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A Puppet-based Self-Esteem Intervention and Its Effect on Elementary Students' Knowledge and Social Behaviors in an Afterschool Setting: An Exploratory Study

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Abstract

In the school setting, teaching students how to effectively navigate social interactions with realistic expectations of themselves has demonstrated success in promoting healthy self-esteem and positive social interactions. There has been limited research on self-esteem and social behavior interventions, though, in the out-of-school setting. Student self-esteem knowledge and teacher-observed social behaviors were assessed before and after a month-long, puppet-based, self-esteem curricular intervention held during an afterschool program for a small group of elementary students. Pre-post intervention, student self-esteem, and social behavior knowledge scores significantly ($p<.001$) improved. Total teacher-observed student behavioral Difficulties and pro-social Strengths behaviors did not significantly change. However, one Difficulty sub-scale score (Peer Problems) significantly ($p<.01$) decreased. Student success in navigating all social environments, including the afterschool setting, is critical for self-esteem development. Although the results of this exploratory study were very limited, early interventions set directly within non-school-based social environments should continue to be investigated.

Keywords: Elementary students, Self-esteem, Social skills, Afterschool, Puppetry

Introduction

Self-esteem can be defined as an overall, realistic opinion of oneself – being able to recognize one's abilities and limitations for adaptation to society (Leary & Baumeister, 2000; Liu et al., 2015). It includes the feeling of belongingness and affects every aspect of life (Leary & Baumeister, 2000). According to Hill (2017), measurement of self-esteem is multidimensional and is significantly affected by scholastic competence, behavioral conduct, physical appearance, and social and athletic competence during childhood and adolescent years. Self-esteem is affected by job competence, romantic appeal, sense of humor, health, and economic prospects during adulthood (Hill, 2017; Liu et al., 2015). Studies on early childhood self-esteem development suggest that family and social environment is a crucial factor for the development of self and has a long-term effect on self-esteem that can be carried through adulthood (Harter, 2015; Orth, 2018).

Self-esteem is lowered by failure and criticism or rejection; and raised by success, praise, and events associated with relational appreciation. Sociometer theory and other psychological theories associate self-esteem with positive social interactions with others and the sense of being socially accepted (Hutteman et al., 2015; Wagner et al., 2017). In essence, it plays an important role in managing the fundamental need to fit in socially. Social relationships and perceptions of social inclusion have been considered important predictors of self-esteem levels and change (Hutteman et al., 2015; Wagner et al., 2017).

Longitudinal studies suggest that self-esteem in elementary children is generally high but declines after transitioning to junior high school and then becomes more stable and more difficult to change as individuals become adults (Krauss et al., 2020). According to Wagner et al. (2017), self-esteem during late childhood and early adolescence is particularly vulnerable and fluctuates

during these developmental challenges. These fluctuations are influenced by multiple factors that coincide with major life events such as rapid maturation changes, shifting societal expectations, puberty-associated issues, and perceived social inclusion (Wagner et al., 2017; Krauss et al., 2020).

Self-esteem is an important factor in children's development. Low self-esteem in children predicts mental status and health-compromising behaviors such as depression, anxiety, eating disorders, and suicidal ideation; and predicts poor health, criminal behavior, and limited economic prospects during adulthood (Liu et al., 2015). Additionally, Zhao et al. (2021) study on self-esteem and academic engagement among adolescents showed that self-esteem, academic self-efficacy, and perceived social support are key factors influencing academic engagement. Adolescents with high levels of self-esteem tend to have positive experiences (Peng et al., 2019). It is suggested that interventions attempting to increase self-esteem might be more effective during childhood years compared to later in life given that individual characteristics influencing self-esteem become more stable and more difficult to change as individuals mature and become adults (Kraus et al., 2020).

Early intervention

There have been pro-social behavior, conflict management, and problem-solving skills interventions implemented in schools (Taylor et al., 2017) to promote positive development among children. With the positive associations between social interactions and self-esteem (Hutteman et al., 2015; Wagner et al., 2017), it is suggested that promoting positive social interactions and strengthening self-esteem through school-based interventions can benefit children's self-esteem and social connections. Successful interventions must match student developmental needs to instructional content. One developmentally appropriate teaching strategy

for elementary students is puppetry. Puppets have been used as pedagogical tools in multiple settings. A literature review by Kroger & Nupponen (2019) identified multiple studies where puppets were used to mediate communication and learning and promote self-expression and verbal activity among preschoolers. This teaching methodology has also been used to improve knowledge and change attitudes toward persons with disabilities (Dunst, 2014; Caganaga & Kamis, 2015), and improve communication, personal interaction, and socialization (Korosec, 2012) among elementary school children. Using play therapy and simulation, puppets have been used in healthcare by nurses to educate pediatric patients about their conditions and treatments (Tilbrook et al., 2017). In addition, puppets have been used to influence children's attitudes toward healthy nutrition (Longacre et al., 2015) as well as to increase their health knowledge of stroke and emergency response (Sharkey et al., 2016).

Purpose

Social relationships and self-esteem are related. Teaching elementary students how to effectively navigate social interactions with realistic expectations of themselves is important in promoting healthy self-esteem and positive interactions with peers, teachers, and others. There has been limited research on self-esteem and social behavior interventions in the out-of-school setting. Therefore, the purpose of this exploratory study was to determine the effect of a brief, puppet-based self-esteem intervention on elementary students' self-esteem knowledge and social behaviors in an afterschool setting.

Methods

Sample

Three (3/3; 100%) afterschool teachers and 47/47 (100%) early elementary students attending a community agency-based afterschool program in a small, rural, Midwest county

consented and participated in this study. The afterschool teachers were all White, female, and middle-aged. Elementary student participants were in grades kindergarten through second grade. Kindergarten participants included 17 students (8 boys, 9 girls; 15 White), First grade participants included 13 students (6 boys, 7 girls; 9 White), and second grade participants included 17 students (7 boys, 10 girls; 15 White).

Instruments

Pre-post puppet-based curriculum program, elementary student participant self-esteem and social behavior knowledge was measured by a 9-question, Yes/No-style quiz, On Applebee Pond Self-Esteem Evaluation Activity (Mercer County Behavioral Health Commission, 2018). The brief, confidential quiz, with content validity, accompanied the packaged curriculum and aligned with lesson content. Taking approximately five minutes to complete, the quiz included Yes/No questions such as: "Is there anybody else in the whole world exactly like you?", "Does unique mean that we are all the same?", " Could making fun of someone hurt their feelings?" and "When we are feeling bad, is it good to talk to someone about our feelings?". Total score is the proportion of correct answers.

Pre-post puppet-based curriculum program, student participants positive and negative social behavior attributes were rated by their afterschool teachers. The afterschool teachers used a validated instrument with 25 written questions, the Strengths and Difficulties Questionnaire-Teacher [SDQ-T] (Goodman, 1997). The instrument assessed child positive and negative social attributes across five sub-scales: Emotional symptoms, Conduct problems (i.e., often lies or cheats), Hyperactivity/inattention, Peer problems (i.e., picked on or bullied by other youth), and Prosocial behavior (i.e., considerate of other people's feelings) (Goodman, 1997) and possessed reasonable reliability [mean Chronbach's alpha was at 0.81, mean test-retest was .62] (The

National Children Traumatic Stress Network, 2014). Afterschool teachers rated student participants on a 3-point scale (0 = Not True, 1 = Somewhat True, 1 = Certainly True) on the Strengths and Difficulties domains. Item scores are averaged for a mean total score.

Procedure

Institutional Review Board approval, community agency administrator consent, afterschool teacher consent, parent/guardian consent, and elementary student participant assent were obtained. Afterschool teachers were the school district teachers employed by the agency to supervise the afterschool classrooms. Afterschool teachers completed the confidential Pre-SDQ-T for each student participant in their grade-level group one week before the first of four self-esteem puppet-based intervention lessons taught one month into afterschool program start. In addition, the elementary student participants completed their pre-self-esteem and social behavior knowledge quiz immediately before the start of the first intervention lesson.

Each week for four weeks, after snack period and before homework help/arts and crafts period during an afterschool program held from 3-5pm, the Self-Esteem Unit from On Applebee Pond evidence-informed, puppet-based curriculum (Mercer County Behavioral Health Commission, 2018) was taught to elementary student participants by trained community members from a local substance use prevention coalition. Community member instructors attended an hour-long training covering manualized curriculum review, lesson preparation and practice, how to use puppets and express puppet personalities, and maintenance of fidelity to the curriculum.

Each lesson lasted approximately one-half hour, community member instructors taught in teams of three, and each team was assigned to teach one of the three grade-level groups. As the community member instructors read from the script, several student volunteers stood in the front

of the classroom, each with one of the puppet characters. When that puppet's name was called and their lines read by a community member instructor, the student moved their puppet to act out their part. The scripted puppetry-based curriculum intervention included stories about how the puppet characters learned lessons about healthy self-esteem and social behaviors as well as incorporated interactive activities, role-plays, and pro-social skill practice for the student participants. Lesson 1: Clay-Ton's Discovery focused on participants' own specialness. Lesson 2: Tad's Feelings helped participants appropriately reflect on feelings and identify healthy outlets of expression. Lesson 3: Freddie's Unforgettable Day helped participants recognize their strengths and the strengths of others around them. Lesson 4: Handy's Help assisted participants in discovering their own uniqueness.

Post-intervention, afterschool teachers completed the confidential post-SDQ-T for each student participant in their grade-level group one week after the last self-esteem intervention lesson. In addition, the elementary student participants completed their post-self-esteem and social behavior knowledge quiz immediately following the last intervention lesson.

Data Analysis

For the self-esteem and social behavior knowledge quiz, to maintain student anonymity, aggregated scores were used. Independent samples *t*-tests were calculated for total pre-post quiz scores to determine any statistical difference in scores.

For the SDQ-T, mean scores were calculated. Paired sample *t*-tests of means for total and sub-scale scores were calculated.

Results

Student participant self-esteem and social behavior knowledge scores were significantly higher (M=7.43, SD=2.64) after the brief intervention than before the intervention (M=5.74, SD=3.14), t(47)= -2.808, *p*=0.006.

For the afterschool teacher-observed Total Difficulties scale, possible scores ranged from 0-40 with higher scores reflecting greater adherence with the noted construct. There was not a statistically significant difference between the total pre-scores (M = 8.43, SD = 5.87) and the total post-scores (M = 7.87, SD = 8.41) on the Total Difficulties scale, t(52) = 0.52, *p* = 0.61.

For the afterschool teacher-observed student social Difficulties Sub-scales, possible scores ranged from 0-10 with higher scores reflecting greater adherence with the noted construct. Of the four paired samples *t*-tests computed for Difficulties, only one of the sub-scales one was found to be statistically significant. Post-test scores for the Peer Problems sub-scale (M = 0.98, SD = 1.82) were significantly lower than pre-test scores (M = 1.62, SD = 1.56), t(52) = 2.57, *p* = 0.01. See Table 1.

Table 1: T-test results for the Strengths and Difficulties Questionnaire-Teacher subscales for pre- and post-intervention.
*Denotes statistically significant p-value at p>0.05.

Difficulties Subscale	Pre		Post		t(52)	p
	M	SD	M	SD		
Peer Problems	1.62	1.56	0.98	1.82	2.57	0.01*
Emotional Problems	0.91	1.48	1.30	2.57	-1.03	0.31
Conduct Problems	1.55	2.16	1.83	2.67	-0.78	0.44
Hyperactivity Problems	4.36	3.14	3.75	3.20	1.63	0.11
Strengths Subscale						

Prosocial	7.72	2.18	7.89	2.03	-0.58	0.57

There was not a statistically significant difference between the total pre-scores (M = 0.91, SD = 1.48) and the total post-scores (M = 1.30, SD = 2.57) on the Emotional Problems sub-scale, t(52) = -1.03, p = 0.31. There was not a statistically significant difference between the total pre-scores (M = 1.55, SD = 2.16) and the total post-scores (M = 1.83, SD = 2.67) on the Conduct Problems sub-scale, t(52) = -0.78, p = 0.44. There was no statistically significant difference between the total pre-scores (M = 4.36, SD = 3.14) and the total post-scores (M = 3.75, SD = 3.20) on the Hyperactivity Problems sub-scale, t(52) = 1.62, p = 0.11.

For the afterschool teacher-observed student social Strengths sub-scale, there was not a statistically significant difference between the total pre-scores (M = 7.72, SD = 2.18) and the total post-scores (M = 7.89, SD = 2.03) on the Prosocial sub-scale, t(52) = -0.58, p = 0.57.

Discussion

Positive self-esteem in childhood was associated with future health-promoting behaviors (Liu et al., 2015), and intervening early during childhood to improve self-esteem may help create a stronger foundation for personal health (Kraus et al., 2020). Although there have been many successful positive youth development (Taylor et al., 2017) and self-esteem interventions (Hutteman et al., 2015; Wagner et al., 2017) in the school setting, research on self-esteem interventions for children in the out-of-school setting is limited. An afterschool self-esteem-building intervention for elementary students used the developmentally-appropriate teaching strategy of puppetry (Kroger & Nupponen, 2019) to introduce students to the concept. Students participating in the brief, 4-lesson, evidence-informed curriculum significantly improved their self-esteem and social behavior knowledge scores. Their overall afterschool teacher-observed

social behaviors did not significantly change, however, one social difficulty behavior, Peer Problems, significantly decreased.

Self-esteem and social behavior knowledge improvements in this study were realized. Using an evidence-informed curriculum with a developmentally-appropriate teaching strategy may have encouraged student active learning and participation with the curriculum. Knowledge of the concept, as a first step and early intervention, may help slow any self-esteem declines in transition to upper elementary and middle school (Krauss et al., 2020) where more complex social interactions leading to more interpersonal conflicts may occur.

The afterschool-based program in this study was not successful in overall teacher-observed, student pro-social behavior increase. Although student participants demonstrated improved knowledge, it may not have transferred to general practice in the afterschool setting. School-based programs (Hutteman et al., 2015; Wagner et al., 2017) have demonstrated self-esteem and social connection improvements, though. In many afterschool programs, the emphasis is less on academics and more on offering a safe, social and recreational environment. Because the social environment is a major factor in self-esteem development (Harter, 2015; Orth, 2018), and social interactions and belonging are related to self-esteem (Leary & Baumeister, 2000); it was thought that the more social, afterschool setting would better support behavioral application of the presented content. School-based programs, though, have the advantage of longer unit duration and a consistent, regular teacher. Social behavior improvement in this afterschool program may have been limited by the small number of lessons presented and observation in only the afterschool hours by teachers who were not students' regular classroom teachers.

The significant decrease in the Peer Problems sub-scale score, though, was a promising result. A possible explanation may be due to instructor classroom management around choosing student volunteers during each lesson to be 'on stage' with the puppets. The community member instructors initially reported student conflicts and arguments over the puppets. As community member instructors emphasized taking turns as a classroom management strategy, the puppet story in Lesson 1, and especially Lesson 2: Tad's Feelings, also emphasized respect of others and healthy outlets of expression. The immediate combination of knowledge and practice may have led to decreased peer conflicts that were easily observed by the afterschool teachers recording on their SDQ-T.

The quasi-experimental design of this study led to some limitations. Selection bias and small sample size as an exploratory study limited generalizability. In addition, for the pre-post student self-esteem and social behavior knowledge test, without a control group, non-intervention influences cannot be accounted for, and some students may have had prior instruction in self-esteem in their classes or other activities. Although afterschool teachers observe students during school time daily, any prior interactions with the students, inside or outside school, may have also influenced their perceptions. Observer expectancy may have occurred when the study was explained to them by the researchers, and some student behaviors may not have been observed due to where the afterschool teacher moved in the classroom. A place for future study includes looking at the behavioral improvement between the students who participated in the afterschool program that received the intervention versus those who do not participate in the program. This would allow for a control comparison group. Another area of study would be to have their regular school day teachers take the SDQ-T to observe if the students are using the learned pro-social behaviors in their everyday rather than just at the end of

the day. Students sit at their desks for a good majority of the day and during afterschool programs, they are ready to move and be active to get all their energy out. By considering their regular classroom behavior, we would be able to evaluate the comprehensive effectiveness of the intervention, not just at a time when students tend to be restless.

Student success in navigating all social environments, such as the afterschool setting, is critical for self-esteem development (Harter, 2015; Orth, 2018). Interventions during the early elementary years to foster self-esteem knowledge and behaviors, therefore, may promote a foundation for future positive social and behavioral health. Although results of this exploratory study were very limited, early interventions set directly within non-school-based social environments should continue to be investigated.

References

Çağanağa, Ç., & Kalmiş, A. (2015). The role of puppets in kindergarten education in Cyprus. *Open Access Library Journal, 2*, 1–9. 10.4236/oalib.1101647

Dunst, C. (2014). Meta-analysis of the effects of puppet shows on attitudes toward and knowledge of individuals with disabilities. *Exceptional Children, 80*(2), 136-148. https://doi.org/10.1177/00144029140800020

Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581-586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Harter, S. (2015). *The construction of the self: Developmental and sociocultural foundations.* New York, NY: Guilford Press.

Hill, A.J. (2017). Obesity in children and the "myth of psychological maladjustment": Self-esteem in the spotlight. *Current Obesity Rep, 6,* 63-70. DOI: 10.1007/s13679-017-0246-y.

Hutteman, R., Nestler, S., Wagner, J., Egloff, B., & Back, M. D. (2015). Wherever I may roam: Processes of self-esteem development from adolescence to emerging adulthood in the context of international student exchange. *Journal of Personality and Social Psychology, 108*, 767–783. https://doi.org/767–783. 10.1037/pspp0000015

Korošec, H. (2012). Playing with puppets in class—Teaching and learning with pleasure. In L. Kroflin (Ed.), *The power of the puppet* (pp. 29–45). Zagreb, Croatia: Union Internationale de la Marionette. doi:10.4236/oalib.1101647

Krauss, S. M., Orth, U., & Robins, R. W. (2020). Family environment and self-esteem development: A longitudinal study from age 10 to 16. *Journal of Personality and Social Psychology, 119*(2), 457-478. doi:10.1037/pspp0000263.

Kroger, T. & Nupponen, A. M. (2019). Puppet as a pedagogical tool: A literature review. *International Electronic Journal of Elementary Education, 11*(4), 393-401. doi: 10.26822/iejee.2019450797

Leary, M.R., & Baumeister, R.F. (2000). The nature and function of self-esteem: Sociometer theory. In Zanna, M.P. (Ed.), *Advances in Experimental Social Psychology, 32*, 1-62. San Diego: Academic Press.

Liu, M., Wu, Lang, & Ming, Q. (2015). How does physical activity intervention improve self-esteem and self-concept in children and adolescents? Evidence from a meta-analysis. *PLoS ONE, 10*(8), e0134804. doi:10.1371/journal.pone.0134804.

Longacre, M., Roback, J., Langeloh, G., Drake, K. & Dalton, M. (2015). An entertainment-based approach to promote fruits and vegetables to young children. *Journal of Nutrition Education and Behavior, 47*(5), 480-483. doi:10.1016/j.jneb.2015.06.007

Mercer County Behavioral Health Commission, Inc. (2018). *On Applebee Pond.* Retrieved from

    http://www.mercercountybhc.org/home-page/applebee-pond-2/

Orth, U. (2018). The family environment in early childhood has a long-term effect on self-

    esteem: A longitudinal study from birth to age 27 years. *Journal of Personality and Social*

    Psychology, 114, 637–655. [PubMed: 28182449] doi:10.1037/pspp0000143

Peng, W., Li, D., Li, D., Jia, J., Wang, Y., and Sun, W. (2019). School disconnectedness and

    adolescent internet addiction: mediation by self-esteem and moderation by emotional

    intelligence. Computers in Human Behavior, 98, 111–121. doi: 10.1016/j. chb.2019.04.011

Sharkey, S., Denke, L. & Herbert, M. (2016). Using puppets to teach schoolchildren to detect

    stroke and call 911. *The Journal of School Nursing, 32*(4), 228-233.

    doi:10.1177/1059840516636197

Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth

    development through school-based social and emotional learning interventions: A meta-

    analysis of follow-up effects. Child Development, 88(4), 1156-1171.

    doi:10.1111/cdev.12864.

The National Child Traumatic Stress Network. (2014, January 29). *Strengths and difficulties*

    questionnaire-teacher report. https://www.nctsn.org/print/556

Tilbrook, A., Dwyer, T., Reid-Searl, K. & Parson, J. (2017). A review of the literature – The use

    of interactive puppet simulation in nursing education and children's healthcare. *Nurse*

    Education in Practice, 22, 73-79. doi:10.1016/j.nepr.2016.12.001

Wagner, J., Ludtke, O., Robitzsch, A., Gollner, R., and Trautwein, U. (2017). Self-esteem

    development in the school context: The roles and intrapersonal and interpersonal social

    predictors. *Journal of Personality, 86*(3), 481-497. https://doi.org/10.1111/jopy.12330

Zhao, Y., Zheng, Z., Pan, C., & Zhou, L. (2021). Self-esteem and academic engagement among adolescents: A moderated mediation model. *Frontiers in Psychology, 12*(690828). doi:10.3389/fpsyg.2021.690828