

Parental Satisfaction with KiDsGyM® USA as an Intervention for
Self-Regulation and Social Emotional Development in Young Children

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Abstract

Research suggests the years from birth through age 10 are the most critical for optimal cognitive growth and development in young children. It has also been reported that the most important connections are made in the years before a child enters kindergarten (Shonkoff & Phillips, 2000). KiDsGyM USA®, an independent non profit organization, reports using gymnastics as an intervention for enhancing gross motor development as well as cognitive control and social-emotional development in young children. As one of the primary consumers KiDsGyM USA® services, the current project examined parental perception of KiDsGyM USA® as a tool to enhance gross motor development, cognitive control, and social-emotional skills in children. Information was also obtained regarding KiDsGyM USA®'s service delivery model. Results suggest that parents view KiDsGyM USA® program as having a positive influence on the gross motor, social-emotional and self-regulation behaviors in young children. Facilitators (teachers/trainers) of the the KiDsGyM USA® gymnastics program were also noted as a strength of the program.

Introduction

KiDsGyM USA®

KiDsGyM USA® (founded in 1986) is an innovative gymnastics instruction program that strengthens physical as well as social/emotional, and cognitive development in preschool children. KiDsGyM USA® offers a level of interconnectedness that other programs do not, incorporating several constructs of learning through structured gymnastics activities. In 1991 KiDsGyM USA®, an independent, nonprofit, children and youth development organization, was recognized as the 506th member of President George Bush's Daily Points of Light.

KiDsGyM USA® created the Early Movement Education program, which serves children between 1 and 6 years of age in Atlanta, GA. Over 65,000 children have participated in KiDsGyM USA® since the organization's inception. Over 75% of the students served have been between the ages of 1 and 6 years of age. This program was created to encourage gross motor, cognitive and social-emotional development in children using physical exercise in the form of gymnastics. Gymnastics is one of the most comprehensive "lifestyle exercise programs" available to children, "incorporating strength, flexibility, speed, balance, coordination, power and discipline" (Taylor, n.d.). A unique and innovative element of KiDsGyM USA® is its use of structured educational gymnastics training. In contrast with traditional gymnastics programs, structured educational gymnastics training emphasizes body management of children as opposed to competitive preparation. Thus the goal of the program is to not only improve gross motor skills, similar to other gymnastics programs, but the goal of KiDsGyM USA® activities is also to strengthen cognitive and social-emotional connections in children. It is the premise of KiDsGyM USA® that sensory motor activities, through the delivery of gymnastics, directly influence neurological pathways in students. This results in not only better gross motor development but in better cognitive and social-emotional outcomes.

The purpose of this paper is to discuss the preliminary evaluation of KiDsGyM USA®'s service delivery model and program outcomes. The paper includes background on KiDsGyM USA®, relevant research, evaluation method and results as well as suggestions for future projects.

The KiDsGyM USA® Service Delivery Model

Compared to other movement education programs, KiDsGyM USA® has targeted children in low income, high need areas for thirty years. As such KiDsGyM USA® delivers a structured educational gymnastics program designed specifically for this population of young children, using fun and frustration free methods with safety certified instructors.

The KiDsGyM USA® gymnastics curriculum consists of 40 sequential and goal oriented lessons. The series of KiDsGyM USA® lessons is a collaborative effort between KiDsGyM USA®, the former head gymnastics coach from the University of Illinois; gymnastics coaches from the University of Washington; Kinesiology and Health professors from Georgia State University; education majors from Spelman College and preschool teachers from Atlanta Public Schools. Each lesson requires 45- 60 minutes to implement. There is flexibility in the number of times per week children may be exposed to the curriculum. Lessons may be implemented once

per week or up to three times per week. Each child is exposed to a multitude of sensory motor activities required for gross and fine motor skill development during early childhood. Children are given many opportunities to master specific skills. Repetition is a key strategy used to accelerate improvements in motor skills. The early movement education activities include but are not limited to rebounder (mini trampoline) jumping (body awareness), uneven and parallel bar work (strength training), tumbling and vaulting (coordination and agility), and balance beam walking (equilibrium). The equipment used for program implementation is cost-effective and easy to store. In addition to gross motor skill development the curriculum incorporates aspects of the following developmental areas related to school readiness: executive functioning (cognitive control), expressive and receptive language skills, and social-emotional skills.

School Readiness Skills in Young Children

Providing high quality early educational opportunities for young children is crucial to ensuring that each child enters kindergarten with the requisites necessary for continued academic growth and social-emotional development. These requisites are also known as school readiness skills. According to the National Association for the Education of Young Children (2009) “ensuring that children are ready for successful school experiences is one of the most pressing issues in early childhood policy and practice.” The most successful school readiness programs are those providing comprehensive educational programming covering multiple domains of early childhood educational growth. For example, the Head Start Child Development and Early Learning Framework includes 11 essential domains of school readiness: Physical Development and Health, Social and Emotional Development, Approaches to Learning, Logic & Reasoning, Language Development, English Language Development, Literacy Knowledge & Skills, Mathematics Knowledge & Skills, Science Knowledge & Skills, Creative Arts Expression, and Social Studies Knowledge & Skills (U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start (OHS), 2011). For the majority of these domains, associations with academic achievement are easily identifiable and instructional approaches readily available. Not as explicit are the important connections between physical development (specifically gross motor movement activities), cognitive development (which impacts academic achievement), and social-emotional development, as well as the methods used to facilitate these interactions.

KiDsGyM USA®’s Use of Physical Exercise in the form of Gymnastics to Enhance Cognitive Control in Children

Cognitive control is defined as “operations responsible for motivated actions and self-regulation that assist in selecting, scheduling, maintaining, and coordinating the computational processes that underlie perception, memory and action” (Drollette et al., 2013). Cognitive control involves the interrelated processes of working memory (short-term memory storage and processing speed); inhibitory control (regulation of attentional processes) and cognitive flexibility (the ability to quickly modify or transform behavior from instruction) (Cole, Laurent, & Stocco, 2013; Drollette et al. 2013; Robert, Borella, Fagot, Lecerf, & de Ribaupierre, 2009; Chooi, 2012).

It has been suggested that multiple benefits exist for children participating in physical exercise such as “longer attention spans, increased communication skills, and (they) are better with general problem solving” (Taylor, n.d.). It has also been suggested that children who participate in aerobic exercise have better cognitive control.

With KiDsGyM USA® activities, cognitive control is exercised as children learn to repeat a sequence of physical movements following verbal prompts, and accurately follow through on novel activities. These prompts include terms used in gymnastics which include “in”, “out”, “top”, “bottom”, “under”, and “over”. When these terms are combined, children are able to carry out more complex, successive commands. Children also learn through verbal prompts to locate left and right positioning; understand and repeat one-part directions; and to initiate or follow through on requests. Children also learn to complete novel tasks with minimal repetition, and to remain on task when distractions are present.

Cognitive control has been directly and indirectly linked to social-emotional development in children. For example, Riggs et al. (2006) cite research from multiple investigators in which deficiencies in cognitive control lead to deficiencies in impulsivity, distractibility, low concentration, and selective attention. Additionally, there is an association between early academic success and a child’s social-emotional development.

KiDsGyM USA® as an Intervention for Social-Emotional Skills.

KiDsGyM USA® anecdotal data indicates that young children have better peer and adult interactions, are more successful at following multi-step directions, work well individually as well as in groups, are better with expressive and receptive language, have improved self-esteem and are better able to self-regulate. KiDsGyM USA® activities promote the interaction between executive functioning and positive social-emotional development by addressing such areas as: self-management (sitting quietly when listening to instructions, waiting patiently for a turn at an activity, and standing in line without excessive movement), responsible decision making, empathy toward others, establishing positive relationships with peers and adults, attempting new activities, following through with directions, obeying rules and remaining focused during transitional periods.

According to the President’s Council on Physical Fitness, only 1 in 3 children are physically active daily and only 6 states (Illinois, Hawaii, Maine, Mississippi, New York and Vermont) require physical education programs for grades K-12 (2014). When addressing the needs of K-12 students, the Georgia Performance Standards for Health and Physical Education suggest that “a sequential, developmentally appropriate curriculum should be designed and implemented to help students acquire the knowledge, skills, attitudes, and confidence needed to adopt and maintain a physically active and healthy lifestyle”(Georgia Department of Education, 2013).

Evaluation Design and Method

Survey data was collected to assess parental views regarding the merit of the KiDsGyM program on children’s gross motor abilities, cognitive control, and social-emotional development. Data was collected over the course of 4 hours, in July of 2016, at a KiDsGyM USA® facility located

in a high need area of a southeastern metropolitan city. Respondents completed and returned the survey the same day during the span of their child's 1-hour KiDsGyM class.

A total of 65 KiDsGyM USA® parents agreed to participate. Parents/Caregivers were selected due to their role as primary caretakers who have direct knowledge and observations of their child's development across all areas. Of those 65 parents, 48 met the criteria for inclusion in the final analysis in that: (1) the respondent had at least one child currently attending a Saturday class at the facility and (2) the respondent's same child also attended at least one class during the 2015-2016 school year. Parents were informed that completion of the survey was optional and they could withdraw their consent to participate at any time. Parents were also assured that no identifying information would be collected (to ensure that participants were comfortable with providing open and honest responses to survey questions).

Data Collection Measures:

Prior to the start of the project, and after discussion with KiDsGyM USA® stakeholders, it was agreed that the creation of a paper-based survey would yield the best response rate, due to past difficulty with response rates when data was collected online. Therefore, a paper version of the survey was generated and distributed to respondents.

Questions for the survey were generated from responses to semi-structured interview questions provided by KiDsGyM USA®, as well as from a review of the goals and objectives of the KiDsGyM USA® program. Using a likert-scale response format the survey examined gross motor skills and social-emotional development, as well as parental satisfaction with KiDsGyM USA®'s service delivery model. Open-ended questions were included to provide respondents with the opportunity to include additional comments about the program and KiDsGyM USA® facilitators/staff.

Final questions were selected after review by KiDsGyM USA® stakeholders and members of the evaluation team that met the following criteria: acceptable survey length to promote high respondent engagement; the elimination of questions that were repetitive or did not make sense; the addition of questions that may have been missed in the initial draft.

Results

The majority of parents 42.5% (n=20) had children who were part of the WiggleWorms program (ages 12 mos. - 3 years). Of this same group, 29.79% (n=14) of parents had children who attended the Mighty Mites Girls program (3 years - 4 1/2/ years of age). Parents who had a child attending the Mighty Mites Girls program (5 years to 6 years of age) made up 19.15% of the sample. Parents of boys had the lowest participation rate in Saturday programs; with the parents of Super Mites Boys (5 years-6 years of age) and Beginner Boys (7 years of age and up) equally represented at 4.26% (n=2) for each group.

KiDsGyM USA®'s Service Delivery Model

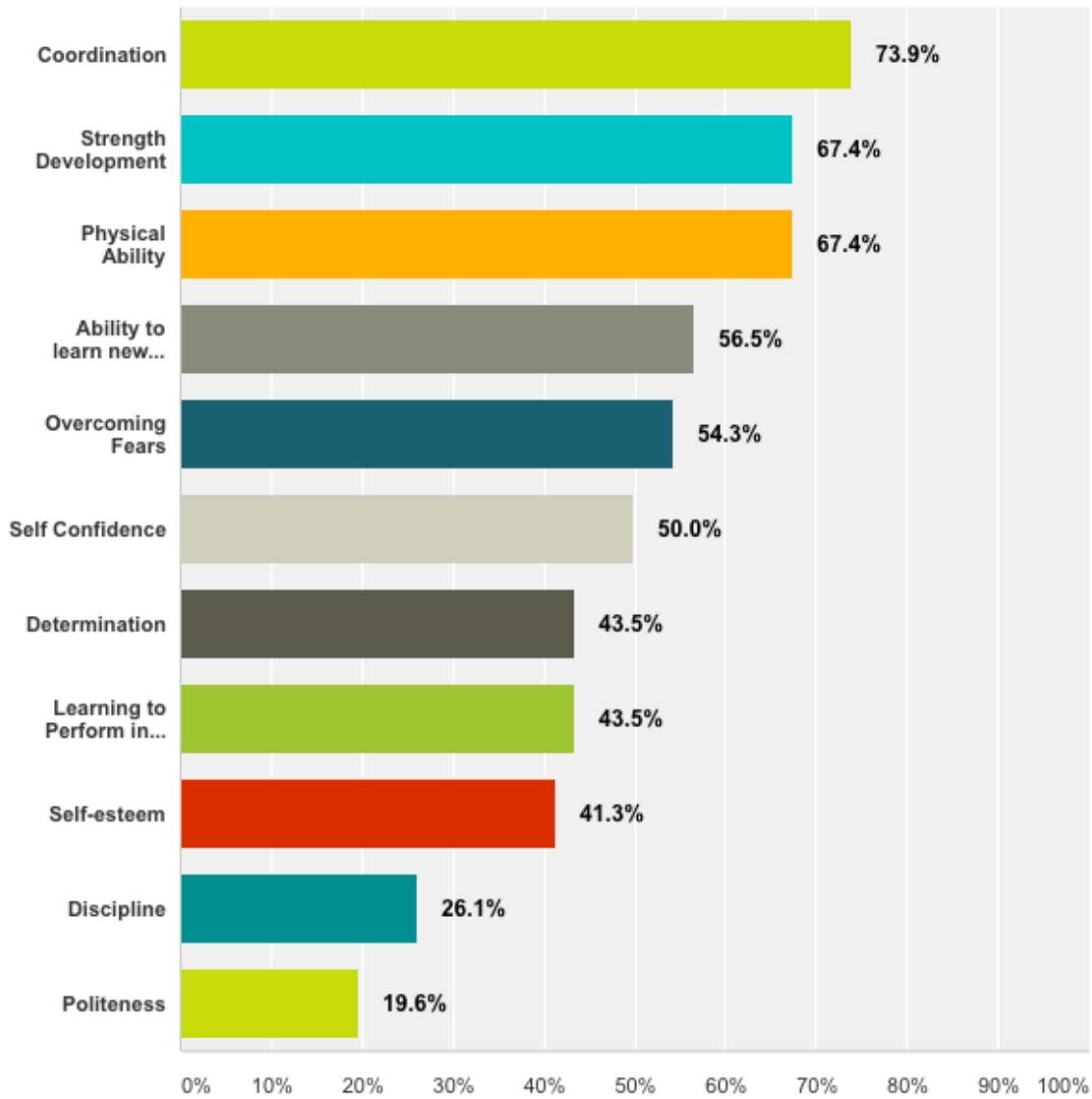
Parent ratings of the KiDsGyM USA® service delivery model were highly favorable. The majority of respondents stated they would recommend KiDsGyM USA® to family and friends, and 95.56% of parents would promote KiDsGyM USA® on their social media pages. Parents

(97.92%) believed their child enjoyed attending the KiDsGyM USA® program each week and 97.87% of parents stated they were planning to return and register their child for the Fall 2016 session. Analysis of open-ended responses suggest the primary strengths of KiDsGyM USA® is it's fun and encouraging environment for children and the instruction provided by the KiDsGyM USA® class facilitators.

Gross Motor and Social-Emotional Development Outcomes

Since attending the KiDsGyM USA® program, 73.9% of parents reported improvement in their child's coordination; 67.4% of parents observed improvement in their child's strength development; and an equal number of parents (67.4%) reported that KiDsGyM USA® improved their child's physical ability (gross motor skills). Slightly more than half of parents (56.5%) reported KiDsGyM USA® improved their child's ability to learn new information. Of those surveyed, 54.3% of parents believed KiDsGyM USA® helped with overcoming fears and half of those responding believed the program improved their child's self-confidence. Additional results are displayed in Table 1.

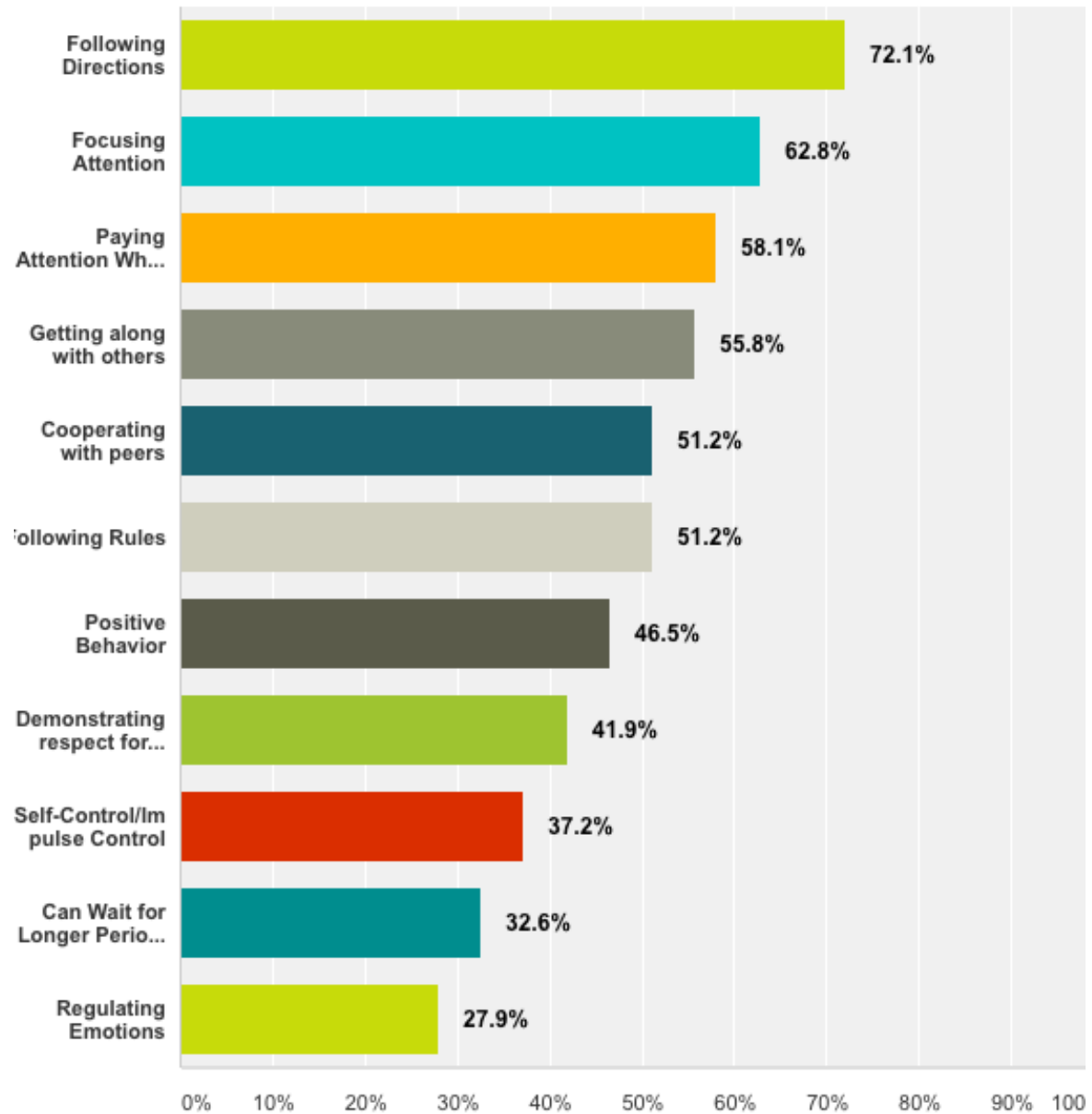
Table 1. Gross Motor Skills and Social-Emotional Development



Cognitive Control

A segment of survey questions focused specifically on self-regulation skills. Of parents surveyed, 72.1 % believed participation in KiDsGyM USA® improved their child’s ability to follow directions. Parents also believed that focusing attenting (62.8%) and paying attention when spoken to (58.1%), getting along with others (55.8%), cooperating with peers (51.2%) and following rules (51.2%) were areas in which KiDsGyM USA® has been beneficial for their child. Additional results are displayed in Table 2.

Table 2. Cognitive Control



Limitations

A few limitations were recognized in this project. The first limitation was sample size. Although the results were positive, a larger sample size may yield even stronger results. Another limitation was the population sampled. KiDsGyM USA® hosts additional classes during the week. Observations obtained from these groups may or may not yield similar results. Finally, demographic information on respondents was limited as a method to assure anonymity.

Additional demographic information may be helpful, particularly if larger sample sizes are obtained to examine any group differences.

Conclusion and Future Research

A rising number of states are considering some form of social-emotional program for children. As these programs increase so will the need for programs that work with diverse populations and multiple age groups, like KiDsGyM USA®.

Parents are the primary consumers of the KiDsGyM USA® program for their children. Based on survey feedback, KiDsGyM USA® is a program fostering growth in cognitive control, as well as social-emotional and gross motor development in children. These reports are consistent with previous anecdotal data obtained regarding the KiDsGyM USA® program. Positive feedback was also obtained regarding KiDsGyM USA®'s service delivery model. Feedback suggests that the strength of the program is in its program facilitators as well as its fun and engaging programs. The results obtained from this project provide a catalyst for follow up projects which include an analysis classroom teacher perceptions of the effects of KiDsGyM USA® on student's gross motor and social-emotional development.

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About the Researchers

PAMELA FRAZIER-ANDERSON, PH.D., NCSP received her M.Ed. and Ph.D. from Arizona State University in Educational Psychology. She is also a graduate of Spelman College. Her formal training includes the academic, behavioral and cognitive assessment of children in grades Pre-K through 12, with an emphasis on special education and at-risk populations.

Her experience with Head Start and in charter school settings, as well as the development and implementation of educational programs for nonprofit and private organizations, have addressed the needs of youth from underserved populations, ACT/SAT preparation, financial literacy for high school students, and youth within the juvenile justice system. Dr. Frazier-Anderson has provided program evaluation assistance to private and public organizations in the areas of survey development and implementation, project development/implementation, program management, program evaluation and grant proposal development and writing.

Dr. Frazier-Anderson is one of the creators of the ACESAS, which is a method for conducting culturally responsive program evaluations in educational settings serving students in grades Pre-K through 12. She was first appointed and then elected to serve as the Co-Chair of the Research on Evaluation Special Interest Group (RoE SIG) of the American Educational Research Association where she successfully led efforts to create and establish the first Distinguished Scholar Award for the SIG to recognize the work of scholars and researchers in the field. She is a former Program Chair for the Multiethnic Issues in Evaluation Topical Interest Group of the American Evaluation Association.

Dr. Frazier-Anderson was a member of the Board of Trustees at the Long Ridge School, in Stamford, Connecticut where she served as Chair of the Planning and Education Committee. Dr. Frazier-Anderson is a non-faculty affiliate of the Center for Culturally Responsive Evaluation and Assessment (CREA) at the University of Illinois (Urbana-Champaign).

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Ms. Campbell has presented her research at the Annual Conference of American Public Health Association, the National Rural Health Association Annual Conference, and the 12th Annual Maternal & Child Health Epidemiology Conference. Her research interests include health disparities policy and research.