Chapter 2
COMPASS Development

Since Caplan's seminal work (1970) of the first demonstration of the potential of consultation, consultation has expanded into an effective implementation strategy for improving educational outcomes of children and youth with academic and behavioral difficulties (Busse et al. 1995; Medway and Updyke 1985; Sheridan et al. 1996), especially for those children with complex needs such as ASD (Ruble et al. 2010). Not surprisingly, then, consultation is a standard intervention provided in schools. Professional development accreditation programs such as the National Association of School Psychology (National Association of School Psychologists 2010) and the American Psychological Association (Fouad et al. 2009) require consultation as a core competency of psychologists. A national survey indicated that about 9 out of 10 school psychologists provided teacher consultations and about two-thirds provide parent consultation regarding ASD. However, only about half worked with parents and teachers of students with ASD together (Aiello and Ruble 2011). This is troublesome because research suggests that the most positive outcomes with the greatest clinical significance from consultation occur when parents and teachers work together (Guli 2005). Parent-teacher collaboration may be even more important for children with ASD given the need for ecological interventions in ASD that bring parents and teachers together to set goals and implement strategies (National Research Council 2001) that address the need for generalization of skills across settings. Another concern identified from the nationwide survey was that consultation models tend to be generic and non-specific to ASD, with little to no empirical evidence for efficacy or effectiveness. More importantly, 4 out of 5 school psychologists surveyed indicated they needed more training in developing family-centered educational plans (Aiello and Ruble 2011; Aiello et al. 2015). This finding is consistent with other research that training for other school professionals that focuses specifically on ASD is insufficient (Singer 2008). Expert consultation can help to fill these gaps in training and practice, specifically, an evidence-based school consultation for ASD that both utilizes an ecological approach and includes the perspectives of the family of children with ASD.

L.A. Ruble and J.H. McGrew, *COMPASS and Implementation Science*,
SpringerBriefs in Child Development, DOI 10.1007/978-3-319-18555-2_2

Consultation and Coaching as an Implementation Strategy for Moving EBT in Classrooms

As mentioned, there is a wealth of evidence that research supported practices for ASD are not utilized in educational settings and if they are, often are implemented with poor fidelity (Hess et al. 2008; Morrier et al. 2011; Stahmer 2007; Stahmer et al. 2005). This research-to-practice gap has led to an entire field of study to identify methods to enhance dissemination and implementation of EBPs—implementation science (Brownson et al. 2012; Kelly and Perkins 2012). Effectively transferring EBPs into school and community settings requires proven implementation strategies (Odom 2009; Odom et al. 2013). Having a tool chest of EBPs and implementation fidelity checklists are not enough. Also necessary are research-supported approaches for supporting the transport of EBPs into classrooms and other community settings. Consultation, as an implementation *strategy*, is ideal for bridging the research-to-practice gap (Ruble et al. 2012; Sheridan et al. 2008). That is, a key role and rationale for COMPASS, as a consultation model, is that it explicitly ties EBPs to EBPP. Specifically, as noted earlier in Chap. 1, COMPASS is a process-based framework that provides a systematic approach to guide the clinical decision-making needed to integrate the information from all three overlapping domains of the EBPP model, Fig. 1.1, while also systematically gathering the information within each domain—the setting/ecological factors, the family/child with ASD factors, and the teacher/clinician factors that need to be taken into account.

Consultation Defined

What exactly does it mean to be a consultant? This is an important question in the area of ASD because depending on one's training background, the definition can vary dramatically and have an impact on consultation delivery and effectiveness. The answer is further complicated because consultation also means different things depending on the context and purpose. Often it is thought of as a brief interaction when an expert shares information with a nonexpert, where the recipient is the eventual intervener with the individual with ASD. Other times it can refer to monitoring and feedback concerning current practices, and the recipient might be administration or supervisory staff. Regardless of the specific understanding and definition adopted, consultation is a distinct activity, different from training, teaching, and supervision (Brown et al. 2011). It is important to clarify our definition because we believe consultation, as we define it, is associated with the measurable and active ingredients of COMPASS. Several formal definitions of consultation exists (e.g., Caplan 1970; Brown et al. 2011), but the definition most closely aligned to our work with COMPASS comes from Erchul and Martens (2010):

> School consultation is a process for providing psychological and educational services in which a specialist (consultant) works cooperatively with a staff member (consultee) to improve the learning and adjustment of a student (client) or group of students. During face-to-face interactions, the consultant helps the consultee through systematic problem solving, social influence and professional support. In turn, the consultee helps the client(s) through selecting and implementing effective school-based interventions. In all cases, school consultation serves a remedial function and has potential to serve a preventative function (p. 12).

This broad definition of school-based consultation describes both features of COMPASS, the initial face-to-face consultation that includes teachers and parents and the subsequent coaching activities that may occur using multiple methods, including face-to-face or via a web-based approach. As consultants, we offer expert skills in ensuring the integrity of COMPASS; but most importantly, teachers and parents offer expert knowledge of the child, their concerns for the child, and their goals for the child. In the next section we describe the key elements of good consultation and the different models and theories of consultation. We also discuss how COMPASS expands on these models and what data we have on factors that influence COMPASS outcomes.

Consultation Models and Their Influence on COMPASS

There are two predominant models of consultation—Behavioral and Mental Health. As the name implies, the Behavioral Consultation Model originally described by Bergan and Tombari (1976) adopts a behavioral approach for understanding and intervening with individuals and takes into account the functional relationships between behaviors and environmental contingencies by emphasizing analysis of antecedents (what occurs before a behavior) and consequences (what occurs after a behavior). More recently, Sheridan and colleagues (Sheridan et al. 2001, 2002, 2006, 2008) have conducted extensive research on an expanded version of the Behavioral Model called Conjoint Behavioral Consultation (CBC). A key difference in the CBC model is the inclusion of both the parent and teacher as part of the consultation team. The obvious advantage of including both key participants is the value of consistency in understanding and approach to problems across the home and school settings. Given that children from birth to age 18 spend more than 90 % of their time outside of the school system, parent/caregiver contribution to developmental outcomes is imperative (Sheridan and Kratochwill 2007). The CBC framework includes four main phases: (a) problem identification, (b) problem analysis, (c) plan implementation, and (d) plan evaluation. Problem identification is concerned with identifying prioritized goals (e.g., decrease aggressive behaviors toward peers). Problem analysis involves review of the observations and goals used to develop the intervention plan. Plan implementation is the implementation and monitoring of the intervention. Plan evaluation is the determination of the student's progress toward goal attainment based on the plan and possible need for

modifications to the plan. COMPASS consultation encompasses these four elements in the initial consultation where parent and teacher priorities for social, learning, and communication skills are identified and intervention plans are developed based on the child's personal and environmental risk and protective factors. The subsequent teacher coaching sessions provide ongoing feedback and support to help ensure the success of the implementation of the intervention plans and identify and craft any needed modifications.

The Mental Health Model (Caplan et al. 1994), in contrast, builds from psychodynamic theories and stresses the importance of interpersonal relationships between the consultant and the consultee, that is, it is more focused on the process of consultation. It emphasizes the significance of consultants being aware of the necessity of understanding the norms, beliefs, habits, and routines of consultees, and that ultimately, the consultee is largely responsible for putting the intervention into effect. In this model consultants are viewed as resources, that is facilitators, rather than as experts. In fact, consultants who assume an expert role are less likely to achieve positive outcomes compared to consultants who present as facilitators or coaches and use key concepts of the Mental Health Model (Caplan et al. 1994). The fundamental factors of this approach include: (a) the relationship between the consultant and the consultee is equitable and nonhierarchical; (b) the consultant does not get involved in the personal problems of the consultee; and (c) the longer-term goal of consultation is to improve the functioning of the consultee to be successful and eventually independent in their work with individuals in the future.

COMPASS is influenced by both of these models. The behavioral model is more focused on the student as primary, with the consultee role as the mediator/implementer of student change, while the mental health model focuses more on the consultee as primary, with the assumption that once the consultee needs have been addressed he/she will be successful with the student. COMPASS incorporates critical aspects of both models. Because we recognize and incorporate into COMPASS the necessity of an antecedent-based approach for understanding the interplay between person-environment interactions as based on the Behavioral Model and also the need for attention to the interactions between the consultant and the consultee, and their own personal situation, as based on the Mental Health Model, we believe that COMPASS is unique. When working with students with autism, the need for a team approach is a necessity for the generalizability of outcomes (as in conjoint behavioral consultation), but the need for supported teachers is also necessary to address and moderate external as well as internal resources and challenges for the teacher, such as burnout or teacher stress, since the focus of consultation is what the teacher does when the consultant is not there. Thus COMPASS addresses both teacher and student needs. Next we describe how COMPASS expands the behavioral and mental health models and Dunst and Trivette framework (Dunst and Trivette 2012).

COMPASS Includes and Expands on Other Models

What makes COMPASS most unique from other consultation frameworks based on the behavioral or mental health models, is its influence by a third model—the Minnesota Competence Enhancement Program (MCEP) developed by August et al. (1992). Unique to the MCEP framework is the focus on the individual's adaptation and resilience as viewed from a community-based prevention and intervention perspective rather than as viewed from a deficit model as emphasized within traditional treatments for psychopathology conducted within clinical contexts. Also innovative is the model's focus on the development of competence as a supportive factor and cushion against challenges and failure. That is, the focus of intervention is not simply reducing deficits but also on identifying and enhancing competence. Probably most critical to the framework was the expansion of the therapeutic scope from narrow antecedent/consequence behavioral strategies to an understanding of the importance of ecological interventions that include the people who have the most frequent interactions with the child in their own environmental contexts and thus provide the necessary opportunity for naturalistic teaching, generalization, and skill maintenance.

As shown in Fig. 2.1, the framework considers four main areas that impact the development of competence—personal and environmental challenges and supports (Ruble and Dalrymple 2002). It is essential that the team understands how each of the four areas affect an individual with ASD (Fig. 2.1).

Challenges. Personal challenges include biological predispositions that increase risks to developing competence. In ASD, neurobiological differences in brain development and function are examples (Volkmar 2005). Such differences lead to impaired ways of processing information from the environment as well as

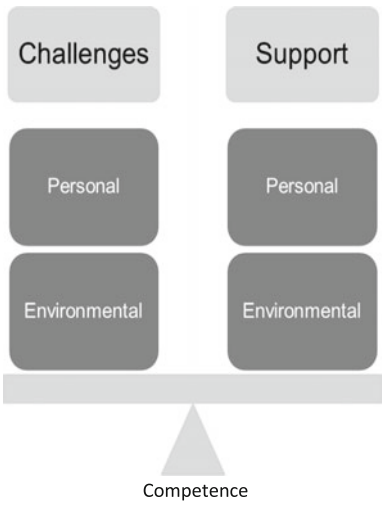


Fig. 2.1 Autism competency enhancement model

difficulties producing competent responses. The information-processing difficulties are manifested in the social communication problems of persons with ASD as well as in their narrow range of interests and unusual sensory or motor behaviors. Importantly these vulnerabilities are likely to occur early in life, impacting typical development and ability to respond competently to the social and communicative demands of the environment.

Adding to the personal challenges are environmental challenges that also interfere with competence development. Some possible environmental challenges include lack of knowledge about ASD, lack of appropriate supports for learning, confusing or loud environments, and punitive behavioral programs. Inadequate supports for direct teaching on communication, social, self-management, independence, leisure, and sensory needs contribute to failure. Stressors on the family system may also lead to further risk of poor competency development in people with ASD. Additional environmental challenges include lack of services, long waiting lists for community-based services, and poorly delivered services.

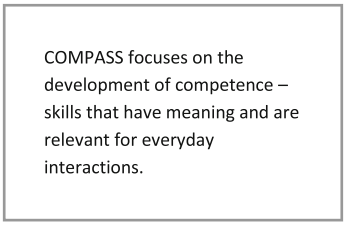
Supports. While it is important to understand the contribution that personal and environmental challenges of persons with ASD have on competence development, the real work comes from understanding how to enhance competence by increasing supports. Supports are the protective factors that serve to balance risk factors in helping to develop competency. During various periods throughout life, the need for protective factors will vary; however, individuals with ASD will always need help to build and keep personal and environmental supports.

Personal supports are the strengths, interests, and preferences that help produce and maintain competence. Assessment of individual strengths, interests, and preferences must be identified and used in treatment planning for the development of functional and meaningful life skills that impact quality of life. The assessment of strengths, interests, and preferences is considered an ongoing activity, not a static activity. These areas will change and expand over time and as the individual ages. Specific foods, riding in a car, rocking, spinning things, routines, sequences, patterns, numbers and letters, and moving—running, pacing, jumping—are examples of preferences that individuals with ASD may demonstrate.

Environmental supports refer to people, teaching methods, reinforcement strategies, and positive behavior supports—anything that assists the person in developing competence. Alone, environmental supports do not eliminate challenges, but rather they provide the balance on which to build competency. Environmental supports must be individualized. They also must be community-based and system-wide to appropriately meet each person's needs and to allow for generalizability to all environments. Within this approach, consultation can serve as an implementation strategy and as an environmental support to ensure consistency and stability through a continuum of services and the numerous teachers, various providers, and family members who all serve as supports. Critically, if we are going to be successful in supporting students and adults with ASD to be competent, we must collaborate across people, agencies, and government. In our book-length manual, we describe in more detail the COMPASS framework for identifying personal and environmental challenges and supports (Ruble et al. 2012).

As noted earlier, one key element of the model is the focus on competence enhancement as opposed to deficit reduction. The concept of competence enhancement as promulgated by Ruble and Dalrymple (1996) was novel because it linked individual learning progress and challenges to the environment. This was innovative because too often program plans were designed to address specific weaknesses, rather than addressing the whole person and how to ensure their strengths and preferences were included in treatment plans. Assessment of the needs of the individual along with stressors, challenges and resources, including strengths and interests is essential when taking into account the entire person. It is vital to focus on increasing protective factors while understanding vulnerabilities and ecological stressors.

The concept of developing competency served as the fundamental measure of quality of life and treatment success or outcome described in our manuscript "An alternative view of outcome" (Ruble and Dalrymple 1996). In this paper, we challenged the traditional approach for measuring adult outcomes and advocated for novel approaches that focused on the development of competence and quality of life as central outcomes that are closely linked to accommodations and social and family support networks. This work helped to reaffirm the evolving model's emphasis on collaboration and building supports rather than emphasizing deficits.



Discovery and Evolution of COMPASS

COMPASS originated from the need for a training framework for community-based service providers, such as teachers, adult residential providers, vocational rehabilitation counselors, and other service personnel, to understand the unique learning challenges, preferences, and strengths of each individual with autism. In 1992, in our first attempt to create a model, we adapted the Minnesota Competence Enhancement Program, which was called the Autism Competency Enhancement framework. In 1996, this model was used as the basis for the Autism Technical Assistance Manual for Kentucky Schools (Ruble and Dalrymple 1996) that was used to train teachers throughout the state of Kentucky. The training was specialized for students with ASD and was adapted and used for a variety of purposes, including educational planning purposes, addressing behavioral problems, and facilitating transitions. Later in 1998 the model served as the consultation framework for TRIAD at Vanderbilt University in the state of Tennessee and was

renamed the Collaborative Model for Promoting Competence and Success of Persons with Autism Spectrum Disorder (COMPASS).

Over the years, the necessity for a comprehensive model has not changed. The model was based on the practical realities of a need for better understanding of autism by those who have the most frequent interactions with individuals as well as a need for enhanced quality of life outcomes measured by participation in work, school, social interactions, in recreational and leisure activities. This is a reality that continues today. In the early 90s, a push for services provided locally and within natural environments led to the demand for knowledgeable community-based service providers of ASD in Indiana, where we were developing and testing COMPASS, as well as throughout the US. Today, we have a lot more knowledge about evidence-based practices, but still require a comprehensive, implementation strategy for improving educational outcomes that takes into account the cultural, psychosocial, developmental and neurobiological needs and resources of the individual considered within an ecological framework in the selection, modification and individualization of EBPs.

A training framework in ASD that explicitly calls for the individualization of teaching and therapeutic strategies is clearly needed, and indeed is mandated, because of the federal requirements for an Individual Education Program for all students with disabilities. This individualization is particularly challenging in ASD given the extreme heterogeneity of the disorder. 8, for example, Fig. 2.2 shows the diverse range in clinical presentation of persons with ASD. About 70 % of individuals have some degree of intellectual impairment, ranging from mild to severe or profound (Fombonne 2005) Social interactions also vary and individuals typically

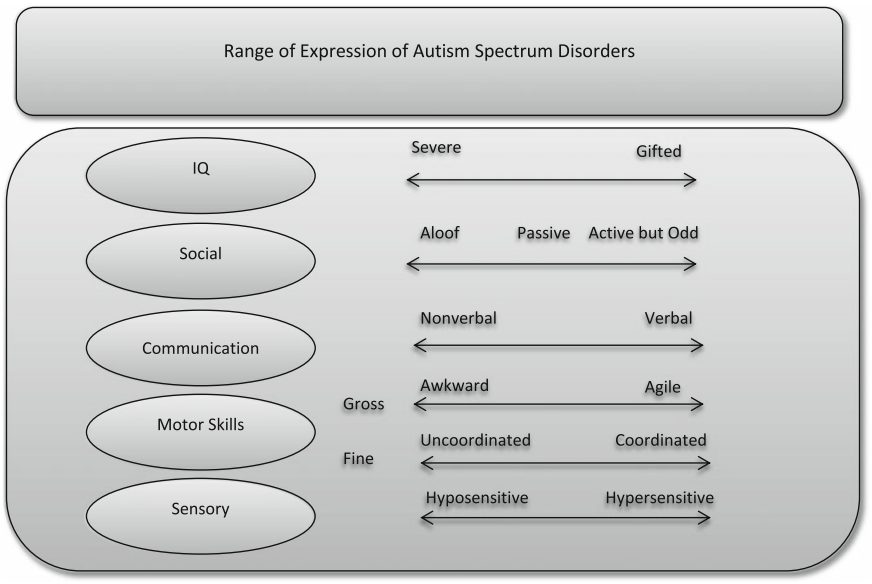


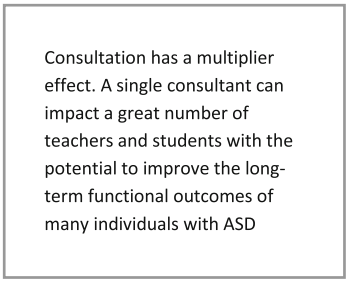
Fig. 2.2 Range of expression in ASD

fall within one of three categories—aloof, passive, and active-but-odd (Wing 2005). Individuals, who appear aloof, may have little interest in interaction with others. Those who are passive demonstrate an interest in interaction, but do not initiate and instead respond. The last group, active-but-odd, characterize individuals who do initiate, but in unusual ways. For verbal communication, about 20 % of individuals never develop spoken speech (Lord et al. 2004), and others may be quite verbal, but have limited reciprocal communication abilities. Gross and fine motor skills also vary from person to person. Some individuals may have well-coordinated fine motor and excellent gross motor skills, while other individuals may struggle with practical tools such as using eating utensils, buttoning shirts, or using a pencil (Rogers et al. 2005). Lastly, sensory processing skills are also quite variable (Behrmann and Minshew 2015). Some individuals may tolerate noises and other environmental sensitivities well and other individuals may become quite upset and unable to function in certain environments.

Following the prior early development work described above in Indiana, the framework was expanded from a training model for community-service providers to a framework for outpatient services for children and youth with ASD in Tennessee and Kentucky. Dismayed by the lack of available information on research supported interventions delivered in outpatient medical settings, the authors applied the COMPASS framework for each of the clinical services provided, which included early childhood, behavior management, social skills, and program planning. It was clear that an informational and process approach was needed because services were often limited by insurance and time. Given the limited number of sessions approved by insurance as well as the 60-min time limit, an approach that enhanced parental involvement and the decision-making of treatment goals and intervention plans was crucial. If we could demonstrate the clinical decision-making that goes into goal selection and intervention planning, then perhaps parents and caregivers would be better informed to make their own decisions and share information with other service providers outside the clinical outpatient setting. Thus, the process approach implied by COMPASS, and adapted from The Mental Health Model (Caplan et al. 1994), was thought to help empower the primary resource of children—their families. Those caregivers that were part of the clinical-decision making were thought to be better informed and equipped to make decisions and evaluate outcomes for facilitating their children's development.

As noted above, COMPASS has been used in a variety of contexts and settings, however, we believe that the underlying tenet of informed clinical-decision making is helpful not only in medical settings but also in educational settings. In fact, COMPASS has primarily been used and tested within the public school setting. The focus on educational settings is a result of the high numbers of students with autism being identified and included in schools and communities, and the corresponding need for professionals and support personnel who are strongly grounded in knowledge and experience of autism. Consultation as an intervention has the potential to facilitate the training and support needed by teachers and staff. Because consultation tends to have a multiplier effect, i.e., a single consultant can impact a great number of teachers and students, the use of consultants who can guide others

in designing and monitoring programs has the potential to improve the long-term functional outcomes of many individuals with autism.



Schools typically invest in professional development and training for improving teacher skills in autism and other areas using unproven methods (Morrier et al. 2011). However, decades of research shows that although large group workshops, in-services, and conferences are helpful for learning new concepts, they are unsuccessful for changing classroom practices (Joyce and Showers 1988, 2002).

Strategies that do work to change classroom practices incorporate three ingredients: (a) activities that allow for reflection and self-assessment of one's own knowledge as a means for identifying future activities of learning, (b) opportunities for mastery that engages the learner in a process of assessing one's experience within the context of a conceptual framework, and (c) real-life, rather than non-contextual learning activities (Dunst and Trivette 2009). Even consultation, as a one-time activity that includes some of these components is not enough. As discussed later, we have important evidence that coaching, that is the follow-up assistance that includes monitoring, feedback and supervised practice, is necessary for ensuring the implementation of teaching plans with high fidelity (Ruble et al. 2010, 2013). Thus, the above evidence-based features of effective training are embedded within COMPASS (Ruble et al. 2012).

Empirical Study and Development of COMPASS

Since 2004, federal funding from the National Institute of Mental Health has enabled the authors to continue to evaluate the effectiveness of COMPASS in three different studies. The first compared its effectiveness to special education services as usual. The second examined effectiveness via web-based technology. The latest study is in progress and will test COMPASS when adapted for older adolescents preparing to transition from school to post-school services using a series of iterative qualitative and quantitative pilot tests.

Additional Critical Factors Informing the Development of COMPASS

Another critical factor included in the model is a focus on measurable goals. As mentioned above, setting goals that are individualized and ecologically valid are a critical part of the COMPASS model, however, equally important is crafting goals that are measurable. Obviously, goals are much easier to evaluate and assess with this model when they are measurable and objective. For example, following goal setting, details about how to teach the goal and objective are generated from a shared understanding of the balance between the student's personal and environmental challenges and supports. The factors that create the balance are the ingredients necessary for achieving competence and are unique for each individual. As a framework, this model also helps train staff to understand and support the person more effectively. Over the years, we have learned that the most important impact we can have in consulting with parents and teachers is empowerment. A team that is empowered is one that has accurate information to make decisions, implement teaching plans and evaluate outcomes long after the consultant leaves.

Another critical factor in COMPASS is the adoption of a lifespan perspective and the creation of a shared understanding that competence looks different across an individual's lifespan. Challenges change over time and are constantly requiring new sets of competence—for the person with autism as well as their families and caregivers. People with ASD must have support from people who understand them, their personal and environmental challenges, and their personal supports all within a developmental framework, in order to know how and what environmental resources will enhance learning. Too often the person with ASD is viewed as the problem because those who are trying to teach and support them do not understand their uniqueness and how the environment contributes to challenges in learning and competence.

In the next section, we summarize how these features are integrated into consulting, as we discuss the two main COMPASS activities: (a) an initial, parent-teacher goal setting and treatment planning session and (b) follow-up teacher coaching and performance-based assessment activities. Rather than repeat what has been detailed in the COMPASS book-length treatment manual (Ruble et al. 2012), we discuss the research behind many of the key elements of COMPASS that help validate underlying assumptions and important mechanisms of change. In the next chapter, we start with a description of the analyses to test the assumption that COMPASS is collaborative. In the following chapters, we describe the approach we took to develop a sensitive outcome measurement tool that was valid. Then we describe our two randomized controlled trials with COMPASS. The first study compared a group of students whose teachers received COMPASS against a group of students who received special education services as usual. The second study included a third group of teachers who received coaching using web-based technology vs teachers who received traditional face-to-face coaching. Following discussion of the RCTs, we will present data on features crucial for positive

COMPASS outcomes. We have evidence for two key features (IEP quality and teacher adherence), but we also have hypothesized elements that will be reviewed. We then describe what we have learned about important teacher and child internal and external factors that impact COMPASS outcomes. We conclude with a discussion of questions answered and future research that is needed.

References

Aiello, R., & Ruble, L. A. (2011). Survey of school psychologists' autism knowledge, training, and experiences. *Poster presented at the annual convention of the national association of school psychologists*. San Francisco, CA.

Aiello, R., Esler, A., & Ruble, L. (2015). National study of school psychologists' use of evidence-based assessment in autism spectrum disorder. *In preparation*.

August, G. A., Anderson, D., & Bloomquist, M. L. (1992). Competence enhancement training for children: An integrated child, parent, and school approach. In S.-L. Christenson & J.-C. Conoley (Eds.), *Home-school collaboration: enhancing children's academic and social competence* (pp. 175–192). Maryland: National Association of School Psychologists.

Behrmann, M., & Minshew, N. (2015). Sensory processing in autism.

Bergan, J. R., & Tombari, M. L. (1976). Consultant skill and efficiency and the implementation and outcomes of consultation. *Journal of School Psychology, 14*(1), 3–14.

Brown, D., Pryzwansky, W. B., & Schulte, A. C. (2011). *Psychological consultation and collaboration: introduction to theory and practice* (7th ed.). New Jersey: Pearson.

Brownson, R. C., Colditz, G. A., & Proctor, E. K. (2012). *Dissemination and implementation research in health: translating science to practice*. Oxford: Oxford University Press.

Busse, R. T., Kratochwill, T. R., & Elliott, S. N. (1995). Meta-analysis for single-case consultation outcomes: Applications to research and practice. *Journal of School Psychology, 33*(4), 269–285.

Caplan, G. (1970). *The theory and practice of mental health consultation*. New York: Basic Books.

Caplan, G., Caplan, R. B., & Erchul, W. P. (1994). Caplanian mental health consultation: historical background and current status. *Consulting Psychology Journal: Practice and Research, 46*(4), 2–12.

Dunst, C. J., & Trivette, C. M. (2009). Let's be PALS: an evidence-based approach to professional development. *Infants and Young Children, 22*(3), 164–176.

Dunst, C. J., & Trivette, C. M. (2012). Meta-analysis of implementation practice research. In B. Kelly & D. Perkins (Eds.), *Handbook of implementation science for psychology in education* (pp. 68–91). New York: Cambridge University Press.

Erchul, W. P., & Martens, B. K. (2010). *School consultation: conceptual and empirical bases of practice* (3rd ed.). New York: Springer.

Fombonne, E. (2005). The changing epidemiology of autism. *Journal of Applied Research in Intellectual Disabilities, 18*(4), 281–294. doi:10.1111/j.1468-3148.2005.00266.x.

Fouad, N. A., Grus, C. L., Hatcher, R. L., Kaslow, N. J., Hutchings, P. S., Madson, M. B., & Crossman, R. E. (2009). *Competency benchmarks: a model for understanding and measuring competence in professional psychology across training levels* (Vol. 3). US: American Psychological Association.

Guli, L. A. (2005). *Evidence-based parent consultation with school-related outcomes* (Vol. 20). US: Guilford Publications.

Hess, K. L., Morrier, M. J., Heflin, L., & Ivey, M. L. (2008). Autism treatment survey: services received by children with autism spectrum disorders in public school classrooms. *Journal of Autism and Developmental Disorders, 38*(5), 961–971.

Joyce, B. R., & Showers, B. (1988). *Student achievement through staff development*. New York: Longman.

Joyce, B. R., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). Alexandria: Association for Supervision and Curriculum Development.

Kelly, B., & Perkins, D. F. (Eds.). (2012). *Handbook of implementation science for psychology in education*. New York: Cambridge University Press.

Lord, C., Risi, S., & Pickles, A. (2004). Trajectory of language development in autistic spectrum disorders.

Medway, F. J., & Updyke, J. F. (1985). Meta-analysis of consultation outcome studies. *American Journal of Community Psychology, 13*(5), 489–505.

Morrier, M. J., Hess, K. L., & Heflin, L. J. (2011). Teacher training for implementation of teaching strategies for students with autism spectrum disorders. *Teacher Education and Special Education, 34*(2), 119–132.

National Association of School Psychologists. (2010). Professional standards and training. 2014, from http://www.nasponline.org/standards/practice-model/domains.aspx.

National Research Council. (2001). *Educating children with autism*. Washington: National Academy Press.

Odom, S. L. (2009). The tie that binds: evidence-based practice, implementation science, and outcomes for children. *Topics in Early Childhood Special Education, 29*(1), 53–61.

Odom, S., Cox, A., & Brock, M. (2013). Implementation science, professional development, and autism spectrum disorders. *Exceptional Children, 79*(2), 233–251.

Rogers, S. J., Cook, I., & Meryl, A. (2005). Imitation and play in autism. *Handbook of autism and pervasive developmental disorders* (3rd ed., Vol. 1, pp. 382–405).

Ruble, L. A., & Dalrymple, N. J. (1996). An alternative view of outcome in autism. *Focus on Autism and Other Developmental Disabilities, 11*(1), 3–14.

Ruble, L. A., Dalrymple, N. J., & McGrew, J. H. (2010). The effects of consultation on individualized education program outcomes for young children with autism: the collaborative model for promoting competence and success. *Journal of Early Intervention, 32*(4), 286–301.

Ruble, L. A., Dalrymple, N. J., & McGrew, J. H. (2012). *Collaborative model for promoting competence and success for students with ASD*. New York: Springer Science + Business Media.

Ruble, L. A., & Dalrymple, N. J. (2002). COMPASS: a parent-teacher collaborative model for students with autism. *Focus on Autism and Other Developmental Disabilities, 17*(2), 76–83.

Ruble, L. A., Toland, M. D., Birdwhistell, J. L., McGrew, J. H., & Usher, E. L. (2013). *Preliminary study of the autism self-efficacy scale for teachers (ASSET)* (Vol. 7). Netherlands: Elsevier Science.

Sheridan, S. M., Clarke, B. L., Knoche, L. L., & Edwards, C. P. (2006). The effects of conjoint behavioral consultation in early childhood settings. *Early Education and Development, 17*(4), 593–617.

Sheridan, S. M., Eagle, J. W., Cowan, R. J., & Mickelson, W. (2001). The effects of conjoint behavioral consultation results of a 4-year investigation. *Journal of School Psychology, 39*(5), 361–385.

Sheridan, S. M., & Kratochwill, T. R. (2007). *Conjoint behavioral consultation: promoting family-school connections and interventions*. Springer Science & Business Media.

Sheridan, S. M., Kratochwill, T. R., & Burt, J. D. (2008). *Conjoint behavioral consultation: promoting family-school connections and interventions* (2nd ed.). New York: Springer.

Sheridan, S. M., Meegan, S. P., & Eagle, J. W. (2002). Assessing the social context in initial conjoint behavioral consultation interviews: an exploratory analysis investigating processes and outcomes. *School Psychology Quarterly, 17*, 299–324.

Sheridan, S. M., Welch, M., & Orme, S. F. (1996). Is consultation effective? a review of outcome research. *Remedial and Special Education, 17*(6), 341–354.

Singer, K. S. (2008). *The practice and training of school psychologists in the autism syndrome disorder* (Vol. 69). USA: ProQuest Information and Learning.

Stahmer, A. C. (2007). The basic structure of community early intervention programs for children with autism: provider descriptions. *Journal of Autism and Developmental Disorders, 37*(7), 1344–1354.

Stahmer, A. C., Collings, N. M., & Palinkas, L. A. (2005). Early intervention practices for children with autism: descriptions from community providers. *Focus on Autism and Other Developmental Disabilities, 20*(2), 66–79. doi:10.1177/10883576050200020301.

Volkmar, F. R. (2005). *Handbook of autism and pervasive developmental disorders* (3rd ed.). Hoboken: Wiley.

Wing, L. (2005). Problems of categorical classification systems. *Handbook of Autism and Pervasive Developmental Disorders* (3rd ed., Vol. 1, pp. 583–605).

http://www.springer.com/978-3-319-18554-5

COMPASS and Implementation Science
Improving Educational Outcomes of Children with ASD
Ruble, L.A.; McGrew, J.H.
2015, XIII, 101 p. 53 illus., Softcover
ISBN: 978-3-319-18554-5