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The influence of parent-child toys and time of playing together on attachment

Jo-Han Chang^a, Tien-Ling Yeh^{b,*}

^aGraduate Institute of Innovation and Design, National Taipei University of Technology, Taipei, 10608, Taiwan

^bDoctoral Program in Design, College of Design, National Taipei University of Technology, Taipei, 10608, Taiwan

Abstract

As grandparent rearing is growing year by year in Taiwan's dual-earner family, it raises a critical issue (how parents can efficiently accompany with their children. The study investigates in the influences of parent-child toys and time of playing together on attachment. The study is divided into two parts. (1) Literature Review. The relationship between playing together as a family and theory of attachment. (2) Questionnaire Analysis. The questionnaire focuses on the influences of different types of parent-child toys and the time of playing together for age 2-6 kids on attachment. Choosing 20 questions from attachment Q-set, preschool education specialists design this questionnaire. Questionnaires are distributed in December 2014, and 30 of them are collected. Results are as follows. (1) Instead of whole day as we imagining, the average time of playing together is 15 minutes each time, resulting in high level of attachment. (2) Symbolic play materials. Children play stuffed toys, dolls, and toys alone make them feel secured even if not playing together with parents. (3) Fluid-construction play materials. Playing dough or drawing pictures with children for 15-45 minutes not only enhances parent-child attachment but also makes children trust people easily and fearless of many things. (4) Structured-construction play material. Play building block, Lego, puzzle with children helps and encourages them to explore learning. In the security attachment, it will inspire children to develop positive attitudes. (5) Sensorimotor play materials. Accompanying with children for playing sliding slide and climbing-frame for 1 hour generates high level of attachment, making them not fear of unfamiliar environment. (6) Sign play-numbers and letters. Playing educational toys together for 60 minutes trains children to think and judge, allowing them to quickly adapt to changeable environment.

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* Corresponding author. Tel.: +886-2-2771-2171#2824.
E-mail address: johan@ntut.edu.tw

1. Introduction

According to the report of a survey conducted by the Child Welfare Bureau, Ministry of the Interior, In Taiwan the percentage of grandparenting had increased from 1.87% in 2005 to 2.03% in 2010 [1]. In Taipei City, the main problems parents in dual-earner families with at least a child aged 2~6 are facing include balancing career and family, inconsistent parenting methods, and not knowing how to guide a child to learn [2]. What pre-school children love best is to play. Over 99% of parents believe that playing is important for children. Parent-child co-playing helps to develop children's love, sense of safety, confidence, passion, and other positive abilities. It keeps children in a happy mood (77.5%) and facilitates their muscle development (69.5%). Yet, 46.1% of parents spend less than 1 hour a day playing with their child with full attention [3]. Therefore, based on the above-mentioned background and motivation, how to maintain the quality of parent-child interactions in an efficient way is an important issue for parents during their child's growing stage. The purpose of this study is to explore the influences of parent-child toys and co-playing time on the attachment relationship.

2. Literature

2.1 Parent-child attachment relationship

Attachment theory is a theory (or a set of theories) regarding the psychological tendency to look for intimacy with another person for sense of safety [4]. Binding is the feeling to connect one person with another person or something, such as liking or devotion; or some things that are tied and fixed [5]. Attachment is a strong emotional connection between a baby and his significant others. It is a process where psychology exceeds physiology. And the significant others here include his mother, father, siblings, rearer or main caretaker [6]. Attachment is also an emotional connection between parents and their baby, which is facilitated by parents and their baby continuously satisfying each other's needs. Building a mother-son attachment relationship is a learning process instead of an inherent spontaneous behavior [7]. If a child grows up in a safe environment with a lot of encouragements, he is more likely to trust himself and others and can actively show his friendliness. He is also more likely to be liked and accepted by others [8].

2.2 Play, toys, and parent-child attachment relationship

Piaget believed that playing is a behavior, with the purpose of feeling happy. It is an unorganized behavior, assimilation in cognitive development, to facilitate an individual's development in cognition [9]. Landreth and Bratton pointed out that experiences of playing are therapeutic, for they can create a safe relationship between children and adults, so that children can, in their way, spend their own time to describe themselves freely [10]. According to a qualitative analysis of parent-child play therapeutic process Lahti [11], parent-child play therapy can not only increase parents' confidence and sense of competence, reduce their control over their child, and help them shoulder the responsibility of taking care of their child, but also improve their awareness of needs, which can both facilitate parent-child communication and improve husband-wife communication. This way their expectation of others can be more practical. Moreover, the influences of the process of parent-child play on children include: improving their communication with their parents, increasing their sense of responsibility, reducing their behaviors like shrinking back and attacking, changing their wrong beliefs, and increase their sense of happiness.

For children, playmates are the main factor of learning of identification during the process of play. During the process of play, children's learning of identification is influenced by their parents, siblings, and classmates/friends [12]. Among children's behaviors, adaptation is explained by Barbara as the result of an individual's behavior out of his dependency on the situation. At the end of the 19th century, the Reinforcement Theory was proposed, addressing that a "behavior" is a reaction to an external stimulus. Through the reinforcement effect, an occasional behavior can produce an association. The main targets of the reinforcement effect are learning process and behavioral effect [13]. According to Piaget's theory about play and cognitive development, forms of toys are categorized into symbolic play materials, fluid construction play materials, structured construction play materials, sensorimotor play materials, and

sigh-play numbers and letters [14]. When parents and children co-play with games and toys, children's adaptation to different situations can be explored through the intensity of their corresponding attachment relationship.

3. Research methods

3.1 Subjects and survey duration

The research methods adopted include the questionnaire survey method and statistical methods. They were applied to explore the forms, time, and attachment relationships of parent-child co-play. Therefore, the subjects for the questionnaire survey were set to parents with at least a preschool child aged 2 to 6.

- Subjects: parents with at least a preschool child aged 2 to 6
- Number of questionnaires issued: 30
- Duration of survey: December, 2014
- Place and method of survey: 18 questionnaires were issued online and 12 were issued in the Wenshan District Parent-Child Center and the Libraries.

3.2 Experimental variables

- Independent variables: form of toys, based on the 5 categories of toys defined by Piaget's theory.
- Dependent variables: attachment relationship, with 20 questions selected by a preschool education expert from the 100 questions of the Attachment Q-set (Version 3.0), among which the 1st to the 39th questions are about low-intensity attachment relationship, the 40th to the 69th are about medium-intensity attachment relationship, and the 70th to the 100th about strong-intensity attachment relationship [15], and numbered 1 to 20.

3.3 Research tool

The research tool used is the Likert 5-point scale with options including "strongly agree, agree, not sure, disagree, and strongly disagree". The subjects answered the questions with their subjective perception based on their previous experiences and observations regarding their child's attachment relationships with people, events, and objects.

3.4 Statistical analyses

OLAP Multi-Dimensional Reports and Descriptive Statistics:

- Demographic statistics
- Forms of toys and duration of parent-child play

One-Way ANOVA and Two-Way ANOVA:

- Whether the form and duration of parent-child play would influence the attachment relationship

4. Experiment result

4.1 OLAP multi-dimensional report

A total of 30 questionnaires were retrieved, among which, 19 are female and 11 are male, with at least a child aged 2 to 6. The ages of the subjects are between 30 and 53 years old. The average of the subjects is 36.53 (years old) and that of their child is 4.74 (years old).

Table 1. The ages of the subjects and their child.

	No.	Min	Max	Avg.	S.D.
Age of subject	30	30.00	53.00	36.5333	4.56926
Age of child	30	.40	11.00	4.7433	3.06815

4.2 Descriptive statistics

This study used the 5 forms of toys from Piaget's theory. The options of time spent co-playing with the child with a toy from each of forms include 0, 15, 30, 45, and 60 minutes, noted as "time 0" to "time 60". The average time spent is between 15 to 30 minutes.

Table 2. Forms of toys and time spent on parent-child co-play.

Toy form	Avg.	S.D.
Symbolic play materials	2.20	.925
Fluid-construction playing materials	2.53	1.137
Structured-construction play materials	3.10	.923
Sensori-motor play materials	3.17	1.206
Sign play – numbers and letters	2.37	.850

4.3 Results of two-way ANOVA

The significance results of the test of homogeneity ($P > 0.05$) and ANOVA ($P < 0.05$) regarding the influences of the various forms of companionship on children's performances are summarized in Table 3 below. The characters L, M, and H denote low, medium, and high intensity, respectively.

According from the selection of the expert questions 1-20, then found out the significance questions and referred to Q-set that mentioned earlier and marked relationship intensity.

Table 3. Testing results of the influences of the parent-child co-play forms on the intensity of the attachment relationship

Toy form	Example	Two way ANOVA	Attachment question number (number of attachment Q-Set)	Attachment relationship intensity	Significance
Play 1 Symbolic play materials	Dolls, puppets, and models	Play1*time 0	4 (26)	L	.003
			6 (34)	L	.010
		Play1*time 60	18 (73)	H	.014
			19 (87)	H	.010
			8 (36)	L	.046
Play 2 Fluid-construction playing materials	Clay, watercolor, and painting	Play 2*time15	12 (51)	M	.043
			7 (35)	L	.010
		9 (59)	M	.011	
Play 3 Structured-construction play materials	Building blocks, LEGO toys, and jigsaw puzzles	Play 2*time45	17 (71)	H	.036
		Play 3*time15	14 (57)	M	.001***
		Play3*time45	16 (60)	M	.048
		Play3*time60	15 (59)	M	.045

Toy form	Example	Two way ANOVA	Attachment question number (number of attachment Q-Set)	Attachment relationship intensity	Significance
Play 4 Sensory-motor play materials	Slides and climbing frames	Play4*time15	8 (36)	L	.020
			14 (57)	M	.003
		Play4*time30	2 (15)	L	.015
		Play4*time60	3 (21)	L	.031
Play 5 Sign play – numbers and letters	Number cards and letter cards		18 (73)	H	.003
		Play5*time45	2 (15)	L	.014
		Play5*time60	18 (73)	H	.003

5. Conclusions and discussions

5.1 Female caretakers

During children's development, their main caretaker is usually their mother. Table 1 shows female caretakers spent more time with their child than male ones. Among the subjects, 4 female ones spent whole day accompanying their child. This means nowadays most females are career women. Table 1b shows the overall average of the female and male subjects' age is 36.53 years old. This means in Taiwan many people marry at a later age.

5.2 Time caretakers spent on co-playing with their child

The average time caretakers, whether male or female, spent accompanying their child to play with a toy is between 15 to 30 minutes, as shown in Table 2. According to the survey results, although parents from dual-earner families did not have much time with their child, they would still make some time to be with and care about their child during his important growth stage, and this fact was found when the researcher were issuing questionnaires in the Parent-Child Center and the Library.

5.3 The influences of the content of accompaniment on children's development

- Averagely, when a parent spends 15 minutes a time to co-play with his child, a high-intensity attachment relationship can be developed. This is different from the traditional concept of spending a long time with a child every day.
- Symbolic play materials: Refer to table 3, the result shows that when a child plays with a doll, a puppet, or a model, which usually can facilitate his sensory development, even without his parents co-playing with him, he can still feel safe.
- Fluid-construction play materials: if a parent co-plays with his child with clay or painting, which is involved in group creation, for 15 to 45 minutes, not only the child's more detailed motions can be trained and improved, but also a parent-child attachment relationship can be developed. This kind of child is more likely to trust other people and be rather fearless when facing various things. According to table 3, it shows parent-child play together 45 minutes that will reach to high attachment relationship.
- Structured-construction play materials: This type of play materials is the most common one in families. Examples include building blocks, LEGO toys, and jigsaw puzzles. The functions are improving children's sensual development and more detailed motion development and improving their cognitive capability. When children play with their parents, this type of play materials helps and inspires them to explore and to learn. This safe

attachment relationship can facilitate children's active attitudes. Co-playing with any structured-construction play material for 1 hour in average can lead to a medium attachment relationship. Specially, the result demonstrates play together about 15 minutes that causes children is fearless.

- Sensori-motor play materials: When a parent plays with his child with a slide or climbing frame continuously for about 1 hour, a high sense of attachment can be developed, facilitating the child's perceptual-motor skills, so that he would be less scared of unfamiliar environments.
- Sign play-numbers and letters: Interacting with a child by playing with a puzzle or a similar toy for 60 minutes can be a good training for his thinking and judging capability, so that he can face a changing environment more easily.

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