

Brief Report on the Pilot Study of dots

Background

The Jockey Club "Peace and Awareness" Mindfulness Culture in Schools Initiative (JC PandA Project) aspires to introduce mindfulness to preschoolers in Hong Kong. To investigate the effectiveness of the dots, a mindfulness course developed by the Mindfulness in Schools Projects (MiSP), the JC PandA Project conducted a pilot study on the dots in a nursery school and investigated its effectiveness on preschoolers.

Method

The pilot study was a randomized controlled trial with half of the preschoolers ($n = 8$) assigned to the experimental group and the other half ($n = 8$) assigned to the waitlist control group that would take the course later. All these preschoolers were at Level 3 and their average age was about 5 years old. Data were collected from these preschoolers, their teacher, and parents before (Time 1) and after (Time 2) the dots course was taught to the experimental group.

Results

Attention

Conners Kiddie Continuous Performance Test 2nd Edition (K-CPT2) was administered to all the preschoolers in both Time 1 and Time 2. K-CPT2 is a computerized task that measures young children's attention. The preschoolers were required to hit a key as fast as they could in the keyboard when they saw a target (e.g., a boat, a teddy bear) in the computer screen. However, they were required not to hit the key when a non-target (e.g., a ball) was shown in the computer screen. This computerized task lasted for 7.5 minutes. To do the task fast and accurately, the preschoolers needed to be attentive and refrain from being impulsive. Figure 1 shows the performance of the two groups of preschoolers in Time 1 and Time 2. Please note that the lower score indicated the better performance with less mistakes. Although the sample size was small, the results of statistical test was still significant, $F(1,14) = 5.07$, $p = .041$, partial $\eta^2 = .266$. The experimental group was not different from the control group in Time 1 but their performance was much better than their counterparts in the control group in Time 2 after they had completed the dots course.

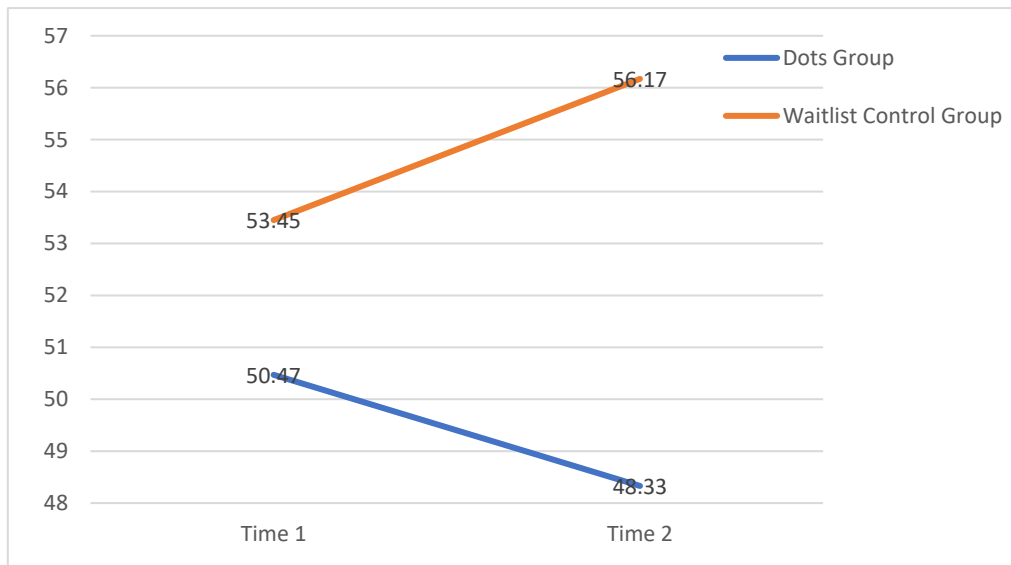


Figure 1. The performance of the preschoolers on K-CPT2 before and after the dots course.

The results of the K-CPT2 was corroborated by the observation of the class teacher. She rated all the preschoolers in her class in Time 1 and Time 2 on three items on attention (i.e., attentive in class, sit still in work, not impulsive). They were asked to rate how often the preschoolers displayed these behaviors in the preceding month on a 5-point scale (1 for “never” and 5 for “always”). Figure 2 presents the ratings of the teacher of the two groups of preschoolers in Time 1 and Time 2. Please note that the higher score indicated the better attention. The increment of the experimental group was more than that of the control group although the results of statistical test did not reach significant level, $F(1, 14) = .34, p = .57$, partial $\eta^2 = .024$.

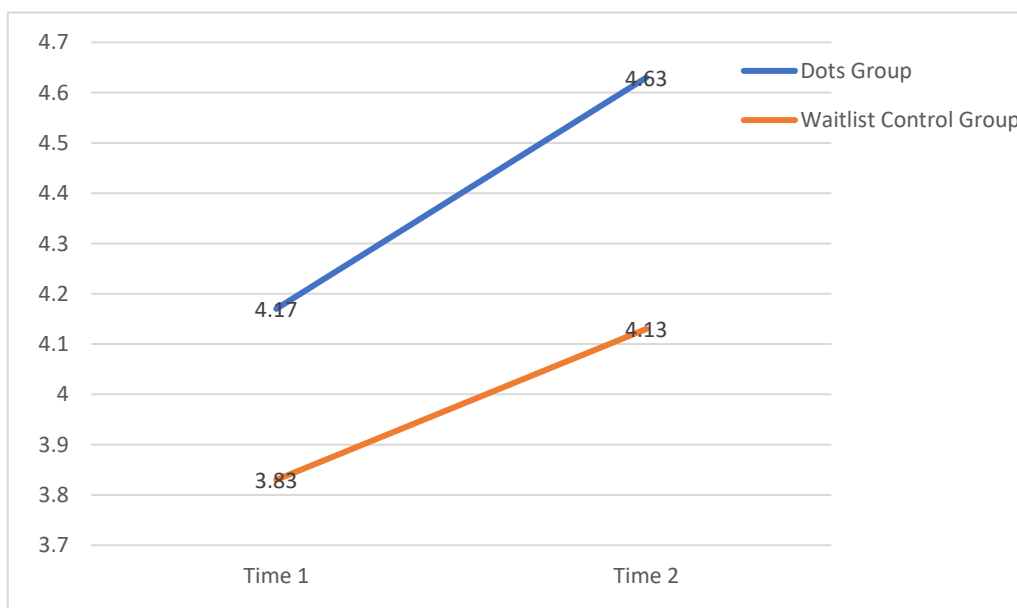


Figure 2. The teacher’s report of the preschoolers’ attention before and after the dots course

Prosocial Behaviors

The parents and teacher rated the preschoolers' prosocial behaviors in Time 1 and Time 2. They rated how often the preschoolers had the following behaviors in the preceding month: helping others, getting along well with others, and being appreciative or grateful. The ratings were made on a 5-point scale (1 for "never" and 5 for "always"). Figures 3 and 4 present the ratings of the parents and teacher, respectively.

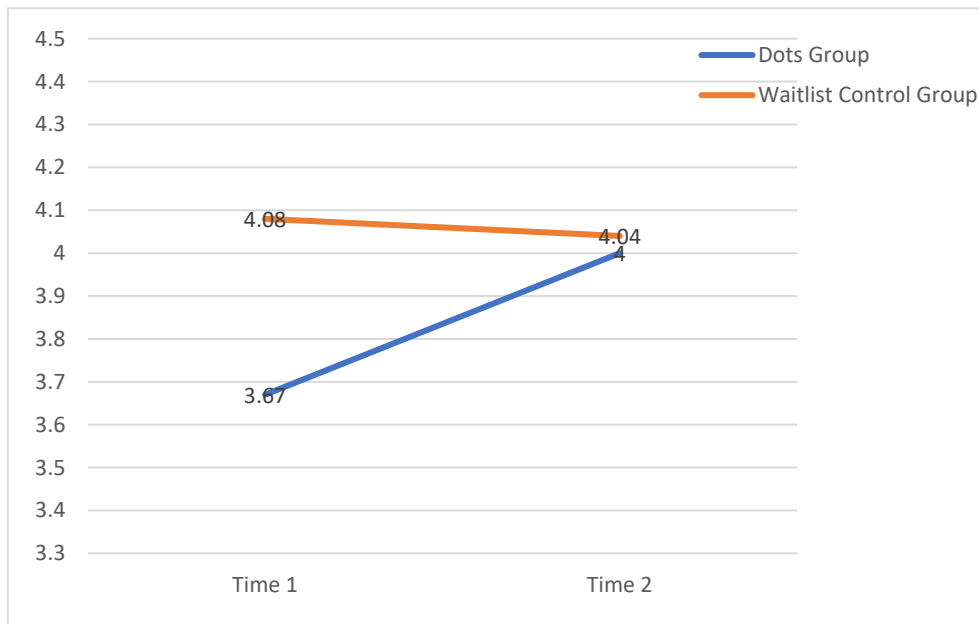


Figure 3. Parents' ratings of the preschoolers' prosocial behaviors in Time 1 and Time 2

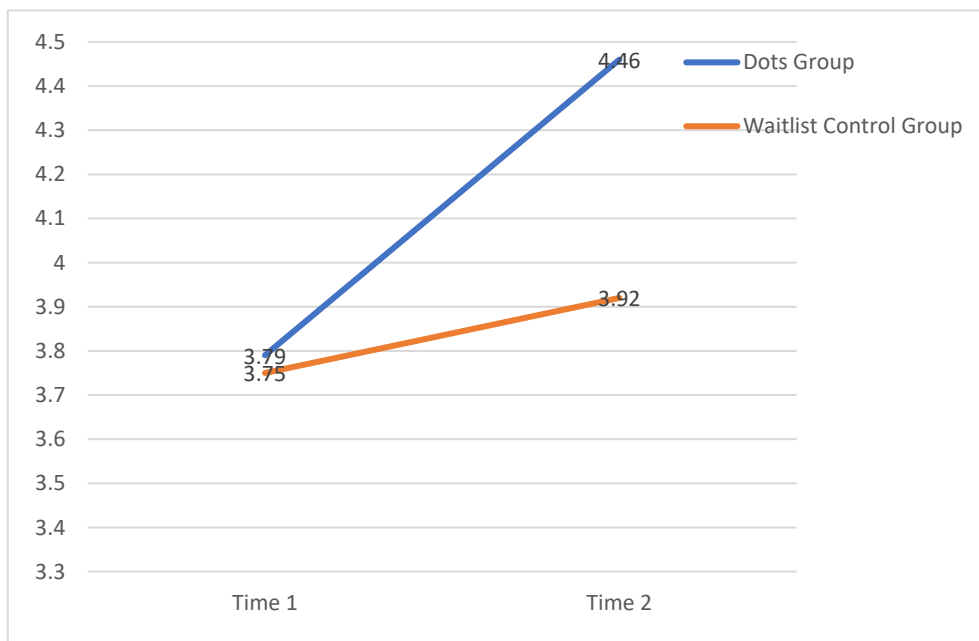


Figure 4. Teacher's ratings of the preschoolers' prosocial behaviors in Time 1 and Time 2

Both the teacher and parents' ratings indicated that the prosocial behaviors of the experimental group had increased from Time 1 to Time 2 more than those of the control group. However, both results of the statistical analyses on parents' ratings, $F(1, 14) = 4.20$, $p = .06$, partial $\eta^2 = .231$, and teachers' ratings, $F(1, 14) = 1.85$, $p = .20$, partial $\eta^2 = .117$, did not reach significant level because of the small sample size.

The pattern shown in the ratings of parents and teachers was corroborated by a scenario test with the preschoolers. In both Time 1 and Time 2, the preschoolers were shown some pictures (see Figure 5 for examples). They were asked what would they do to the child in the picture. Their answers were be coded for 0, 1, and 2 according to the prosocial qualities involved, such as helping, sharing, and comforting.



Figure 5. Pictures of scenarios that tested the preschoolers' prosocial behaviors.

The scores of the preschoolers in the scenario test is presented in Figure 6. The average score of the experimental group increased from Time 1 to Time 2 whereas the average score of the control group decreased from Time 1 to Time 2. However, the results of the statistical test did not reach significant level, $F(1, 14) = .29$, $p = .60$, partial $\eta^2 = .02$.

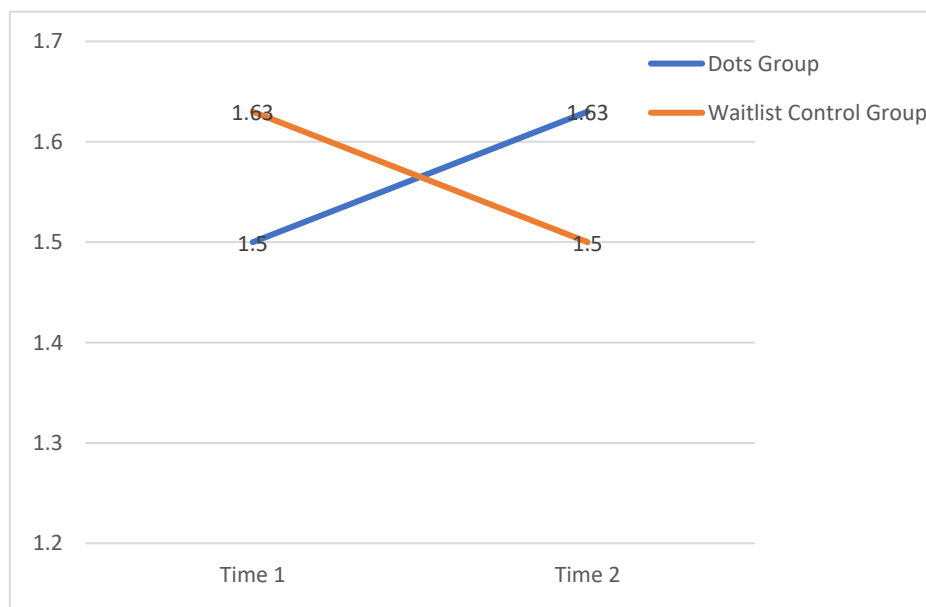


Figure 6. The scores of preschoolers' prosocial behaviors in Time 1 and Time 2.

Acceptance of the Course

At the end of the course, the preschoolers in the experimental group were asked how much they liked the course on a 5-point scale (1 for “dislike it very much” and 5 for “like it very much”) (see Figure 7). The average of their rating was 4.88 (SD = 0.35), indicating that they liked the course very much.





好唔鍾意	唔鍾意	一般	鍾意	好鍾意
				

Figure 7. A 5-point scale with emoji measuring how much the preschoolers liked the course.

The preschoolers were also asked to indicate what mindfulness practices that they like by pointing to the cartoons of these practices. Table 1 presents their answers.

Table 1

The Popularity of Different Mindfulness Practices among the Preschoolers

Mindfulness Practices	N	Percentage
Chest and Tummy Breathing	4	50%
Pointing Breath	4	50%
Hugging Breath	5	62.5%
FOFBOC	5	62.5%
dot	6	75%

Conclusion

This is a very small-scale pilot study of the effectiveness of the dots, a mindfulness course for preschoolers. Despite the small sample size and the limitations in some of the measures, the preliminary results show promising effects of this mindfulness course on the preschoolers’ attention and prosocial behaviors. And most importantly, the preschoolers liked the course and most of the mindfulness practices that had been taught to them.