



National Alliance of Specialized Instructional Support Personnel Effective Specialized Instructional Support Services

RESEARCH BRIEF

The mission of the National Alliance of Specialized Instructional Support Personnel (NASISP) is to ensure all students have the supports, services and skills necessary to succeed in school and life.

NASISP is a coalition of national professional organizations whose members provide and support a variety of school-based prevention and intervention services to assist students in becoming effective learners and productive citizens. NASISP organizations represent more than one million members, including school counselors, school nurses, psychologists, school psychologists, social workers and school social workers; occupational therapists, physical therapists, art therapists, dance/movement therapists, and music therapists; speech-language pathologists; audiologists; teachers, students, parents, and administrators. NASISP promotes interdisciplinary practice and cooperation, and advocates for ensuring access to quality specialized instructional support services (i.e., pupil services and related services under ESEA and IDEA, respectively) for all students.

Specialized Instructional Support Personnel Perform Critical Tasks in Schools

- Supporting effective teaching and improved student learning and facilitating collaboration among school staff, families, and the community
- Providing a variety of prevention and intervention services in schools that promote effective classroom learning and teaching
- Working with teachers and administrators to develop a positive school climate, improving classroom management skills, providing behavioral interventions to reduce discipline infractions, improving school safety, and removing barriers to learning
- Providing educational programs and activities that support student learning and teaching, including consultation with teachers and families, assessments linked to instruction, individual and group counseling, problem-solving instruction, and remedial interventions
- Collaborating with teachers and school staff to ensure students receive high quality instruction responsive to the diverse and developmental needs of all students, creating a continuum of support services for all students, and providing various instructional strategies to facilitate learning in all classrooms
- Participating, as members of the school team, in professional development to ensure high quality learning
- Fostering collaboration not only between general and special education, but also between community and schools and schools and parents.

Art Therapy Services

Art therapy is an integrative mental health and human services profession that enriches the lives of individuals, families, and communities through active art-making, creative process, applied psychological theory, and human experience within a psychotherapeutic relationship. Art therapy is offered in a number of settings, including schools; school art therapists work collaboratively with teachers, administrators, and other SISPs (specialized instructional support personnel) to address individuals' treatment goals as well as greater school and community concerns. Art therapy has been shown to improve cognitive and sensorimotor functions, foster self-esteem and self-awareness, cultivate emotional resilience, promote insight, enhance social skills, and reduce and resolve conflicts and distress, thereby advancing students' readiness to learn.

Standing Tall, an exhibition of body tracings, was the culmination of art therapy workshops aimed to build adaptive coping skills for New York public school students experiencing chronic adversity. This article describes details of this brief intervention facilitated school-wide for elementary and high school students.

Berberian, M. (2017). Standing Tall: Students showcase resiliency through body tracings. *Canadian Art Therapy Association Journal*, 30(2), 88-93. doi:10.1080/08322473.2017.1375734

This U.S. case study examined how school-based art therapy interventions were used to address decreased academic performance. Results of art therapy treatment, which focused on problem solving and self-concept, indicated a notable increase in both self-concept and academic performance.

Pleasant-Metcalf, A. M., & Rosal, M. L. (1997). The use of art therapy to improve academic performance. *Art Therapy: Journal of the American Art Therapy Association*, 14(1), 23 – 29.

California students aged 9 to 12 years, referred for symptoms of depression, anxiety, emotional dysregulation, poor social skills, and distractibility, were seen in weekly, trauma-informed school-based art therapy groups. Through scaled data, significant improvements were noted in resilience, communication skills, self-awareness and self-confidence.

Sitzer, D. L., & Stockwell, A. B. (2015). The art of wellness: A 14-week art therapy program for at-risk youth. *Arts in Psychotherapy*, 45, 69-81.

This study examined the effectiveness of a group art therapy intervention within a diverse U.S. school setting to increase coping skills and decrease disruptive behaviors in a group of students at risk for making a poor transition to high school. The students demonstrated the improved ability to anticipate social roles and an increased sense of school belonging; results also suggested that school art therapy groups can be beneficial in decreasing disruptive behaviors and increasing coping skills for the transition to high school.

Spier, E. (2010). Group art therapy with eighth-grade students transitioning to high school. *Journal of the American Art Therapy Association*, 27(2), 75-83. doi:10.1080/07421656.2010.10129717

This study of 149 students (kindergarten to grade six) in two elementary schools in southeastern Ohio examined stress reduction and social/emotional development through a choice-based studio art group known as ArtBreak.

Ziff, K., Ivers, N. & Shaw, E. (2016). ArtBreak group counseling for children: Framework, practice points, and results. *Journal for Specialists in Group Work*, 41(1), 71-92.

Audiology Services

The demonstrated impact of audiologists and/or audiology treatment to improve student communication, academic skills, or participation in the school environment.

This systematic review evaluated the communication benefits of using a frequency modulated (FM) system in the classroom setting for school-aged children with hearing aids or cochlear implants. Studies that investigated the use of FM systems with cochlear implants found significant improvement in the signal/noise ratios and speech perceptions scores when an FM was used with a cochlear implant. One study indicated that in noisy and reverberating classrooms, use of the cochlear implants and hearing aids alone was "not sufficient" (p. 297).

Bertachini, A., Pupo, A.C., et al. (2015) Frequency modulation system and speech perception in the classroom: a systematic literature review. *CoDAS*, 27(3), 292-300,
<http://dx.doi.org/10.1590/2317-1782/20152014103>

This systematic review investigated literacy and writing outcomes after cochlear implantation (CI) in school-aged children. Literacy achievement in deaf students with CI was investigated from standard scores on measures of comprehension. The authors found that "deaf students with CI are demonstrating reading and writing outcomes that far surpass those historically reported for the deaf population... [and] often approaches age-appropriate mastery that is comparable to hearing peers" (p. 13); however, "not every child with a CI is successful in achieving age-appropriate literacy outcomes and/or maintaining these outcomes over time" (p. 14)

Mayer, C. & Trezek, B.J. (2018). Literacy outcomes in deaf students with cochlear implants: current state of the knowledge. *Journal of Deaf Studies & Deaf Education*, 23(1), 1-16,
<https://doi.org/10.1093/deafed/enx043>

This systematic review investigated the effects of using a frequency modulation (FM) system on the academic performance of school-aged children with suspected or diagnosed auditory processing difficulties. Children using FM systems demonstrated significantly improved classroom listening behaviors and academic performance in the majority of studies.

Reynolds, S., Miller Kuhaneck, H., et al. (2016). Systematic review of the effectiveness of frequency modulation devices in improving academic outcomes in children with auditory processing difficulties. *American Journal of Occupational Therapy*, 70(1), 7001220030p1-7001220030p11.
<http://dx.doi.org/10.5014/ajot.2016.016832>

This systematic review evaluated the impact of educational approaches used to enhance social interaction skills of children diagnosed as deaf or hard of hearing. "Both co-enrollment [i.e., inclusive educational settings] and social skills training programs focused on pupils of school age. The findings of the studies indicated that both children who were [deaf or hard of hearing] and children with normal hearing [benefited] from their involvement in either program" (p. 433).

Xie, Y. H., Potmesil, M., et al. (2014). Children who are deaf or hard of hearing in inclusive educational settings: A literature review on interactions with peers. *Journal of Deaf Studies & Deaf Education*, 19(4), 423-437, <http://dx.doi.org/10.1093/deafed/enu017>

This systematic review investigated the effectiveness of cochlear implantation in children with severe to profound hearing loss. The authors found that "Cochlear implantation may have educational benefits in terms of academic outcomes. Children who are implanted before they attend school may be more likely to achieve better academic results and be in mainstream education than those who are implanted after they reach school age. Profoundly sensorineurally deaf children with cochlear implants performed at similar levels to moderately or severely deaf children without implants" (p. 46).

Bond, M., Mealing, S., et al (2009). The effectiveness and cost-effectiveness of cochlear implants for severe to profound deafness in children and adults: A systematic review and economic model. *Health Technology Assessment*, 13(44), 1-330, <http://dx.doi.org/10.3310/hta13440>

Dance/Movement Therapy Services

Since 1974 Dance/movement therapists have provided services to children in regular and special education classes in schools and agencies across the country. Dance/movement therapy is used to enhance learning, improve physical skills, and address emotional and social difficulties through the nonverbal medium. Increasing these aspects of a child's development assists children to take full advantage of the learning environment. Research supports the unique contribution of Dance/movement therapy to children, families, and teachers.

Through applying expressive, narrative movement interventions with adolescent girls, the participants developed a new understanding of their worldview, a solidified sense-of-self, and ultimately a more cohesive picture of personal identity.

Thomas, E. A. (2015). The dance of cultural identity: Exploring race and gender with adolescent girls. *American Journal of Dance Therapy*, 37(2), 176-196. <https://doi.org/10.1007/s10465-015-9203-z>

This study found that through movement and expression, important learning and developmental processes were influenced.

Burrill, R. R. (2011) Movement, art, and child development through the lens of an innovative use of the kestenberg movement profile. *American Journal of Dance Therapy*, 33(2), 111-130.

By providing a movement-based learning experience to children suffering from ADHD, the participants were subsequently able to channel hyperactivity through creative expression and increase self-esteem through mastery of body and movement.

Levin, K. (2016) Aesthetics of hyperactivity: A study of the role of expressive movement in ADHD and capoeira. *American Journal of Dance Therapy*, 38(1), 41-62.

Through incorporating creative movement within a preschool curriculum, participants were able to expand awareness toward their body's needs. In addition, participants also demonstrated an ability to link bodily experience to conscious awareness, thereby preparing them for future developmental milestones.

Thom, L. (2010) From simple line to expressive movement: The use of creative movement to enhance socio-emotional development in the preschool curriculum. *American Journal of Dance Therapy*, 32(2), 100-112.

The findings from this Dance/movement therapy study determined that in school children ages four to seven, the following areas showed positive increases: expression of emotions, social function, and self-esteem.

Meekums, B. (2008) Developing emotional literacy through individual dance movement therapy: a pilot study. *Emotional and Behavioural Difficulties*, 13(2), 95-110.

Music Therapy Services

Music Therapy is an established health profession in which music is used to address physical, emotional, cognitive, behavioral and/or social functioning. Music therapy can facilitate development in communication and sensorimotor skills, promote learning and skill acquisition, stimulate attention, and increase motivation to participate more fully in other aspects of the educational setting. Music therapy serves as an integral component in helping the child with special needs attain educational goals identified by his/her IEP team, either through direct or consultant services.

Music therapy for children with autism spectrum disorders engages and fosters their capacity for flexibility, creativity, variability and tolerance of change, creating a balance with the more structured and behaviorally driven education required in school settings. Music therapy interventions are an effective method for increasing joint attention skills.

LaGasse, A.B. (2017). Social outcomes in children with autism spectrum disorder: A review of music therapy outcomes. *Patient Related Outcome Measures*, 8, 23-32. doi: 10.2147/PROM.S106267

Gold, C., Wigram, T., & Cochavit, E. (2006). Music therapy for autistic spectrum disorder. *Cochrane Database of Systematic Reviews*, 2.

A study investigated a music therapy intervention (Rap & Sing Music Therapy) in a school-based program to understand support of self-regulation abilities and well-being among 8th graders in a public school. The music therapy intervention resulted in significant benefits in the experimental group compared to the control. There were improved effects on all measures which aligned with school interventions of motivational engagement in behavioral, emotional and social themes.

Uhlig, S., Jansen, E., & Scherder, E. (2018). "Being a bully isn't very cool...": Rap & Sing Music Therapy for enhanced emotional self-regulation in an adolescent school setting - a randomized controlled trial. *Psychology of Music*, 46(4), 568-587. doi: 10.1177/0305735617719154

Emotion regulation (ER) describes the goal-directed ability to manage and shape the dynamics and timing of one's emotional experiences and expressions, an ability that develops early in life. Maladaptive ER skills can significantly impact developmental outcomes. Among at-risk children, the Musical Contour Regulation Facilitation (MCRF) intervention, a multi-session strategy for promoting ER development in preschoolers, resulted in positive change in children's behavior following the intervention in terms of their emotion skills and peer interactions.

Sena Moore, K., & Hanson-Abromeit, D. (2018). Feasibility of the Musical Contour Regulation Facilitation (MCRF) Intervention for preschooler emotion regulation development: A mixed methods study. *Journal of Music Therapy*, 55(4), 408-438. doi: 10.1093/jmt/thy014

Physical Therapy Services

Physical therapists work collaboratively as a member of the individual education program (IEP) team, to provide assessment, and support evaluation, IEP development and physical therapy services. Physical therapists design and implement interventions with a focus on the movement system (APTA, The Movement System, 2016) and function; interventions may include services to and on behalf of a student to support his/her access to the learning environment, participation in the general education curriculum, and benefit from specialized instruction in order to achieve their IEP goals.

This study demonstrated a positive correlation between School Function Assessment (SFA) outcomes and school-based physical therapy. Within 28 states, 109 physical therapists and 296 of their students with disabilities, ages 5 to 12 years, participated. Criterion scores for many students remained stable (46%-59%) or improved (37%-51%) with the most students improving in Participation and Maintaining/Changing Positions.

Effgen, S., McCoy, S., Chiarello, L., Jeffries, L, Starnes, C. and Bush, H. (2016) Outcomes for Students Receiving School-based Physical Therapy as Measured by the School Function Assessment. *Pediatric Phys Therapy*, 28(4): 371-378.

School-based physical therapy has been demonstrated to produce positive individualized outcomes and high rates of goal attainment. This study focused on translating students' Individualized Education Program goals into subgoals using Goal Attainment Scaling. At the end of the school year students had exceeded their expected goal level for primary goals and goals categorized as posture/mobility, recreation/fitness, and self-care and made progress on academic goals.

Chiarello, L. Effgen, S., Jeffries, L., McCoy, S., & H. Bush (2016) Student Outcomes of School-based Physical Therapy as Measured by Goal Attainment Scaling. *Pediatric Physical Therapy*, 28(3): 277-282.

Physical therapy has been shown to correlate with high rates of achievement of Individualized Education Plan/Individualized Family Service Plan objectives. This study demonstrated ninety-one percent of the objectives were scored as met or progress made.

Stuberg, W., & DeJong, S. L. (2007). Program evaluation of physical therapy as an early intervention and related service in special education. *Pediatric Physical Therapy*. 19, 121-127. doi: 10.1097/PEP.0b013e318036bfe6

This study used a practice-based evidence research design, to explore School Function Assessment (SFA) outcomes of students with disabilities served by physical therapists. Therapists completed 10 SFA scales on students at the beginning and end of the school year. Services that correlated positively with the SFA outcomes included mobility, sensory, motor learning, aerobic/conditioning, functional strengthening, playground access interventions, and higher student participation during therapy.

McCoy, S. W., Effgen, S. K., Chiarello, L. A., Jeffries, L. M., & Tezanos, A. G. V. (2018). School-based physical therapy services and student functional performance at school. *Developmental Medicine & Child Neurology*. E-pub ahead of print. doi: 10.1111/dmcn.13748.

This program evaluation study used goal attainment scaling to examine whether children with special needs attained their therapy goals in the real-world, functional areas of communication, school productivity, or mobility. The findings suggest that therapy services targeting communication, productivity, and mobility make a difference in how children with special needs function in the school setting. Children showed statistically and often clinically significant change in their outcomes over the intervention period, with these improved outcomes lasting at the five- to six-month follow-up.

King, G. A., McDougall, J., et al. (1999). An evaluation of functional, school-based therapy services for children with special needs. *Physical & Occupational Therapy in Pediatrics*. 19(2), 5-29.

Psychological Services

Psychology is a diverse discipline, grounded in science, but with nearly boundless applications in everyday life. Psychological research identifies issues that impede social, emotional and academic growth in school aged children and provide research-based solutions that, when implemented, can vastly improve learning opportunities for all children. As psychological research yields new information, whether it's improved interventions to treat depression or how humans interact with machines, these findings become part of the discipline's body of knowledge and are applied in work with patients and clients, in schools, in corporate settings, within the judicial system, even in professional sports.

Psychologists study both normal and abnormal functioning and treat patients with mental and emotional problems, while also studying and encouraging behaviors that build wellness and emotional resilience. Today, as the link between mind and body is well-recognized, more and more psychologists are teaming with other health care providers to provide whole-person health care for patients.

Interventions that focus on students social and emotional well-being yield documented, positive results and have broad implications for helping all students succeed.

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.

Psychologists have identified discipline practices that are harmful to student learning and offer recommendations that provide alternatives to support the wellbeing of every student. By implementing alternative policies and practices, schools can achieve safe and inclusive relationships amongst students, parents and school personnel.

American Psychological Association Zero Tolerance Task Force. (2008). Are zero tolerance policies effective in the schools?: An evidentiary review and recommendations. *American Psychologist, 63*(9), 852–862.

Implicit biases that lead to disciplinary action are found to disproportionately affect students based on race, gender and disabilities. As early as preschool, adverse disparities including expulsions and suspensions can set students up for failure by negatively impacting educational opportunities.

Gilliam, W.S., Maupin, A.N., Reyes, C.R., Accavitti, M., & Shic, F. (2016). *Do early educators' implicit biases regarding sex and race relate to behavior expectations and recommendations of preschool expulsions and suspensions?* Yale University Child Study Center.

Preventing bullying in school is key ingredient to social, emotional and academic success. Evidence-based research has shown that a socio-ecological approach is necessary to understand the school climate that is created based on the various relationships of stakeholders. It is critical to understand the dynamics that create the school environment to establish an inclusive community for all students to thrive.

Espelage, D. L., & Hong, J. S. (2019). School climate, bullying, and school violence. In M. J. Mayer, S. R. Jimerson, M. J. Mayer (Ed), & S. R. Jimerson (Ed) (Eds.), *School safety and violence prevention: Science, practice, policy.* (pp. 45–69). Washington, DC, US: American Psychological Association.

School Psychological Services

School psychologists provide services to children, adolescents, families, and school staff by drawing on their expertise in the science and practice of both psychology and education. They provide a range of psychological services including assessment; intervention; prevention; crisis preparation and response; individual, group, and family counseling; teacher consultation; health promotion, and program development and evaluation., Their special focus is the developmental processes of children and youth within the context of schools, families, and other systems.

School psychologists work with students and their families to support students' social, emotional, and behavioral health, and research has shown that students who receive this type of support achieve better academically in school (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*, 405–432.

School psychologists work with parents to encourage effective parenting and discipline strategies, and there is substantial research evidence for the effectiveness of interventions designed to prevent the development of aggressive and antisocial behavior and related problems (National Research Council and Institute of Medicine, 2009).

National Research Council and Institute of Medicine. (2009). *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: The National Academies Press.

School psychologists employ youth-focused behavioral therapies to address the wide range of mental and behavioral disorders of students, and decades of research have demonstrated their effectiveness (Weisz et al., 2017).

Weisz, J. R., Kuppens, S., Ng, M. Y., Eckshtain, D., Ugueto, A. M., Vaughn-Coaxum, R., ... Fordwood, S. R. (2017). What five decades of research tells us about the effects of youth psychological therapy: A multilevel meta-analysis and implications for science and practice. *American Psychologist, 72*, 79-117.

School psychologists work with teachers to design and implement academic and behavioral interventions, and interventions using positive behavior supports have been shown to improve academic performance and decrease behavior problems (Caldarella, Shatzer, Gray, Young, & Young, 2011; Waasdorp, Bradshaw, & Leaf, 2012).

Caldarella, P., Shatzer, R. H., Gray, K. M., Young, K. R. & Young, E. L. (2011). The effects of school-wide positive behavior support on middle school climate and student outcomes. *Research in Middle Level Education Online, 35*(4), 1–14.

School psychologists work with teachers to design and implement student progress monitoring systems, and school staff rate as very important the assessment, consultation, counseling, and behavior management services provided by school psychologists (Watkins, Crosby, & Pearson, 2007).

Watkins, M. W., Crosby, E. G., & Pearson, J. L. (2007). Role of the school psychologist: Perceptions of school staff. *School Psychology International, 22*, 64–73.

School Counseling Services

School counselors develop comprehensive school counseling programs that promote and enhance student learning, utilize data to improve program implementation and identify students in need, and ensure all students are college/career-ready. Above all, school counselors are student advocates who work cooperatively with other individuals and organizations to promote the development of children, youth, and families in their communities. School counselors, as members of the educational team, consult and collaborate with teachers, administrators, and families to assist students to be successful academically, vocationally, and personally.

Students who have greater access to school counselors and comprehensive school counseling programs are more likely to succeed academically and behaviorally in school; this is particular true for students in high-poverty schools.

Lapan, R. T., Gysbers, N. C., Bragg, S., & Pierce, M. E. (2012). Missouri professional school counselors: Ratios matter, especially in high-poverty schools. *Professional School Counseling, 16* (2), 108-116. doi:10.5330/PSC.n.2012-16.108

School counselors can be a critical part of school improvement efforts in low-performing schools.

Salina, C., Girtz, S., Eppinga, J., Martinez, D., Blumer Kilian, D., Lozano, E., Shines, T. (2013). All hands on deck: A comprehensive, results-driven counseling model. *Professional School Counseling, 17* (1), 63-75. doi: 10.5330/ PSC.n.2014-17.63

College counseling, as provided by school counselors, matters: high school students who saw their school counselor for college information were more likely to apply for college.

Bryan, J., Moore-Thomas, C., Day-Vines, N. L., & Holcomb McCoy, C. (2011). School counselors as social capital: The effects of high school college counseling on college application rates. *Journal of Counseling and Development, 89* (2), 190-199. doi: 10.1002/j.1556-6678.2011.tb00077.x

Highly qualified first-generation students are more likely to enroll in four year colleges if they have greater access to high school counselors (i.e., lower student-school counselor ratios).

Pham, C., & Keenan, T. (2011). Counseling and college matriculation: Does the availability of counseling affect collegegoing decisions among highly qualified first-generation collegebound high school graduates? *Journal of Applied Economics and Business Research, 1* (1), 12-24.

Multiple sources of evidence indicate that expanding school counseling services in elementary schools is associated with improvements in student learning, behavior, and mental health.

Reback, R. (2010). Schools' mental health services and young children's emotions, behavior, and learning. *Journal of Policy Analysis and Management, 29* (4), 698-727. doi: 10.1002/pam

School Social Work Services

School social workers are systems trained and use their skillsets to work with students and families, small groups, or system-wide to address academic barriers such as: violence, harassment, homelessness, LGBTQ concerns, pregnancy, parenting, mental health, truancy, drop-out risk, transitioning between school and community placements, and poverty. School social workers consult with administrators and teachers on these topics and others such as: trauma-informed care, cultural competency, child abuse and neglect, behavior and classroom management, crisis response, family dynamics, community resources, and other concerns that impact learning. They are instrumental in developing and implementing new programs, resources, and policies aimed at maximizing students' success in school.

Research based on the 100 largest school districts found a significant association between school social workers and academic outcomes. These districts are responsible for the education of 22% of all public-school students. Based on data from these schools, Alvarez et al., (2013) found that the number of school social workers is associated with better educational outcomes. Additionally, Tan et al. (2015) observed that this association is related to poverty rate and district size.

Alvarez, M.E., Bye, L., Bryant, R., & Mumm, A.M. (2013). School Social Workers and Educational Outcomes. *Children & Schools*, 35(4), 235-243.

Tan, K., Battle, S., Mumm, A.M., Eschmann, R., & Alvarez, M. (2015). The Impact of School Social Workers on high School Freshmen Graduation Among the One Hundred Largest School Districts in the United States. *School Social Work Journal*, 39(2), 1-14.

Studies also provide evidence that school social work services are significantly associated with reduced student mental health and behavioral problems. Franklin et al. (2009) analyzed 21 published studies and found that school social work services can reduce problems in these areas with mean effect sizes of 0.23 to 0.40.

Franklin, C., Kim, J.S., & Tripodi, S. (2009). A Meta-Analysis of Published School Social Work Practice Studies 1980 - 2007. *Research on Social Work Practice*, 19(6), 667-677.

The impact of school social workers on student outcomes in the United States is also consistent with global studies. Allen-Meares et al., (2013) identified 18 worldwide studies on school social work services, including 14 based in the United States, and found significant positive effects across student outcomes such as school attendance, self-esteem, and aggression issues.

Allen-Meares, P., Montgomery, K., & Kim, J.S. (2013). School-Based Social Work Interventions: A Cross-National Systematic Review. *Social Work*, 58(3), 253-262.

Based on the latest 2014 national survey of school social workers (total of 3769 respondents), a large proportion of school social workers reported that they frequently worked with students experiencing serious mental health problems such as suicidal ideation (range from 70% - 90%). School social workers also revealed that they not only worked with students individually, but also reported a

significant amount of time conducting prevention activities around mental and behavioral health concerns.

Kelly, M., Thompson, A., Frey, A., Klemp, H., Alvarez, M, & Berzin, S. (2015). The State of School Social Work: Revisited. *School Mental Health*, 7(3), 174-183.

School Nurse Services

School nurses are extensions of the public health system and a vital component of the care of children with chronic health conditions and disabilities. School nurses provide risk management of student health and safety; health promotion and disease prevention; episodic care of student illness and injury; and case management related to chronic health conditions and academic access. A significant proportion of health care in the United States is provided daily in schools. Many of the children school nurses see are not served by the traditional health care system. School nurses connect students to CHIP, and families to Medicaid. They help many of the school children who live every day in the margins of society to connect to a medical home. Often times, the school nurse provides the only health care accessible to some school aged children.

School nurses being present save the schools and community time and money. For every \$1 spent, \$2.20 saved (Wang et al, 2014). School nurses are an investment (Maughan 2018)

Wang, L.Y., Vernon-Smiley, M., Gapinski, M.A., Desisto, M., Maughan, E., & Sheetz, A. (2014). Cost-benefit study of school nursing services. *Journal of the American Medical Association (JAMA)*

Maughan, E.D. (April 2018). School nurses: An investment in student achievement. *Kappan Magazine*, 99(7), 8-14. *Pediatrics*, 168(7), 642-648. doi:10.1001/jamapediatrics.2013.5441

School nurses save teachers and principal's time (Baisch, Lundeen & Murphy, 2001; Hill & Hollis, 2011)

Baisch, M.J., Lundeen, S.P. & Murphy, M. K. (2011). Evidence-based research on the value of school nurses in an urban school system. *Journal of School Health*, 81(2), 74-80. doi:10.1111/j.1746-1561.2010.00563.x

School nurses keep students healthy and in class ready to learn by decreasing absenteeism (Pennington & Delaney, 2008; Jacobsen et al, 2016)

Pennington, N & Delaney, E (2008). The number of students sent home by school nurses compared to unlicensed personnel. *Journal of School Nursing*, 24: 290 – 297. doi: 10.1177/1059840508322382

School nurses keep students healthy and in class ready to learn by addressing social determinants of health and identifying health disparities (Schroeder, Malone, McCabe, Lipman, 2018)

Schroeder, K., Malone, S.K., McCabe, E., & Lipman, T. (2018). Addressing the social determinants of health: A call to action for school nurses. *The Journal of School Nursing, 34*(3), 182-191. Doi: 10.1177/1059840517750733

Speech-Language Pathology Services

Speech-language pathologists provide services for students with speech, language, and swallowing disorders and provide services to students with other disabilities such as learning disabilities, autism, cerebral palsy, and mental retardation/developmental disabilities. Other important roles for speech-language pathologists involve collaborating with teachers to develop and provide intervention strategies to enhance literacy skills and intervention to improve social communication skills for all students.

This randomized controlled trial investigated the efficacy of an oral language program provided to preschoolers and young school-aged children. Immediately following the intervention and at a 6-month follow-up, the 20- and 30-week programs produced small to moderate effects on oral language skills compared to the untreated control group.

Fricke, S., Burgoyne, K., Bowyer-Crane, C., Kyriacou, M., Zosimidou, A., Maxwell, L., ... & Hulme, C. (2017). The efficacy of early language intervention in mainstream school settings: a randomized controlled trial. *The Journal of Child Psychology and Psychiatry, 58*(10), 1141-1151. <https://doi.org/10.1111/jcpp.12737>

This study investigated the long-term outcomes (i.e., speech perception, speech production, language, reading) of cochlear implantation of preschool-aged children. Audiologists and SLPs, alongside other disciplines, measured the children's outcomes at 8 to 9 years-old, then again at 15 to 18 years-old. "Speech perception scores improved significantly with long-term cochlear implant use. Average language scores improved at a faster than normal rate, but reading scores did not quite keep pace with normal development" (p. 1).

Geers, A., Tobey, E., Moog, J., & Brenner, C. (2008). Long-term outcomes of cochlear implantation in the preschool years: From elementary grades to high school. *International Journal of Audiology, 47*:sup 2, S21-S30, doi:10.1080/14992020802339167

This systematic review and meta-analysis investigated the effectiveness of behavioral stuttering treatment (e.g., Lidcombe Program, Demands and Capacities Model) in people who stutter (PWS). The findings reported that "PWS show large and statistically significant intervention effects when compared to those not receiving intervention" (p. 68).

Herder, C., Howard, C., Nye, C., & Vanryckeghem, M. (2006). Effectiveness of Behavioral Stuttering Treatment: A Systematic Review and Meta-Analysis. *Contemporary Issues in Communication Science and Disorders*, 33, 61-73.

This study investigated the effect of a multicomponent intervention, provided by doctoral students with experience in augmentative and alternative communication (AAC) and autism spectrum disorders (ASD), to increase peer interaction (i.e., turn taking, joint engagement) in children with ASD and complex communication needs. The multicomponent package intervention involved adult modeling and prompting, training of peers, and environmental arrangement to make the AAC easily accessible. “The results of this study suggest that this multi-component intervention can effectively increase communicative turns within a dyadic interaction and may also impact the quality of the interaction by increasing joint engagement” (p. 219).

Therrien, M.C.S., & Light, J.C. (2018). Promoting Peer Interaction for Preschool Children with Complex Communication Needs and Autism Spectrum Disorder. *American Journal of Speech-Language Pathology*, 27, 207-221. doi:10.1044/2017_AJSLP-17-0104

This study examined the impact of whole-class narrative instruction provided by a speech-language pathologist on narrative and vocabulary outcome measures of both high- and low-risk first grade students. “Children in the experimental classroom demonstrated clinically significant improvement on measures of narrative complexity and vocabulary knowledge after receiving the whole-class narrative instruction. The narrative and vocabulary skills of the children in the comparison classroom did not change” (p. 217). The results demonstrated the effectiveness of whole-class narrative instruction to improve the narrative and vocabulary skills of high- and low-risk students.

Gillam, S. L., Olszewski, A., Fargo, J., & Gillam, R. B. (2014). Classroom-Based Narrative and Vocabulary Instruction: Results of an Early-Stage, Nonrandomized Comparison Study. *Language, Speech, and Hearing Services in Schools*, 45(3), 204-219. doi: 10.1044/2014_LSHSS-13-0008.

