) A woman standing in the open air and hiding a gift in her back.
- (4) (a) Cooperative, (b) Highly invested, (c) Acceptance.

#### ② The drawing and the story

- (1) The open air.
- (2) Teacher.
- (3) Figures around MF --- a rabbit, butterflies.

Relationships --- Not clear.

- (4) Not apparent.
- (5) Explained as the open air.
- (6) Creative.
- (7) Not found.

#### *Discussion of Case 1*

Y.Y.'s artwork gives indication of artistic skill and interest. Also, her very creative artistic and verbal response is a sign of intelligence. Furthermore, a well-formed plot suggests realistic and consistent thought processes.

In the light of the fact that the family and friends were mentioned in the story as central figures around MF, they are considered to be significant part of Y.Y.'s social identity. A rather exceptional family constellation and history which she talked about in the story may also be regarded as a true story about herself; however, obtaining evidence from additional sources, such as an interview with her mother, for instance, would be desirable in confirmation of this information. Of particular notice is the possibility of her father's absence, due to his death of cancer which took place a year before.

In addition, Y.Y.'s comparative analysis and observational comments regarding the social relationships among friends illuminated the facts that she has two close friends to play with, and that she is one of the rather dominant members of her group.

Though affects are not clearly observable in the drawing, MF was described as being in a fantastic mood. This statement implies her awareness of feelings, or an ability to make discrimination among affective experiences at least to a certain degree. A fantastic mood was attributed to MF's intended action that immediately follows, which attests to the external source and modality of this affective experience.

#### *Discussion of Case 2*

All of M.N.'s works successfully display objects in his daily life environment. The process of three sessions effectively revealed his original interest and some meaningful aspects of his everyday experiences. Moreover, the drawings and the stories indicate the subject's sound observation of his environment as well as his integrated thought processes.

In regard to the subject's social development, the stories suggest strong presence of his parents,

particularly his mother, in his social world. The data further indicate that M.N. perceives his mother as a dependable and supportive figure.

The subject was able to give a satisfactory answer as to his emotion in a particular social situation; thus his ability to differentiate feelings was demonstrated. Likewise, his mode of experiencing feelings through interaction with an external event was exhibited.

Along the course of developing sessions, it was noted that the subject changed his attitudes in a positive direction. Though some anxiousness was observed in the first session, increasing amount of openness and readiness were shown in the following sessions. This was especially noticeable in his manners of answering questions, which gradually grew more straightforward. Assumably, M.N. became less defensive as he got used to the situation.

#### *Discussion of Case 3*

An evident feature of E.Y.'s drawing is that a number of subject matters are scatteredly drawn all over the page (and even in the following two pages). In addition, the choice of these subject matters does not seem to reflect any coherence, but presumably they randomly come from her daily life experiences.

Another distinct feature is in her attitudes in general and toward her work. When she was probed regarding her parents, she either answered in an avoiding fashion or changed the subject immediately by calling the administrator's attention to something else, both of which are suspected as the responses made in defense. In fact, she never allowed the administrator to dwell on one subject, but kept bringing up a new one on and on in an abrupt and chaotic manner. She also frequently called her first work already done a mistake, especially on being questioned, and attempted another one to make a correction. She looked uncertain particularly about the drawing result of her father, even after the repeated trials.

She referred to many figures including her family, her friend, Santa Claus, and the administrator, which may indicate the variety and differentiation of the social groups with which she identifies herself socially.

The two drawings of her mother show that she is not standing but lying, and with a glass of Sapporo beer in one drawing. On the other hand, the father was drawn in her first drawing by only a small and simple face, as if he is not a significant figure. He was described as lewd by the subject. These may be the signs of the peculiar ways that the parents are perceived by her as well as the possibility that there may exist a problem with the parents, which need to be probed further. In addition, the subject's statement about her older brother hints the negative aspect of their relationship.

#### *Discussion of Case 4*

M.A.'s drawing is unique in that it is dynamic and conveys a significant story by itself. The rich amount of expressions shown in the drawing particularly indicates her awareness of a variety of affective and psychological experiences. The warm friendship between the rabbit or butterflies and MF also demonstrates her healthy social relationships. Especially the rope tied to the rabbit is considered to represent a close tie between her playmate and herself.

The overall drawing conveys her attention to the background as well as to the interrelationships among the drawn subject matters, which makes her work whole and creative. The story organized consistently in the plot also testifies her integrated thought processes.

#### *Discussion of Case 5*

All the drawings of A.I. show a human figure (or human figures) in the open air, with other objects and living creatures in the background. Her efforts to produce a story-drawing were seen throughout the session.

Figures who appeared in her stories include R. (A.I.'s friend), a thief, a friend, flowers, a rabbit, Teacher, and little creatures. As regards their interrelationships, however, no indication was given from the subject. Whereas a little girl and a woman are drawn differentially in size and posture, the face of individual figures looks alike, scarcely showing any affect. Absence of a close tie between figures may be seen as one characteristic of her story-drawings.

On the other hand, she was able to answer the affective states of Cinderella and the rabbit in relation to the situation, in discussing the second drawing. The gap between her ability to differentiate feelings or the size of a person cognitively and her ability to express emotion or individuality of a person artistically may be marked as another characteristic of this case.

#### *General Discussion.*

If any comparison is made among the aforementioned five cases, few similarities and a great many differences are observed. The meaning of the data and the experiment is going to be discussed, firstly in terms of the two procedures used in analyzing the subjects' responses, and secondly in an attempt to answer the original questions of the study.

First of all, general findings through the proposed analytical procedures are to be reviewed. Some clues to the child's resources and current state were provided by observations suggested by the checklist for artwork evaluation. In general, those children whose attitudes toward their work were highly invested succeeded in attaining formed expression. On the other hand, some children, usually relatively young in age, were indifferent toward their work and produced only stereotyped drawings. The child's general attitudes during the sessions often pointed to the unique or problematic personality held by a small group of children.

Indications of intellectual, social, and affective development were obtained by analysis of the drawing and the story guided by the seven items. Specifically, (6) degree of originality and (7) plot divided the children into two groups according to the presence or absence of manifested intelligence, creativity, and integrity of thinking.

(4) Emotional differentiation (amount, kinds, and attribution of affects expressed in the drawing and the story) also pointed to great individual differences among children: Some children, though immature in verbal skills, expressed a rich variety of affects in their drawings; whereas others, who were capable of explicitly stating the character's feelings, nevertheless failed in communicating any emotion or movement through

their drawings. Further exploration of the development of a psychological property or a certain "know-how" behind production of a lively and spirited work in a sharp contrast to a deadly and dull drawing may be of great interest.

In regard to social development, (3) constellation of the social world and the features of interpersonal relationships often illuminated the social experience of the child. For instance, many children unknowingly expressed strong attachment to significant persons in their lives, or their ideas about the common form of social living. Both the presence and absence of an important figure in their story served as the source of information regarding the degree of socialization attained by each child.

Nextly, implication of the overall experiment is to be reviewed with regard to the two questions set forth in the beginning.

1. *Application of the squiggle-drawing game to younger children.* The use of Claman's Squiggle-Drawing Game with preschool children proved feasible as a way of psychological assessment. The acquired analyses provided the clues to various personal information about the child, including: the level of intellectual functioning, integrity of personality, soundness of affective development, and the degree of social development.

2. *Consideration of the particular features of younger children.* (a) language barrier: During the experiment, drawings served as the common symbol for the child and the administrator which initiated, and then facilitated or stimulated communication. (b) emotional fragility: The enjoyable properties of the game (such as cooperation, creative process, freedom of drawing and talking) relaxed children and enabled them to be open and positive toward being inquired of themselves through the drawing. (c) rapid development: The squiggle-drawing game is suitable and constructive for repeated administration for the purpose of either a follow-up or developmental evaluation because of the developing nature of the game and the freedom of children to draw anything new every time.

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## Author Notes

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