

# **IMPACTS OF LOVING-KINDNESS MEDITATION (LKM) ON AGGRESSION AND PRO-SOCIAL BEHAVIORS AMONG MIDDLE SCHOOL BOYS**

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## **Introduction**

The Pāli term *Metta* is defined as a strong and sincere wish for the happiness of all beings, without discrimination, that is free of selfish attachment. Loving-Kindness Meditation is one of forty meditations based in Buddhism, and is frequently practiced by Buddhists (and non – Buddhists, particularly in clinical setting). The Pāli Canon includes many discourses that explain *Metta* (*Metta Bhāvana*) in different illustrative ways addressing different individuals' personality and capability to grasp it. Many studies have demonstrated that Loving-Kindness Meditation (LKM) promotes physical and psychosocial wellbeing in individuals (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Kearney, Malte, McManus, Martinez, Felleman, & Simpson, 2013; Sahar, Szsepsenwol, Zilcha-Mano, Haim, Zamir, Levi-Yeshuvi, & Levit-Binnum, 2014). However, no experimental studies have been conducted to examine the impacts of LKM on aggressions and pro-social behaviors. Therefore, the objective of the current study was to understand the affect of LKM on aggressive behavior and pro-social behaviors among middle school boys. This study attempts to understand if LKM reduces aggression in middle school boys and whether LKM increases pro-social behaviors in middle school boys.

## **Methodology**

In this current research a Matched-Pairs Experimental Design was utilized. One hundred and seventy seven (N=177) eighth grade boys were selected from two Boys' schools in the Kandy district. Out of those participants (N=177) ninety four participants (N= 94) were randomly selected for the experimental group. This study used two scales: the aggression scale- a self-report measure of aggressive behavior for young adolescents, developed by Orpinas, & Frankowski, (2001), and the revised pro-social tendencies measure (PTM-R) developed by Carlo, Hausmann, Christiansen, & Randall (2003).

After receiving permission from the Zonal Director, informed consent was obtained from all participants and their parents before conducting this experimental study. Both schools' experimental groups were exposed to a LKM intervention lasting four weeks which included fifteen to twenty minute sessions three times a week. The control group did not receive any intervention. Independent sample (between-subject) t-test analyses were utilized to examine the differences of aggressive behaviors and pro-social behaviors of the control group in comparison to the experimental group in pre-treatment and post-treatment. The differences of experimental group and control group along time 1 (pre-treatment) and time 2 (post-treatment) were examined using One Way Repeated Measure (within-subjects) ANOVA analysis.

## Results and Discussion

**Table.01. t-test statistic of pre test on aggression**

| Pre- test          | Mean  | SD    | t-value | p-value | Levene's p-value |
|--------------------|-------|-------|---------|---------|------------------|
| Experimental Group | 16.17 | 9.10  | -.675   | .500    | .097             |
| Control Group      | 17.24 | 11.93 | -.664   | .508    | .097             |

Levene's significant level (mean score on aggression in experimental and control groups were M=16.17 and M=17.24 respectively with p = .097) did not show significance difference between experimental group and control group before exposure to LKM intervention.

**Table.02. t-test statistic of post test on aggression**

| Post Test          | Mean  | SD    | t-value | p-value | Levene's p-value |
|--------------------|-------|-------|---------|---------|------------------|
| Experimental Group | 12.87 | 10.01 | - 2.343 | .020    | .030             |
| Control Group      | 16.71 | 11.77 | - 2.320 | .022    | .030             |

Levene's p – value for the post test (mean score on aggression in experimental and control groups were M= 12.87 and M=16.71

respectively with  $p = .030$ ), which meant the LKM intervention significantly reduced aggression among middle school boys.

**Table.03. Within subject ANOVA of experimental group on aggression**

|        | df   | F      | p-value | partial $\eta^2$ |
|--------|------|--------|---------|------------------|
| Time   | 1 1  | 10.483 | .002    | .101             |
| Linear |      |        |         |                  |
| Time   | 2 93 |        |         |                  |
| Linear |      |        |         |                  |

The within ANOVA analysis results suggested that, there is significant linear trend ( $F(1, 93)= 10.483$ ,  $p= .002$ , partial  $\eta^2 = .101$ ) between LKM intervention and decreasing aggression across Time1 and Time 2.

#### *Pro-Social Behaviors*

**Table. 04. Within subject ANOVA of experimental group on pro-social behavior**

|        | df   | F       | p-value | partial $\eta^2$ |
|--------|------|---------|---------|------------------|
| Time   | 1 1  | 274.090 | .09     | .03              |
| Linear |      |         |         |                  |
| Time   | 2 93 |         |         |                  |
| Linear |      |         |         |                  |

The results did not show significant linear trend ( $F(1, 93)= 274.090$ ,  $p = .09$ , partial  $\eta^2 = .03$ ) on pro-social behaviors in the experimental group along time1 and time2.

Consistent with hypotheses aggression in the experimental group was significantly reduced after exposure to the LKM intervention. Using independent sample t-test aggression scores of the experimental group were compared with that of the control group prior to LKM intervention (time 1) and after the LKM was over (time 2). The analysis does not show significant mean difference between experimental group and control group on aggression in the pre-test (Table. 01), but the analysis shows that there is significant reduction in aggressive behaviors among middle school boys after exposure to the LKM intervention (Table. 02). This

result was triangulated using a One Way Repeated Measure (within-subjects) ANOVA analysis (Table. 03). Result obtained from One Way Repeated Measure (within-subjects) ANOVA analysis did not show a significant linear trend in differences in pro-social behaviors in the experimental group along time 1 (pre-treatment) and time 2 (post-treatment) (Table. 04) which contradicts the hypothesis on prosocial behavior.

## **Conclusion**

LKM intervention significantly reduced aggression among experimental group, but it failed to show any significant impact on pro-social behaviors. The aggression scale measured the actual aggressive behaviors that had taken place during the past seven days, while Pro-social Behavior Scale measured attitudes of students. Hence, results for pro-social behaviors may not be indicative of individuals' actual pro-social behaviors. Furthermore, the data collection in post-treatment happened during the year end examination process (after students finished writing an exam), hence contextual factors such as stress, wanting to leave school early etc. might have influenced the results of this experimental study.

## **References**

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