

## Effects of Camping Experience Upon Independence of Kindergarten Children\*

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As a child passes through infancy, childhood, and adulthood, he is subjected to the process of socialization. One of the aims of socialization is to teach the maturing child how to act independently. Dependence and independence may or may not be overlapping concepts, depending on how definitions are formulated and measures constructed. A review of literature suggests that independence has two criteria: seeking nurturance from others relatively infrequently, and showing initiative and achievement strivings (Beller, 1955; Heathers, 1955; Parke, 1969). This conceptualization clearly makes of independence something much more than simply a lack of dependence.

In child development the term "independence" has meaning in relation to a child's age. The young infant is, normally, almost completely dependent, and dependence at this time should be fully accepted and enjoyed by his parents. Gradually, parents will begin to help a child toward greater self-direction, encouraging him to do more and more "on his own." It is evident that as a child grows older the frequency of independent behavior increases. Beller (1955, 1957, 1959) pointed out that many five-year olds gave abundant evidence of both strong dependence and independence. This age seems to be a critical time for the development of independence.

Because some have believed that kindergarten age children are not physically and emotionally developed enough to cope with camp living, organized camp has served mainly upper elementary and junior high school children. A resident camping experience is conceivable as an significant opportunity to contribute to the independence of kindergarten age children. Most studies on independence have been carried out in the nursery school setting. Little is known of the effects of camping experience upon independence of young children.

This study was designed to assess the effects of camping experience upon the independence of five-year old children in kindergarten and home. The following hypotheses were tested:

1. Children who participate in a resident camp show a greater increase in independence in their kindergarten than children who do not participate in the camp.
2. Children who participate in a resident camp evidence a greater increase in independence in their home than children who do not participate in the camp.

### PROCEDURES

#### Subjects

The subjects for this study were 95 (58 boys and 37 girls) kindergarten children in the

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\* A portion of this study is based upon a doctoral dissertation submitted by the author to The Pennsylvania State University, 1976.

treatment group who participated in one of the two sessions of a five-day resident camp held in August, 1975, and 61 (33 boys and 28 girls) kindergarten children in the control group who did not participate in the camp. The ages ranged from 5 years—5 months to 6 years—3 months with a mean age of 5 years—11 months. The children were selected from six private kindergartens in Tokyo and its suburbs. The treatment group was decided on a “first-come, first-serve” basis, while the control group was randomly selected from the same kindergartens as the treatment group.

#### **Description of the Camp Program**

The camp for kindergarten children has been operated each summer since 1969. The goals of the camp program were: 1) to develop independence, 2) to learn the relationships between living things and the environment, and 3) improve the interpersonal relationship skills of the participants. The treatment group engaged in such activities as making camp, environmental education, mountain climbing, camp festival, campfire, cookout, etc. One of the most unique activities of the program was the climbing of Mt. Tsukuba, which has a height of 876 meters and total walking distance of about 4 kilometers. This climbing was an extremely difficult task for this age, due to the steep and rocky terrain. Before starting out, the children agreed to do it by themselves and not ask for any help from the counselors, such as being held their hands or being carried on the counselors' back. The children were formed into six tent groups of eight children and two counselors (male and female).

#### **Instrumentation**

To measure independence of children in the kindergarten, Todd and Nakamura's (1970) Dependence-Independence Scales were used. In their study, the subjects were rated by their teachers on dependence-independence scales. The frequency with which the subjects sought proximity, attention, and help, as measures of dependence, and the frequency with which subjects took initiative, persisted, and wanted to do things by himself, as measures of independence rated on six 7-point scales, 1 representing “very rarely” and 7 “very often.” Behavior classified as dependence and independence in more precisely defined by Todd and Nakamura (1970) as follows:

Proximity-seeking—the child seeks to be near and/or in physical contact with the adults.

Attention-seeking—the child seeks to gain the adult's attention and/or praise through demands or requests (look at me, is this nice?), or through trying to act in a praise-worthy or attention-attracting manner.

Help-seeking—the child seeks help from adults on any sort of task or problem, can not seem to get satisfaction from his (her) work without assistance.

Taking initiative—the child takes his (her) own initiative in tasks without direction from adults.

Persistence—the child persists at tasks without assistance from adults and takes pleasure in overcoming obstacles.

Wanting to do things by himself—the child gets most satisfaction by accomplishing tasks by himself.

(From correspondence with Author)

In the present study, the scale was shortened to a 5-point scale, 1 representing “very rarely” and 5 “very often” to make rating easier for the kindergarten teachers who had to rate a large

number of children. The rating scores on the first three 5-point dependence scales are inverted so that the ratings on all six scales could be summed for an overall independence score. The final possible mean scores may range from 6 to 30, a high score indicating high independence.

Interrater reliability, using the pretest scores for this study, was obtained by comparing the classroom teacher's ratings of each test item with the assistant teacher's. Twenty-two pairs of classroom teachers and assistant teachers, from the six kindergartens which had the children in camp, rated two to 22 children, with a mean of seven children, depending on the numbers of subjects in the class. The Pearson product-moment correlations ranged from .47 to .88. The mean interrater correlation via Fisher's  $z$  transformation was .75.

The data for independence of the subjects in the home were gathered by the Home Independence Rating Scale, which was devised by the investigator and given to the mothers. This questionnaire was also based on Todd and Nakamura's Dependence-Independence Scales. For each of their six scales, three related questionnaire items were selected on the basis of interviews with child psychologists, mothers of kindergarten children, and kindergarten teachers. The mothers were asked to rate the eighteen 5-point scales, 1 representing "very rarely" and 5 representing "very often." This questionnaire was piloted by using the 30 mothers whose children had been attending one of the six kindergartens at the end of June. The questionnaires were taken home by the mothers and returned a few days later. Since the content analysis showed that three items did not have satisfactory discriminating power, these were not used in the study. In the final Home Independence Rating Scale, mothers were asked to rate the fifteen 5-point scales. The questionnaire is shown as follows:

1. Does he follow you around or cling to you?
2. Does he object to staying home alone when you go out?
3. Does he interrupt parents' conversation with guests to seek attention?
4. Does he manage to keep others occupied with him?
5. Does he ask parents' praise or approval when he is feeling especially good?
6. Does he need your help to undress and to go to bed?
7. Does he make decisions for himself in choosing play activities?
8. Is he willing to try new things on his own?
9. Does he lead others children in his group?
10. Does he complete an activity which he selected?
11. Does he assert himself in his group?
12. Does he complain about your interruption while engaged in an activity?
13. Does he try hard to do things for himself without asking for help?
14. Does he do routine household chores by himself?
15. Does he refuse other's help?

In scoring, questions 1 to 6 were inverted, and the sum of the scores was obtained. Thus, the home independence score may range from 15 to 75. This same questionnaire was given again to the mothers after an interval of one week to ten days to test reliability. The Pearson product-moment correlations ranged from .74 to .97. The mean correlation via Fisher's  $z$  transformation was .90.

To collect supplementary information on changes in the children's behavior after the camp experience, the Postcamp Evaluation Questionnaire was given to both the mothers and kindergarten teachers. The respondents reported in a free description on such topics as independence from adults, peer relationships, self-care, food, conversation, etc.

### Collection of the Data

The Dependence-Independence Scales were completed for each child by the 22 kindergarten teachers from the six participating kindergartens. At the end of the first week of July, 1975, a two-hour training period, preceding the actual rating, was attended by a few representative kindergarten teachers from each kindergarten. The raters were directed to observe the children in several important situations, such as instruction periods, eating, dressing, playing, and rest periods. The pretest score was rated after class on Tuesday and again on Thursday, the third week of July, just before the beginning of summer recess, and submitted to the head of the kindergarten. The same procedures were taken for the posttests. The three posttests were administered at these intervals: The first week of September (two to three weeks after the camp experience); the first week of October (six to seven weeks after camp); the middle of March (seven months after camp). The three administrations are referred to in this study as Posttest 1, Posttest 2, and Posttest 3, respectively.

The Home Independence Rating Scale was administered to the mothers in the treatment and control groups four times: the pretest (third week of July), the Posttest 1 (first week of September), Posttest 2 (first week of October), and Posttest 3 (at the middle of March). This instrument was administered at each kindergarten for the treatment group; for the control group, the questionnaire was taken home. All of the questionnaires were handed into the classroom teachers.

The post Evaluation Questionnaire was administered twice, at the same time as Posttest 1 and Posttest 3.

### Treatment of the Data

Independence in the kindergarten was examined by analyzing the kindergarten independence scores which were obtained from the Dependence-Independence Scales. The difference between groups for their pretest and posttest mean scores and their mean gain scores were computed and tested for significance. For the significance test of the differences, the t-test was used. The same steps were carried out for the analysis of the effects of camping upon independence in the home. The responses to the Postcamp Evaluation Questionnaire were analyzed for the purpose of discussion of the results.

## RESULTS

In the pretest mean scores of kindergarten independence, the control group was higher than the treatment group, though there was no significant difference (see Figure 1 and Table 1). In Posttest 1, which was conducted two to three weeks after camp, mean scores for the treatment group increased significantly, but the control group showed almost no change. On the mean gain scores from pretest to Posttest 1, there was a significant difference ( $P < .001$ ) between the treatment and control groups, indicating that the camp experience was effective in developing the children's independence as seen in kindergarten. It was noted that the mean score of the treatment group on the pretest was below that of the control group, and then on Posttest 1 was above. This change in position reflected a significant gain for the treatment group.

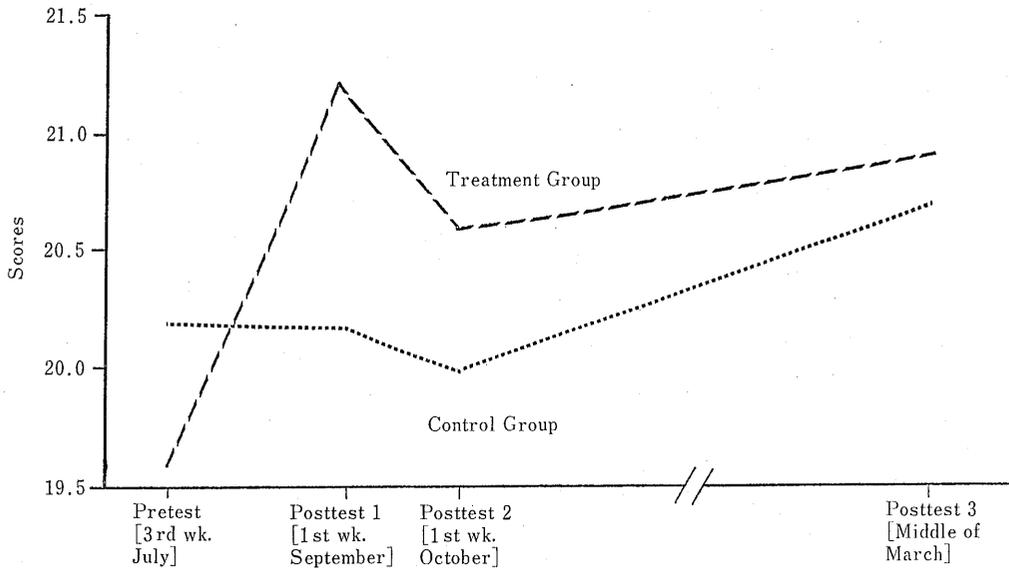


Fig. 1. Mean kindergarten independence scores over time for the Treatment and Control Groups.

Table 1. Differences in pretest and kindergarten independence scores for the treatment and control groups

Score	Treatment group (N=95)		Control group (N=61)		t
	M	S D	M	S D	
Pretest Score	19.5	3.78	20.2	3.67	-1.05
Posttest 1 Score <sup>a</sup>	21.2	3.92	20.2	4.16	1.57
Posttest 2 Score	20.6	4.00	20.0	3.50	.91
Posttest 3 Score <sup>b</sup>	20.9	3.57	20.7	4.18	.23
Pretest-Posttest 1	1.64	3.07	-.01	2.33	3.58***
Pretest-Posttest 2	1.05	2.92	-.16	2.83	2.56*
Pretest-Posttest 3	1.29	2.82	.61	3.51	1.31

\* P<.05 \*\*\* P<.001

<sup>a</sup> One case was not available for the Posttest 1, in treatment group.

<sup>b</sup> A total of three cases, one in the treatment and two in the control groups, were not available for the Posttest 3, thus changing pretest mean to 19.6 for treatment group and 20.1 for control group.

The significant difference in mean gain scores between the two groups was retained six to seven weeks after camp on Posttest 2, (P<.05). Seven months after camp on Posttest 3, both treatment and control groups showed an arithmetical increase in mean scores; however, there was no longer any significant difference between the treatment and control groups on mean gain scores from pretest to Posttest 3, indicating the camp experience had no effect upon the children's independence as seen in their kindergarten setting over a long term period. The

hypothesis that children who participate in a resident camp show a greater increase in independence in their kindergarten than children who do not participate in the camp was supported only for the immediate after-camp and six-to-seven-weeks-later effects.

The camp experience, therefore, was effective in developing children's independence in their kindergarten setting, though the effects seemed to be relatively short-term.

In the pretest mean scores of home independence, the treatment group was arithmetically

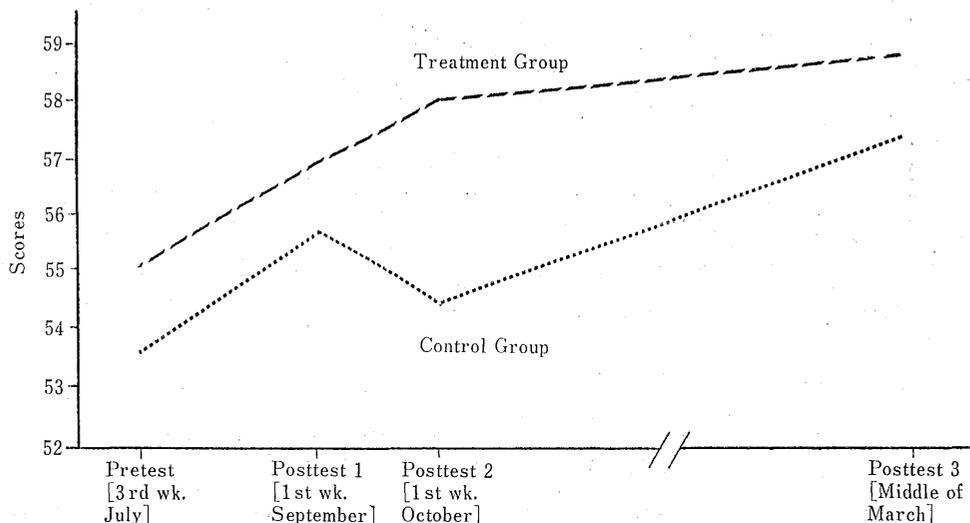


Fig. 2. Mean home independence scores over time for the treatment and control groups

Table 2. Differences in pretest and posttest mean home independence scores for the treatment and control groups

Score	Treatment Group (N=95)		Control group (N=61)		t
	M	S D	M	S D	
Pretest Score	55.2	6.46	53.6	6.83	1.47
Posttest 1 Score <sup>a</sup>	57.1	6.20	55.6	6.14	1.51
Posttest 2 Score <sup>b</sup>	57.9	6.24	54.5	6.59	3.23**
Posttest 3 Score <sup>c</sup>	58.7	7.24	57.3	7.22	1.15
Pretest-Posttest 1	1.9	5.33	2.0	4.59	-.03
Pretest-Posttest 2	2.7	4.62	.9	3.82	2.64**
Pretest-Posttest 3	3.5	6.60	3.7	5.32	-.17

\*\* P < .01

<sup>a</sup> One case was not available for the Posttest 1, control group.

<sup>b</sup> A total of 2 cases, one in the treatment and one in the control groups, were not available for the Posttest 2.

<sup>c</sup> A total of 12 cases (7.7 percent), six in the treatment and six in the control groups, were not available for the Posttest 3.

higher than the control group, though there was no significant difference (see Figure 2 and Table 2). In Posttest 1, which was conducted two to three weeks after camp, both the treatment and control groups' mean posttest scores increased significantly from the pretest, and had almost the same amount of increase. The differences between the gain scores of the treatment and control groups were not statistically significant, indicating that the camp experience had no effect upon independence in the home at that time. The results of Posttest 2 showed that the treatment group kept increasing in home independence scores; conversely, a declining arithmetical trend was observed from Posttest 1 to Posttest 2 for the control group. The treatment group's mean change in home independence scores was significantly higher than that of the control group's ( $P < .01$ ), indicating that the camp experience was not differentially effective in developing children's independence in the home setting over a long term period. The hypothesis that children who participate in a resident camp evidence a greater increase in independence in their home than children who do not participate in camp was supported only for the intermediate time following camp (Posttest 2), neither immediately after (Posttest 1), nor for a long term (Posttest 3). Therefore, the camp experience affected the participants' independence in the home six to seven weeks later, but it did not have either an immediate effect or a long-term effect.

## DISCUSSION

One of the main factors why the participating children showed such a marked increase in independence in the kindergarten might be attributed to the presence of camp peers and the kindergarten teachers. On returning to the kindergarten after the camp session, the children, many of whom were not friends before, were frequently observed by teachers, getting together at recess to talk about camp and sing camp songs. This atmosphere gave the children an opportunity to express their camp achievements to other children, and thus reinforced their self-confidence and pride in themselves. They were all aware of the extent of their independent behavior in front of each other.

Eleven kindergarten teachers attended the camp for the five days, acting as consultants to counselors, and were witness to the independent behavior manifested by the children in camp. After returning to school, the children's independence might have been further reinforced by the teachers, who expected the same behavior in the kindergarten as they had observed in camp. Such expectations from teachers would have contributed to the children's development of independence after camp, and a significant postcamp score. In time, however, as the children's strong impression of camp gradually diminished, the teachers reinforcement and children's own expectations of independence may have also decreased.

With regard to independence in the home, some of the mothers of the treatment group reported in the Postcamp Evaluation Questionnaire that just after coming home the children became more dependent on their parents than before, particularly mothers. For these children the camp was their first experience staying away from the family. After coming home, they wanted some rewards from their parents in terms of wanting to be near and have physical contact. One could conjecture that the parents were very anxious about the children during

camp, but admired their achievements after completing the session. It was natural for the parents to want to be near their children after separation from their children.

In Posttest 1 of home independence, the control group showed markedly high scores. Summer vacation may be conceived by parents as an opportunity for independence training of their children in the home setting. It is assumed, therefore, that mothers expected the effects of independence training in the home setting during summer vacation and rated their children's independence highly at the beginning of September. These two reasons seem to contribute to the result, which has no effects of camping upon home independence immediately following camp (Posttest 1).

The results of Posttest 3 indicated that both control and treatment groups increased in their kindergarten and home scores, but there was no longer any significant difference between the means. Rather than the effects of camping being dissipated totally, this was attributed largely to the children's maturity and to the kindergarten and home training in independence that was given to the children to prepare them for entering elementary school.

It is interesting to note that in the pretest there was a discrepancy in ratings of home independence scores between kindergarten teachers and mothers; in the kindergarten independence score rated by classroom teachers, the control group was higher than the treatment group, while in the home independence score rated by mothers, the result was vice versa. It has been indicated that mothers who sent their children to camp tended to have higher expectations of independence for their children than mothers who did not send their children (Iida, 1977). The mothers's high expectations for the treatment group might reflect overevaluations of their children's independence in the home.

Theoretically, the development of independence through camp experiences can be explained by a self-theory and a reinforcement theory. In a resident camp situation, the child lives in a socially isolated situation from his family for a relatively long duration. This is a start toward weaning the child away from the possibility of too close dependence upon his family. For most of the participants, the camp is the first experience for them to live separated from their parents, which may cause anxiety and stress. As a result of overcoming such stressful situations in camp, children may develop confidence and self-respect. In comparison with the home situation, there are more chores and responsibilities in camp due to a primitive and group living style. By carrying out these responsibilities, campers have the opportunity to discover their own potentials and to gain self-confidence.

The self-confidence and self-respect gained through new experiences in camp may lead to the development of independence in young children. Furthermore, to carry over the independence developed in camp into the everyday environment, such as kindergarten and home, positive reinforcement must be given by the teachers, parents, siblings, and peers. Positively reinforced or rewarded, independent behaviors tend to get stronger and occur more frequently.

## SUMMARY

This study assessed the effects of camping upon the independence of children in the kindergarten and home. The subjects were 95 five-year-old children in the treatment group and 61

in the control group. The mean age was 5-years-11 months. To measure the independence of the children in the kindergarten and home, the Dependence-Independence Scales and the Home Independence Rating Scale were employed. The instruments were administered to both groups four times: pretest, Posttest 1 to Posttest 3.

Based on the findings and within the limitations of the study, it was concluded that: A resident camp is effective in the development of independence of kindergarten children, though the effects seem to be relatively short term. Children who participated in the camp had a significantly greater increase in independence in the kindergarten for immediate after-camp ( $P < .001$ ) and six to seven weeks later ( $P < .05$ ) effects, and also in the home for six-seven weeks later following camp ( $P < .01$ ), than those who did not participate in camp.

One of the most important implications of the camp experience for the kindergarten children is the recognition that five-year-old children can accomplish more than parents, early childhood educators, and child psychologists expect. There is no evidence that kindergarten age children are not physically and emotionally developed enough to cope with resident camp living. Kindergarten children should have an opportunity to participate in a resident camp to develop independence. For the camp related profession, this study implies that camp can and should extend their clients from upper elementary and junior high school children to younger children.

This study investigated only observable independent behaviors of children. However, the investigator did assess inner changes in independence using Keschner's (1957) Projective Test as modified by the investigator, administering it both pre- and postcamp to both the treatment and control groups. The test failed to discriminate each child's inner independence level and the results are not reported in this study. Research needs to be pursued in the area of inner motives of children; that is, do children change their own self-concepts of independence as a result of the camp experience?

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## キャンプ経験が幼児の自立行動に及ぼす効果について

飯 田 稔

本研究はキャンプ経験が、幼稚園と家庭において見られる幼児の自立行動に及ぼす効果を評価するものである。

被験者は156人の男女幼稚園児(実験群=95人, 統制群=61人)で、東京周辺の6つの私立幼稚園から選ばれた。実験群はキャンプ参加者で、2期にわたって行なわれた4泊5日のキャンプ生活中、テント設営、キャンプファイヤー、環境教育、登山、キャンプフェスティバル野外炊事等のキャンプ活動に参加した。

幼稚園と家庭の自立行動を測定するために、依存・自立尺度(Dependence-Independence Scale)と家庭自立評定尺度(Home Independence Rating Scale)が利用された。2つの尺度はキャンプ前とキャンプ後(2~3週間, 5~6週間, 7ヶ月に)幼稚園担任教師と母親の観察にもとづいて評価された。再テスト法による信頼度係数は各々.75と.90だった。

結果は、幼稚園の場面ではキャンプ3週間後( $P < .001$ ), 5~6週間後( $P < .05$ )に自立行動への効果が認められ、家庭場面では5~6週間後( $P < .01$ )にその効果が現われた。しかし7ヶ月後の結果は、幼稚園、家庭の両場面で有意差が認められなかった。結論として、キャンプ経験は、比較的短期間の持続ではあるが、幼児の自立行動の発達に有効であるといえる。

キャンプ期間中、不適応問題をおこす幼児が見られなかったことを考えあわせると、キャンプの参加対象を、従来の小学生高学年以上から幼稚園年長児までさげることができることを示唆している。