GAVIN PUBLISHERS

Educational Research Applications

Research Article

Reppa GP. Educ Res Appl: ERCA-138.
DOI: 10.29011/2575-7032/100038

The Effects of a Yoga and Mindfulness Techniques Program on the Prosocial Behavior and the Emotional Regulation of Preschool Children: A Pilot Study

Glykeria P Reppa*

Department of Education and Sports Psychology, University of Aegean, Greece

***Corresponding author:** Glykeria P Reppa, Tutor at University of Aegean, Physical educator - Educational & Sports Psychologist, Consultant of Physical & Psychological Well-being, Psychotherapist Balance & Reform, Pilates & Yoga instructor, A. Syggrou 17, Greece. Tel: +302109222985; Email: glyreppa@gmail.com

Citation: Reppa GP (2017) The Effects of a Yoga and Mindfulness Techniques Program on the Prosocial Behavior and the Emotional Regulation of Preschool Children: A Pilot Study. Educ Res Appl: ERCA-138. DOI: 10.29011/2575-7032/100038

Received Date: 27 October, 2017; **Accepted Date:** 16 November, 2017; **Published Date:** 23 November, 2017

Abstract

Recent research shows the need for children to learn different ways to relax and to have emotional control in today's society is necessary. The purpose of this present study was to research how a kids' yoga program, enriched with mindfulness techniques, will positively influence prosocial behavior and the emotional regulation of preschool children. The trial involved 31 kindergarten students (n1 = 15 experimental group and n2 = 16 control group), from the province of Attiki. The experimental group attended a two 40-minute kid's yoga lessons and mindfulness techniques every week for 10 weeks, supervised by a teacher specializing in kid's yoga and mindfulness techniques. In calculating the dependent variable, the following methods were used, a semi-structured interview, a teacher rating social competence questionnaire, a sharing activity and a task of delayed gratification.

The results showed that the experimental group had a steady improvement in prosocial behavior as well as a steady improvement in emotional regulation. This specific study, although it is a pilot, shows that new techniques (such as kids yoga and mindfulness techniques) can have a positive outcome in psychological child parameters, if they are introduced in the educational program.

Keywords: Emotional regulation; Kids' yoga; Mindfulness techniques; Preschool age; Prosocial behavior

Introduction

The use and exposure of "Modern technology" (i.e. cell phones, tablets, lap tops etc.) from a very young age, at the extent that it is used in today's society, has negatively influenced child's creative play, social contact with their peers and adults and has contributed to the development of child obesity and intervenes with learning in cognitive function and during [1]. It has been estimated that children under six years old spend an average of two hours a day with screen media, mostly TV and videos. Moreover, a high proportion of very young children are using new digital media, including 50 percent of four- to six-year-olds who have played video games and 70 percent who have used computers. Many parents clearly perceive that their children's TV watching has a direct effect on their behavior [2]. Also, the fact that young learners have to deal with pressure at home, at school, in their community, as well as a heavy load of information they are expected to quickly take in, could possibly have contributed to the development of anxiety, carelessness and stress [3-5]. The high prevalence of psychiatric disorders among youth [6], coupled with the fact that most schools do not prioritize training in stress management and emotional regulation [7] suggests that it is imperative social and emotional health to become a priority even for preschoolers, as well as learning techniques and skills that will enhance their well-being for their entire lives.

In the U.S.A. many schools provide school-based body-mind programs, such as yoga and mindfulness techniques, in order to improve physical and mental health, behavior, social-emotional skills and school performance [8]. According to the same review a total of 75% of the programs surveyed offer yoga programming that beginning from kindergarten, or even preschool. Davidson, et al. (2012) [9] have suggested that practices like yoga and medita-

tion in education induce changes in brain structure and function, which can enhance skills like prosocial behavior and self-regulation. According to National Center for Complementary and Integrative Health (NCCIH) yoga is:

"A mind-and-body practice with historical origins in ancient Indian philosophy. Like other meditative-movement practices used for health purposes, various styles of yoga typically combine physical postures, breathing techniques, and meditation or relaxation".

Although yoga origins in ancient Indian philosophy the school-based yoga programs are secular (non-religious) and teach universal values and life skills [10]. These programs typically have combined four basic elements of yoga practice (physical yoga postures, breathing exercises, relaxation techniques, and mindfulness and meditation practices).

Mindfulness techniques affect one's life in the way that he/she acts with knowledge, is less reactive, is not critical, is able to recognize and describe with words his/her inner world and to self-observe [11]. Mindfulness techniques consist of focus on concentration and includes specific behavior, such as looking intently at objects or scenes, close examination of feeling and emotion of a certain moment, focus and control of breath [12,13]. Complete focus is a process of control without effort, because one resists the distractions and maintains their focus, processing the relative information of the goal at hand [14].

Self-regulation is a basic ability for any one's life and has to be developed from a very early age. The skills that are built through self-regulation are skills of control of behavior, thought, actions and emotions. Also, self-regulation consists of the development of sensory information and inclusion of positive social behavior. Research has shown that children who can self-regulate their experiences are more academic and socially successful [15,16]. Palmer and his co-workers (2012) [17] refer to self-regulation, as it is set as the foundation of self-determination, as a reflection of the ability to calm ones-self and to manage the stimuli that are demanded for make the decision one wants. Also, it is an ability of which one deals with distractions and avoids sensory overload which is of course an important factor for someone to learn to appropriately commit to his/her activities.

There is substantial evidence that early self-regulatory skills are predictive of children's successful adjustment in the longer term, as higher levels of regulation have been linked with positive developmental outcomes including greater self-esteem, professional attainment, and better health in later childhood and adolescence [18,19]. Conversely, poor self-regulation has been associated with many negative outcomes, including Attention Deficit Hyperactivity Disorder (ADHD), school failure, addiction/substance abuse, and anxiety and depression [18,20-23]. Hence, there has been an increasing interest in intervention and prevention strategies targeting self-regulation during early childhood when children are acquiring these foundational skills (Blair 2002; Higgins and Spiegel 2004) [24,25].

Studies have shown that kids yoga and mindfulness techniques, adjusted for children, can help with self-regulation, relaxation, control of emotions and social behavior [26-31]. Nieminen and Sajaniemi's (2016) [32] review showed that specific intervention techniques have developed in the last years, with many promising results on psychological factors of children and teenagers. Studies in adults have shown that mindfulness techniques have a positive effect on cognitive function and in the perfusion of the brain [33] and on psychological variables such as decrease in stress, fatigue, increase in mood, attention and concentration [34].

Modern society offers plenty of distractions and unwelcome attractions. Moreover, different institutions in children and adolescents' lives, such as family, school, and the media, constantly provide stimulation as well as expectations. Yoga and mindfulness techniques provide training of mind and body to bring emotional balance. Children need such tools to listen inward to their bodies, feelings, and ideas. The purpose of this pilot study was initially evaluate if a yoga and mindfulness program in the weekly education program, could affect the prosocial behavior and the emotional regulation of Greek kindergarten children.

Methodology

Participants

In the present study 31 kindergarten children, from Attica area, participated. The purpose of the study was informed to the principle of the kindergarten and to the parents. Written permission was collected from parents. Moreover, the kindergarten teachers were not fully informed for the purpose of the research and which children were in control and which children where in experimental group, as teachers were examiners, too. So, there would not be any bias results. The classes of the children were randomly separated in two groups, the control group, with 16 children (8 boys and 8 girls), and the experimental group, with 15 children (7 boys and 8 girls). The Mean age of the participants were M = 4.67.

Method

The experimental group attended two - 40 minutes lessons of the program, (kid's yoga and mindfulness techniques), every week, for 10 weeks, by an expert educator in kid's yoga and kid's mindfulness techniques. The control group was with this expert educator, but they continue to attend a 40-minutes classical psycho-kinetic lesson, for 10 weeks, 2 lessons per week. For the measurement of the dependent variables a questionnaire and 2 different tasks were used, before and after the intervention.

The measurement tools

The teacher rating social competence: The TRC has 3 sub-

scales: the social behavior scale, the emotional regulation scale and the scale for the ability to manage the academic challenges. According to Flook et al. (2015) [28] for this age group only the two sub-scales can be used: The social behavior subscale (which include 5 questions for empathy and compassion to the others, with a= 0.95) and the emotional regulation subscale (which include 7 questions for emotional regulation, such as does he/she stop and relax when he/she is excited or upset?, with a= 0.82). The total Cronbach a of the questionnaire was a= 0.94. A 6-point Likert scale is used with the higher scores to show greatest social and emotional regulation.

The sharing task: The sharing task that was used in this study was based on the sharing task that Flook et al. (2015) [28] has used in their study. In present task the children were examined in four different situations. In the beginning of each situation stickers were given to them, from which they had to choose 10 stickers to keep. Then from these 10 stickers they had to choose how many and which, they would give to someone else and how many and which, will keep for themselves. The four target recipients were: a most and a least – liked peered (identified by the participant) from their class, an unfamiliar child and a child who was sick. In every situation 2 different colored envelopes were given in order to put the stickers for them and for the other person. Scores were computed for each trial along with a total average score that reflected the number of stickers put in the "Me" envelope across all four trials.

The task of delay of gratification: This task was based on the delay of gratification task of Prencipe and Zelazo's (2005) [35]. In this task children were asked if they prefer to take a smaller reward one ("One thing") or larger reward later (two, three or five things). The task included 9 test trials. In the present study, rewards included: sweets, pens, markers, woodcuts and small toys. Scores were computed for all trials and each contingency representing the mean number of times that the child choose the delay reward.

Semi - structured interview: In the semi-structured interview, which took place after the intervention, the children were asked: if they do any activities of the program at home and if yes which. How do they feel after the class? Which is their favorite activity and how they feel after doing that?

The kid's yoga and mindfulness techniques educational program (YMT)

The intervention educational program of present study included 20, 40-minutes lessons of kid's yoga and mindfulness techniques for kids (YMT). Every single lesson includes yoga postures (adjusted for this age group), breathing exercises, activities for the topic of the day lesson, that promote social-emotional skills (e.g. love, respect, kindness, etc.), yoga games and mindfulness techniques, adjusted for this age group, focused on one of the following skills: empathy, relaxation, gratitude, sharing and concentration, (e.g. still like a frog, the elephant shower, kindness-loving meditation etc.).

The procedure

The whole sample was evaluated in the beginning of the intervention with the three measurement tools, after the relevant permits from parents, principle of the kindergarten and teachers. The expertise educator was introduced to the children as a new PE teacher, one month before the intervention begins, and she was working as an assistant all that month, in order to gain the relevant familiarity and adaptation with the pupils. Random sampling was performed. The experimental group attended the kid's yoga and mindfulness techniques educational program (YMT), and the control group attended the classical psycho-kinetic lesson that had already attended until then. Both groups had 2 lessons per week, for 10 weeks. After intervention, both groups were evaluated with the three measurement tools and a semi- structured interview was conducted.

Statistical analysis

The statistical analysis was held with SPSS .20. Independent t-tests were conducted in order to compare the two group in the baseline. Repeated measures analysis of variance (RMANOVA) analyses were conducted with baseline scores entered as covariance to assess for group by time interactions. Paired t-tests were used post hoc to examine change from pre- to post-test within intervention and control groups separately in cases where the omnibus F value from the RMANOVAs showed a significant effect (i.e., a significant group by time interaction effect controlling for baseline levels).

Results

There were no significant differences at baseline on any demographic variables or other measures assessed at baseline (i.e., delay of gratification, sharing task, TRC) ($p > 0.05$). A significant group by time interaction was found in RMANOVA analyses (controlling for baseline levels) for TSC total score, $F(1, 30) = 6.80$, $p = 0.01$, as well as the prosocial behavior $F(1, 30) = 4.39$ $p = 0.03$, and emotion regulation subscales, $F(1, 30) = 10.27$ $p = 0.001$. Significant pre/post change with large effect sizes was found for both groups in post hoc paired t tests for TSC total score (experimental: $t(15) = 8.08$, $p < 0.01$, $d = 1.27$, control: $t(16) = 8.74$, $p < 0.01$, $d = 1.10$), for prosocial behavior (experimental: $t(15) = 8.02$, $p < 0.01$, $d = 1.30$, control: $t(16) = 8.53$, $p < 0.01$, $d = 0.95$) and for emotional regulation (experimental: $t(15) = 6.85$, $p < 0.01$, $d = 1.22$, control: $t(16) = 6.23$, $p < 0.01$, $d = 0.95$). A small between-groups d (computed as the difference between within-group ds) was found favoring the KC group for TSC total score ($d = 0.24$), for prosocial behavior ($d = 0.27$), and for emotional regulation ($d = 0.23$).

A significant group by time interaction was found with the RMANOVA analysis for sharing (total stickers kept for self), indicating that the control group kept significantly more for themselves over time relative to the KC group, F (1, 30) = 6.58 p = 0.011. Paired t tests conducted post hoc revealed a significant increase in stickers kept for self in the control group t (16) = 2.34, p < 0.02, d= 0.50, but not in the experimental group, t (15) = 0.52, p < 0.615, d= 0.13. The between-groups effect (d = - 0.29) was small.

No significant RMANOVA analyses were noted for the delay of gratification task (all trials: F (1, 30) = 1.42 p = 0.23, 1 vs 2: F (1, 30) = 0.02 p = 0.89, 1 vs 3: F (1, 30) = 1.95 p = 0.16, 1 vs 5: F (1, 30) = 2.50 p = 0.11). Within-group ds reflected small- to hyphenate increases in the experimental group (ds = 0.45, 0.19, 0.49 and 0.48 for all trials, one vs. two, one vs. three, and one vs. five, respectively) and small increases in the control group (ds = 0.15, 0.20, 0.19 and 0.08 for all trials, one vs. two, one vs. three, and one vs. five, respectively). Examining between groups ds, a small effect size was noted across all trials (d= 0.24), in one versus two (d= 0.30), and in one versus three (d= 0.28) and one versus five (d= 0.35) trial types in the direction of more delay in the experimental group relative to the control group.

	Experimental group			Control group					
Variables	**n_1**	**Pre –test M(SD)**	**Post –test M(SD)**	**n_2**	**Pre- test M(SD)**	**Post-test M(SD)**	**Between group d**	**F- value**	**p-value**
TSC total	15	3.22 (1.09)	4.36 (0.20)	16	3.18 (0.75)	3.89 (0.73)	0.24	6.80	0.01**
TSC - SB	15	3.02 (1.15)	4.35 (0.65)	16	3.02 (0.95)	3.85 (0.93)	0.27	4.39	0.03*
TSC - ER	15	3.40 (0.95)	4.44 (0.56)	16	3.30 (1.23)	3.89 (0.65)	0.23	10.27	0.001***
Self-stickers	15	4.83 (2.15)	5.05 (1.76)	16	4.93 (1.75)	6.20 (1.23)	-0.29	6.58	0.011**
Delay total	15	1.45 (0.34)	1.60 (0.32)	16	1.45 (0.33)	1.50 (0.33)	0.24	1.42	0.23
Delay 1vs2	15	1.47 (0.35)	1.55 (0.40)	16	1.42 (0.35)	1.50 (0.39)	0.30	0.02	0.89
Delay 1vs3	15	1.43 (0.37)	1.61 (0.35)	16	1.40 (0.34)	1.49 (0.37)	0.28	1.95	0.16
Delay 1vs5	15	1.46 (0.38)	1.65 (0.39)	16	1.45 (0.35)	1.52 (0.35)	0.35	2.50	0.11
TSC: Teacher Social Competence, SB: Social Behavior, ER: Emotion Reculation *p < 0.05, ** p < 0.01, *** p< 0.001									

Table 1: Pre- and Post-Test Means and Standard Deviations and RMANOVA results.

In the semi-structured interview, all participants in the experimental group reported doing some of the activities at home, and a large percentage (87%) had put their parents and siblings to do, so. The majority of these activities were mindfulness techniques (75%), while a small percentage (25%) were activities from kid's yoga, mainly in demonstration to parents. In the control group, only 2 children reported doing some of the homework.

In the question "How do they feel after the lesson", the experimental group reported with more adjectives its psychological status (beautiful, quieter, cheerful, joyful, very good) compared to the control group where they mainly mentioned the word "well" And only 2 children said cheerfully. To the question "What is their favorite activity and how they feel afterwards", 95% of the experimental group chose mindfulness techniques and some of their answers were "Calmer" (p.14), "Like a flying balloon" (p. 2), "Relaxed" (p.6), "As if I am in water" (p.4), "With care" (p.7). The control team chose hunting and competition games, with the exception of one child who chose creative kinetic activity

Discussion

The present study was a pilot one on an educational program of kid's yoga and mindfulness techniques and its effect on prosocial behavior and emotional regulation of kindergarten students. These practices were taught as a part of a Physical Education lesson (psycho-kinetic lesson) for 10 weeks. As the results showed, the experimental group that took part in the program had a statistical significance improvement in positive prosocial behavior as well as in emotional regulation.

Specifically, in the teacher rating social competence that was completed by the kindergarten teachers, both groups had better results in the end compared to the beginning, with the experimental group having better results compared to the control group. It seems then, that the psycho-kinetic program that the specific kindergarten school follows helps in the development of social competence, but the implementation of a kid's yoga and mindfulness technique program can help even further to provide the children with these kinds of skills, which are important to their mental wellness.

The participants of the experimental group, according to the results, shared their belongings much more, after the intervention, compared to the beginning of the study, but also compared to the control group, too. Even though there wasn't a statistical significance difference, the results showed that there was a trend of a delay in receiving the reward, which shows that they could self-regulate their excitement, in a point. Possibly, for the ability of this skill, more time of exercise was needed.

From the results of the semi-structured interview, it seemed that the children need mindfulness techniques and that they enjoy them as much as to repeat them at home and to "Teach" them to the important people in their lives (i.e. parents, siblings). Also, it seems that these techniques had a significant impact on their tranquility and relaxation. Specifically, eight children mentioned that they used specific techniques they were taught when they felt under pressure and stressed. It could be said that an advantage of this program could have been the enrichment of yoga with more mindfulness techniques than only meditation.

Although the research in the field of school - based yoga and mindfulness programs is in its early stages, the initial findings are very promising. In a review of Serwacki and Cook-Cottone (2012) [36] results showed although most of the studies were of low-to- moderate methodological quality, the evidence suggested that yoga interventions in school-based environment exerted positive effects on several factors, such as emotional balance, attentional control, cognitive efficiency, anxiety, negative thought patterns, emotional and physical arousal, reactivity, and negative behavior. The findings of the current study are in agreement with other studies which also have revealed positive effects for school-based yoga on such factors as concentration, self-regulation, attention, anxiety, stress, mood, resilience, emotional arousal, self-esteem, and coping frequency [26-31]. Thus, the current study adds to a small, but growing, body of research that supports the use of yoga and mindfulness-based practices with young children.

Implications

Children spent most of the everyday life in school environment, so school plays a very important role in helping children to develop social, behavioral, and academic skills that are really important for their life and required to be successful as adults. Very important skills, such as self-regulation and prosocial behavior can start to be taught from preschool and kindergarten. As Fulghum (2010) [37] said in his book "all I really need to know I learned in kindergarten". School -based yoga and mindfulness program have the potential to provide a large-scale preventive intervention that may target early risk factors for psychological and physical health problems in both childhood and adulthood, in a playful and enjoyable way.

It is important though to note that traditional bureaucratic structures, combined with potential fears and misunderstandings about yoga, and the fact that Greek Orthodox Church oppose of exercising yoga, can cause some parents to be reluctant to endorse participation of their children in yoga-based programming. Therefore, it is really important to be emphasized the non-religion connection and the secular nature of such yoga programs offerings.

Limitations and future studies

There are several limitations in this study. The small sample size restricted the analyses, as we had limited power and thus did not include covariates other than the pretest score in the models, and may have also restricted our ability to detect differences between the two groups in terms of key background characteristics (e.g. socio-economic status, previous yoga lessons). Another limitation is that it was not taken any children's background characteristics, such as child temperament. Moreover, the classes of the children were randomly separated in two groups and not the children. This could have an effect of the results as the two groups, although had the same teacher when they did yoga or psycho-kinetic program, but they had different teacher in the rest hours of their days and his/ her character might influence the results.

Future studies, should collect more comprehensive child and family characteristics that are associated with self-regulation, such as child temperament to limit omitted-variable bias. In addition, it would be beneficial to collect more data on the teachers' background and classroom practices. The current study also did not allow for long-term follow-up of these children or the collection of other behavioral or academic outcomes associated with self-regulation, such as social-emotional competence or achievement.

Thus, future work is needed to determine whether the benefits in early self-regulation follow children into elementary school and influence their social-emotional and/or academic trajectories. This study used a ten-week intervention that might had limited results. Future studies should have interventions that last longer (e.g. a whole school year). As results showed there was a tendency child to carry the techniques that had learnt at home. Evidence suggests that mindful parenting programs have been successful in reducing stress and improving the parent-child relationship [38,39]. Thus, future interventions could incorporate yoga and mindfulness practices for parents as well as for children, so family based practice may promote both effectiveness and sustainability.

References

1. Campaign for a Commercial-Free Childhood, Alliance for Childhood, & Teachers Resisting Unhealthy Children's Entertainment (2012) Facing the screen dilemma: Young children, technology and early education. Boston, MA: Campaign for a Commercial-Free Childhood; New York, NY: Alliance for Childhood.
2. Rideout VJ, Vandewater EA, Wartella EA (2003) Zero to Six: Electronic Media in the Lives of Infants, Toddlers and Preschoolers. Menlo Park, CA: Kaiser Family Foundation. Research Report No: 3378.
3. Friedman-Weieneth JL, Harvey EA, Youngwirth SD, Goldstein LH (2007) The relation between 3-year-old children's skills and their hyperactivity, inattention, and aggression. Journal of Educational Psychology 99: 671-681.
4. Honig AS (2010) Little kids, big worries: Stress-busting tips for early childhood classrooms. Baltimore, MD: Paul H. Brookes.
5. Swick KJ, Knopf H, Williams R, Fields ME (2013) Family-school strategies for responding to the needs of children experiencing chronic stress. Early Childhood Education Journal 41: 181-186.
6. Copeland W, Shanahan L, Costello EJ, Angold A (2011) Cumulative prevalence of psychiatric disorders by young adulthood: a prospective cohort analysis from the Great Smoky Mountains Study. J Am Acad Child Adolesc Psychiatry 50: 252-261.
7. Greenberg MT, Weissberg RP, O'Brien MU, Zins JE, Fredericks L, et al. (2003) Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. Am Psychol 58: 466-474.
8. Butzer B, Ebert M, Telles S, Khalsa SBS (2015) School-based Yoga programs in the United States: A Survey. Advances in Mind-Body Medicine 29: 18-26.
9. Davidson RJ, Dunne J, Eccles JS, Adam Engle, Greenberg M, et al. (2012) Contemplative practices and mental training: prospects for American education. Child Development Perspective 6: 146-153.
10. Butzer B, Day D, Potts A, Ryan C, Coulombe S, et al. (2015) Effects of a classroom-based yoga intervention on cortisol and behavior in second- and third-grade students: A pilot study. J Evid Based Complementary Altern Med 20: 41-49.
11. Siegel DJ (2009) Mindful awareness, mindsight, and neural integration. The Humanistic Psychologist 37: 137-158.
12. Ruff HA, Lawson KR, Parrinello R, Weissberg R (1990) Long-term stability of individual differences in sustained attention in the early years. Child Development 61: 60-75.
13. Ruff HA, Rothbart MK (1996) Attention in early development. Oxford University Press, New York.
14. Lawson KR, Ruff HA (2004) Early focused attention predicts outcome for children born prematurely. Journal of Developmental & Behavioral Pediatrics 25: 399-406.
15. Blair C, Diamond A (2008) Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. Development and Psychopathology 20: 899-911.
16. Zelazo PD, Lyons KE (2012) The potential benefits of mindfulness training in early childhood: A developmental social cognitive neuroscience perspective. Child Development Perspectives 6: 154-160.
17. Palmer SB, Summers JA, Brotherson MJ, Erwin EJ, Maude SP, et al. (2012) Foundations for selfdetermination in early childhood: An inclusive model for children with disabilities. Topics in Early Childhood Special Education 33: 38-47.
18. Moffitt TE, Arseneault L, Belsiky D, Dickson N, Hancox RJ, et al. (2011) A gradient of childhood self-control predicts health, wealth, and public safety. PNAS 108: 2693-2698.
19. Shoda Y, Mischel W, Peake PK (1990) Predicting adolescent cognitive and self-regulatory competencies from preschool delay of gratification: Identifying diagnostic conditions. Developmental Psychology 26: 978-986.
20. Diamond A (2005) ADD (ADHD without hyperactivity), a neurobiologically and behaviorally distinct disorder from ADHD (with hyperactivity). Development and Psychopathology 17: 807-825.
21. Hester R, Garavan H (2004) Executive dysfunction in cocaine addiction: Evidence for discordant frontal, cingulated, and cerebellar activity. Journal of Neuroscience 24: 11017-11022.
22. Ivanov I, Schulz KP, London ED, Newcorn JH (2008) Inhibitory control deficits in childhood and risk for substance use disorders: A review. American Journal of Drug and Alcohol Abuse 34: 239-258.
23. Kyte ZA, Goodyer IM, Sahakian BJ (2005) Selected executive skills in adolescents with recent first episode major depression. Journal of Child Psychology and Psychiatry 46: 995-1005.
24. Blair C (2002) School readiness as propensity for engagement: Integrating cognition and emotion in a neurobiological conceptualization of child functioning at school entry. American Psychologist 57: 111-127.
25. Higgins ET, Spiegel S (2004) Promotion and prevention strategies for self-regulation: A motivated cognition perspective. In: R. F. Baumeister & K. D. Vohs (Eds.), Handbook of self-regulation: Research, theory, and applications (pp. 171-187). New York, NY, US: Guilford Press.
26. Drmandjian VR (2015) Mindfulness for early childhood: teachers, family and children, Thesis for Master degree, California State University, Northridge.
27. Erwin EJ, McGrath GS, Harney CJ (2015) It's like breathing in blue skies and breathing out stormy clouds: Mindfulness practices in early childhood. Division of early childhood 20: 69-85.
28. Flook L, Goldberg SB, Ringer L, Davidson RJ (2015) Promoting prosocial behavior and self-regulation skills in preschool children through a mindfulnessbased kindness curriculum. Developmental Psychology 51: 44-51.

29. Lutz A, Slagter HA, Dunne JD, Davidson RJ (2008) Attention regulation and monitoring in meditation. Trends in Cognitive Sciences 12: 163-169.

30. MacLean KA, Ferrer E, Aichele SR, Bridwell DA, Zanesco AP, et al. (2010) Intensive meditation training improves perceptual discrimination and sustained attention. Psychological Science 21: 829-839.

31. Thomas L (2008) Being present: Mindfulness and yoga at Westminster center school. Horace Summer 24: 1-7.

32. Nieminen SH, Sajaniemi N (2016) Mindfulness awareness in early childhood education. South African Journal of Childhood Education 6: a399.

33. Newberg AB, Wintering N, Khalsa D, Roggenkamp H, Waldman MR (2010) Meditation effects on cognitive function and cerebral blood flow in subjects with memory loss: A preliminary study. Journal of Alzheimer's Disease 20: 517-526.

34. Chambers R, Chuen Yee Lo B, Allen NB (2008) The impact of intensive mindfulness training on attentional control, cognitive style, and affect. Cognitive Therapy and Research 32: 303-322.

35. Prencipe A, Zelazo PD (2005) Development of affective decision making for self and other: Evidence for the integration of first- and third-person perspectives. Psychological Science 16: 501-505.

36. Serwacki ML, Cook-Cottone C (2012) Yoga in the schools: a systematic review of the literature. International Journal of Yoga Therapy 22: 101-109.

37. Fulghum R (2010) All I really need to know I learned in kindergarten. Athens: Livanis.

38. Coatsworth JD, Duncan LG, Greenberg MT, Nix RL (2010) Changing parents' mindfulness, child management skills, and relationship quality with their youth: Results from a randomized pilot intervention trial. Journal of Child and Family Studies 19: 203-217.

39. van der Oord S, Bo¨gels SM, Peijnenburg D (2012) The effectiveness of mindfulness training for children with ADHD and mindful parenting for their parents. Journal of Child and Family Studies 21: 139-147.