



Pre-service teachers understanding of problem behavior

Jonathan Chitiyo ^{a *}, Argneue Chitiyo ^b, Donna Dombek ^c

^a University of Pittsburgh Bradford, 300 Campus Drive Bradford, PA, 16701, USA

^b Ball State University, 2000 W. University Ave. Muncie, IN 47306, USA

^c University of Pittsburgh Bradford, 300 Campus Drive Bradford, PA, 16701, USA

Abstract

Problem behavior is one of the most pressing issues in today's classrooms. Problem behavior not only interferes with the learning potential of the student exhibiting the behavior but has rippling effects throughout the entire learning environment. Considering that problem behavior disrupts the learning environment for all students, it is crucial for teachers to adopt effective pro-active behavior management practices. The adoption of pro-active behavior management approaches is, however, dependent on teacher perceptions of the nature of the problem behavior. The purpose of this study was to examine 29 pre-service teachers' understanding of the nature and causes of problem behavior. A secondary purpose was to determine their preferred behavior management approach. Results indicated that the majority of preservice teachers believed that the school and classroom environments can contribute to the occurrence of problem behavior. In addition, the majority of students acknowledged that problem behaviors may be a manifestation of a disability. Finally, the majority of participants affirmed the claim that pro-active behavior management practices are most effective in reducing problem behavior. Recommendations and implications for future research are provided.

© 2016 IJCI & the Authors. Published by *International Journal of Curriculum and Instruction (IJCI)*. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (CC BY-NC-ND) (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Keywords: problem behavior, behavior management, school-wide positive behavior intervention support

1. Introduction

Problem behavior (i.e., tantrums, self-injury, yelling, defiance, and aggression) has become one of the most pressing issues in school settings (Sprague & Walker, 2000; Van Acker, 2007). It is estimated that approximately 12-22% of school children display problem behavior (Adelman & Taylor, 2002; Ducharme & Shecter, 2011). These behaviors are regarded as problematic because they compromise the ability of teachers to educate students due to their incompatibility with engagement and academic oriented behavior. Much

* Corresponding author name: Jonathan Chitiyo Ph.D. Tel: +1-814-362-5153
E-mail address: chitioj@pitt.edu

instructional time is lost when teachers attend to problem behavior and this negatively impacts the academic performance of students (Jez & Wassmer, 2015).

Problem behavior can also interfere with instructional activities. For instance, talking loudly during instruction time is disruptive to the instructional environment and, in most cases, the students who display such behavior are avoided or rejected by peers, minimizing their opportunities to learn academic content during group work and non-academic activities (i.e., recess, lunch) (Rohrbeck, Ginsburg-Block, Fantuzzo, & Miller, 2003). As a result, inattention to academic material and interactions with peers may indirectly minimize academic performance and the development of the students' ability to use cooperative social skills in group settings. Students who display problem behavior may also be excluded from the instructional environment through certain behavior management practices (i.e., time out), thereby, losing out on instructional time which may negatively affect their educational performance.

In addition to interfering with the academic performance of students, problem behavior can also lead to teacher burnout and a substantial amount of research shows that student problem behavior is related to teacher burnout (Emery & Vandenberg, 2010; Hastings & Bham, 2003; Grayson, & Alvarez, 2007; Shen, McCaughtry, Martin Martin, Garn, Kulik, & Fahlman 2015). Burnout often leads to low self-esteem and depression among the teachers which, in turn, can affect the academic performance of students (Grayson & Alvarez, 2007). When teachers have low self-esteem and suffer from depression, they are likely to be less competent and will miss out on work. Because of behavior issues with students, otherwise competent teachers may even choose to leave the teaching field entirely. As a result, students are likely to perform poorly on academic assessments and other academic tasks because of missed instructional time due to teacher absenteeism or teacher attrition. Additionally, when teachers leave schools, the previous held relationships and collaborations are lost. According to Bryk and Schneider (2002), the quality of relationships between teachers, and between teachers and students, is significantly related to student achievement and it may take a substantial amount of time to build and maintain new relationships which, in turn, may also harm the academic performance of students.

Considering all the possible consequences of problem behavior, its occurrence has garnered a lot of attention from educators, researchers, and policy makers (Sprague et al., 2002). In addition to the challenges of providing instruction in core subjects, teachers are now faced with the monumental task of providing behavior and social skills instruction to students and developing effective interventions to address problem behavior. One preventative approach which is widely used in schools across the United States is the School-wide Positive Behavior Intervention Support model (SWPBIS). Having its roots in applied behavior analysis, SWPBIS is a proactive behavior management framework delivering behavioral supports to all students (Sugai & Horner, 2002). The framework is comprised of three tiers (i.e., primary, secondary, and tertiary). Refer to Lane, Robertson, and Graham-Bailey (2006) as well as Sugai and Horner (2002) for a detailed description of the three tiers. Extant research shows that SWPBIS is effective in preventing the occurrence of problem behavior and providing students with much needed supports before they reach a crisis (Chitiyo & May, 2018)

The adoption and implementation of prevention focused behavior management practices (i.e., SWPBIS) is dependent on a number of factors, one of which is teacher perceptions of the nature and cause of problem behavior (Davis, & Sumara, 1997). Existing research shows that teacher perspectives regarding the nature of problem behavior is a crucial element in the referral process and in the adoption and implementation of prevention focused practices as their perspectives will potentially influence their choice of behavior management strategy (Chitiyo et al., 2014; Mavropoulou & Padelidou, 2002). However, there is limited research regarding teacher perceptions of the nature of problem behavior (Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000)

In understanding the nature of problem behavior, a crucial component is to examine the factors that may be associated with its occurrence. First, Skinner and Hales (1992) indicated that teachers may perceive that problem behavior emanates from factors within the student. This view is commonly referred to as the psychodynamic or psychoanalytic explanation of behavior.

Second, according to Alberto and Troutman (1990), teachers may perceive problem behavior from a developmental perspective. Thus, certain behaviors may be linked to the developmental stages a child goes through (Skinner & Hales, 1992). Therefore, according to this theoretical perspective, children who display problem behavior may have experienced difficulties resulting in delayed development in different developmental domains.

Third, research indicates that children with disabilities are more likely to display problem behavior relative to their non-disabled peers including social and peer problems, conduct problems, attention challenges, hyperactivity, and internalizing problems (Fauth, Platt, Parsons, 2017). From this assertion, it is assumed that disability may cause problem behavior or problem behavior may be a manifestation of a disability (Athanasidou, Geil Hazel, & Copeland, 2002; Crone & Horner, 2002).

Another assumption is that problem behavior can be a result of the environment (i.e., school or classroom environment). According to Walker and Plomin (2005), most teachers perceive the environment as the main cause of problem behavior overshadowing the other factors. Finally, it is also assumed that the family and background of the student can be a cause of problem behavior. The belief is that students display problem behavior because of poor parenting skills and lack of discipline at home (Chandler & Dahlquist, 2006). A number of studies have shown that elementary teachers seem to attribute problem behavior to external factors such as family background or the upbringing of the child rather than school factors such as environment or other teachers (Mavropoulou & Padelidou, 2002; Bibou-Nakou, Kiosseoglou, & Stogiannidou, 2000; Soodak & Poddell, 1994).

It is important to note that, some explanations discussed above may be regarded as faulty in that they do not help in identifying the variables that strengthen and maintain problem behavior and as a result, little can be done to prevent its occurrence. Given that some explanations may be regarded as faulty and may not lead to the development of effective proactive intervention strategies, the purpose of this study was to examine pre-service teachers' understanding of the nature and causes of problem behavior. A secondary purpose was to determine their preferred behavior management approach

Method

Participants

Participants in this study were 29 pre-service teachers enrolled in a teacher education program in north-eastern USA. The sample comprised of 31% ($n = 9$) males and 69% ($n = 20$) females. Fifty eight percent ($n = 17$) were early childhood education majors, 31% ($n = 9$) secondary education majors and 10% ($n = 3$) health and physical education majors. All the students were officially admitted into the Teacher Education program. So, they had taken all fundamental courses relating to behavior management, discipline and special education, positive reinforcement, shaping, and modelling (i.e., classroom management, development of children with exceptional needs, educating children with exceptional needs, special education law, and early intervention and child development). In addition, all the courses have a field component where students go into classrooms and either observe teachers using different instructional and behavior management practices or interview teachers on related subject matter.

Instrumentation

Data were collected via an online questionnaire. The questionnaire was an adaptation of a survey developed by Chitiyo et al. 2014. The survey contained 12 items which were categorized into six factors relating to the cause of problem behavior i.e., disability, school related factors, classroom factors, home related factors, and media. The six factors measured the perceptions of in-service teachers regarding the use of punitive behavior practices. However, since the original instrument was focused on teachers currently on the job, it was modified to suit the context of this study. The resulting questionnaire consisted of three sections. The first section collected participants' demographic information (i.e., gender, and program of study). The second section assessed participants' understanding of problem behavior and their understanding of different behavior management practices. The items were assessed by 10 statements which were on a Likert scale (i.e., *Strongly Agree* = 5, *Agree* = 4, *Undecided* = 3, *Disagree* = 2, *Strongly disagree* = 1). The items include: behavioral problems are a disciplinary problem not a disability, the nature of the school environment can contribute to problem behaviors, behavioral problems in school may be a manifestation of a disability, the classroom environment can contribute to the occurrence of problem behavior, punitive practices are an effective way of managing problem behavior, most behavior problems are caused by poor parenting skills at home, proactive behavior management practices are an effective way of managing problem behavior, teachers should continue to use punitive behavior management approaches when responding to the occurrence of problem behavior, and students display problem behavior at school because of lax school discipline policies. These items were grouped into four factors (i.e., Disability as cause of problem behavior, school and classroom related factors, home relate factors, effectiveness of punishment-based behavior management approaches). The last section asked participants to indicate the extent to which they will use punitive behavior or proactive behavior management practices. This was also measured on a Likert scale with responses ranging from *Very Likely* to *Very unlikely*.

2. Results

As previously discussed, descriptive statistics were used to analyze data. Specifically, cross tabulations were computed to generate frequencies of participants' responses to the items measuring their understanding of problem behavior. Table 1 presents a detailed summary of participants' responses to the items presented.

The percentage of participants who responded positively to each item was generated by adding the percentages of those who "agreed" and "strongly agreed" to an item and the same was done for participants who responded negatively (i.e., disagree and strongly disagree) to each item. As previously discussed, the items that measured participants' understanding of the nature of problem behavior were placed in four factors. The first factor related to school and classroom factors (i.e., the nature of the school environment can contribute to problem behaviors, the classroom environment can contribute to the occurrence of problem behavior, and problem behavior occurs because of lax school discipline policies). Almost all the participants (90%, $n = 26$) indicated that the nature of the school environment can contribute to the occurrence of problem behavior with only three participants refuting the assertion. Similarly, almost all the participants (97%, $n = 28$) also affirmed the assertion that the classroom environment with one participant neither agreeing nor disagreeing. For the last item in this factor, 27% ($n = 8$), agreed with the claim that students display problem behavior as a result of lax school discipline policies, with 38% of participants not sure and the remaining 34% refuted this claim.

The second factor (disability as a cause of problem behavior) had two items (i.e., problem behavior in school may be a manifestation of a disability and behavior problems are a disciplinary problem not a result of a disability). For the first item, 72% ($n = 21$) of participants affirmed that problem behavior may be a manifestation of a disability, 24% ($n = 7$) were unsure and one participant disagreed. For the second item, 34% ($n = 10$) of participants affirmed that problem behavior are a disciplinary problem not a result of a disability, another 34% ($n = 10$) were not sure, and 31% ($n = 9$) refuted this assertion.

The third factor consisted of one item (i.e., most problem behaviors are caused by poor parenting skills at home). Seventeen percent of the participants ($n = 5$) confirmed that behavior problems are a result of poor parenting skills, with 45% ($n = 13$) indicating that they were unsure and 38% ($n = 11$) refuting the assertion.

The final factor related to behavior management practices and it consisted of two items (i.e., punitive practices are effective in managing problem behavior and pro-active practices are an effective way of managing problem behavior). A majority of participants (62%, $n = 18$) denied that punitive practices are effective in managing problem behavior, with 28% ($n = 8$) unsure and 10% affirming the assertion. Regarding the second item, almost all the participants (97%, $n = 28$) affirmed with the assertion that pro-active behavior management practices are effective in reducing problem behavior with only one participant refuting this claim. The third part of the questionnaire asked participants to indicate the extent to which they would use pro-active behavior management practices or punitive practices when they are currently on the job. For pro-active practices, 62% of participants indicated that they are extremely likely to use these practices and 38% are moderately likely to use them. Regarding punitive practices, 38%

($n = 11$) indicated they are moderately unlikely to use these practices, 14% ($n = 4$) extremely unlikely, 27% ($n = 8$) unsure, and 20% ($n = 6$) moderately likely

Table 1. Percentage of participants' responses

Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
The school environment can contribute to the occurrence of problem behavior	45%	45%	7%	3%	0%
The classroom environment can contribute to the occurrence of problem behavior	45%	51%	4%	0%	0%
Problem behavior at school because of lax school discipline policies	27%	38%	27%	0%	7%
Problem behaviors in school may be a manifestation of a disability	7%	65%	24%	3%	0%
Behavior problems are a disciplinary problem not a result of a disability	3%	31%	34%	24%	7%
Most problem behaviors are caused by poor parenting skills at home	3%	14%	45%	35%	3%
Punitive practices are effective in managing problem behavior	10%	27%	35%	27%	0%
Pro-active practices are an effective way of managing problem behavior	45%	52%	3%	0%	0%

3. Discussion

Problem behavior exhibited by students in schools interferes with effective learning of students by diverting teachers' time and effort towards addressing behavioral issues at the expense of instructional activities. Understanding sources or factors associated with occurrence of problem behavior in schools and the classroom is an important initiative in designing interventions or strategies that can help in the prevention or reduction of problem behavior. This study assessed pre-service teachers' perceptions of the nature and causes of problem behavior in schools. The study utilized an online questionnaire consisting of 12 question items asking teacher candidates' perceptions of causes of problem behaviors in classroom.

Consistent with previous findings of in-service teachers' views on the influence of school and class environment on problem behavior, participants in this study indicated that such factors are more likely than any other factors to explain the occurrence of problem behaviors. There is a large body of research attributing the school and classroom environment as the cause of problem behavior (i.e., Aldrige & Ala'l, 2013; Brennan, Shaw, Dishion, & Wilson, 2012). Scholars who subscribe to this assertion mention that both problem and appropriate behaviors are learned and maintained by the environment. Since it is assumed that problem behavior is maintained by the environment, the best way to intervene and prevent problem behavior is to examine the particular environment in which the behavior is occurring to identify the variables that occur prior to or concurrent with the behavior (Darch & Kame'nui, 2004). These variables are known as antecedents. After identifying the variables that trigger and maintain problem behavior, the next step would be to identify the consequence or the function of the behavior. After identifying all these variables, an intervention is then developed which will focus on changing the variables that trigger and maintain the problem behavior (Carr, 1997). This pro-active way of managing problem behavior is the recommended way and the foundational premise on which the SWPBIS model is framed. As previously discussed, there is a growing body of research demonstrating the efficacy of SWPBIS in preventing and reducing the occurrence problem behavior.

Results also indicated that most participants believed problem behavior to be a manifestation of a disability more than they are a disciplinary problem. This finding is not surprising considering that there a number of studies showing that, relative to students without disabilities, students with disabilities are more likely to engage in problem behavior (Alloway Gathercole, Kirkwood, & Elliott, 2009; Baker et al, 2003, Eisenhower, Baker, & Blacher, 2005; Emerson & Einfeld, & Stancliffe , 2010). Over the past decade, an increasing number of students have been classified as having emotional behavioral disorders, autism spectrum disorders, learning disabilities or attention deficit hyperactivity disorder (Chandler & Dahlquist, 2006). Reid, Trout and Schartz (2005) reported that students with disabilities are more likely than students without disabilities, to exhibit disruptive or problem behaviors that interfere with their learning and the learning of other students. In another recent study, Hauser-Cram and Woodman (2016) found that children with disabilities were susceptible to increases in internalizing behaviors than students without disabilities.

Teacher understanding of different types of disabilities and behavioral issues associated with them is important in guiding them on the selection of ideal instructional methods to address them. In addition, knowledge that a student has a particular disability may assist teachers in understanding the variables that may trigger or maintain problem behavior (Chandler & Dahlquist, 2006). However, it also important to mention that some researchers maintain that if behavior is attributed to disability, there is little that can be done to intervene because we cannot change the fact that the student has a disability (Blair, Umbreit, & Bos, 1999).

The other factor examined in this study was the influence of parenting skills on the occurrence of problem behavior. The influence of parenting skills and styles on child development and social functioning has also been researched (Berlin & Cassidy, 2000; McLoyd, 1998). A large body of research has shown that parenting which is characterized by

harsh, arbitrary discipline or emotional detachment is associated with negative behavioral outcomes for children (Belsky, 1999; Berlin & Cassidy, 2000; McLoyd, 1998). For instance, Alizadeh et al. (2011) found a significant correlation between authoritative parenting style and both internalizing and externalizing behaviors among primary school children. However, there are mixed findings regarding the effect of different types of parenting styles on a child's conduct and development. A majority of participants in this study were unsure about the assertion with only a few affirming the claim. This is not surprising as most of the literature on problem behavior refutes this claim. Attributing problem behavior to parenting styles makes teachers and other school personnel blame parents and not focus on the problem behavior in the classroom.

Regarding the most effective behavior management practices, participants in this study refuted the assertion that punitive measures are effective in managing problem behaviors and this is consistent with previous research. Since behavior serves a function, the use of punitive measures to address problem behaviors is criticized for not addressing the function of the behavior, nor equipping students with more appropriate replacement behaviors to achieve the same functions. The concept of punishment needs to be understood contextually. Early research asserted a positive effect of punishment on reducing students' problem behaviors (Hall et al., 1971; Lavoie, 1973; McMillan, Forness, & Trumbull, 1973), but that was before knowledge on functions of behavior had emerged. With more contemporary research, traditional punitive methods are perceived as suppressive measures for unwanted behavior, but, do not address the appropriate behavior deficits in children.

With increased training on classroom management strategies and positive behavior interventions, teachers are now more likely to use behavior management strategies that prevent problem behaviors from ever occurring in the first place. The participants in the present study indicated that they were more likely to use proactive behavior management strategies than punitive measures.

This study is not without limitations. Firstly, the sample survey was relatively small, thereby limiting the generalizability of the results. A larger sample size would have enabled a more comprehensive analysis to be made, especially regarding the perspective of different ethnic groups on causes of problem behaviors in schools. Secondly, the instrument that used in the study consisted of closed ended responses, thereby not allowing participants to express their uninterrupted opinions about the cause of problem behaviors in schools.

Conclusion

The purpose of this study was to examine pre-service teachers' understanding of the nature of problem behavior. The results showed that the pre-service teachers surveyed in this study view the school and classroom environment to be the factors that are likely to account for the occurrence of problem behavior over other factors. This finding is consistent with previous findings on the perceptions of in-service teachers regarding the matter. The study is significant in reflecting an area of crucial importance in teacher training that prepares pre-service teachers in better understanding of problem behaviors and deconstructing some of the preconceptions of behavior prior to entering the field. Future researchers need to examine the factors that influence the adoption and sustainability of pro-active behavior management practices.

References

- Alberto, P. A., & Troutman, A. C. (1990). *Applied behavior analysis for teachers* (3rd ed.). New York: Macmillan.
- Aldridge, J., & Ala'I, K. (2013). Assessing students' views of school climate: Developing and validating the What's Happening In This School?(WHITS) questionnaire. *Improving schools, 16*(1), 47-66.
- Alloway, T. P., Gathercole, S. E., Kirkwood, H., & Elliott, J. (2009). The cognitive and behavioral characteristics of children with low working memory. *Child development, 80*(2), 606-621.
- Alizadeh, S., Talib, M. B. A., Abdullah, R., & Mansor, M. (2011). Relationship between parenting style and children's behavior problems. *Asian Social Science, 7*(12), 195-200.
- Alloway, T. P., Gathercole, S. E., Kirkwood, H. J., & Elliott, J. E. (2009). The cognitive and behavioral characteristics of children with low working memory. *Child Development, 80*, 606-621.
- Athanasidou, M. S., Geil, M., Hazel, C. E., & Copeland, E. P. (2002). A look inside school-based consultation: A qualitative study of the beliefs and practices of school psychologists and teachers. *School Psychology Quarterly, 17*(3), 258.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003) Pre-school children with and without developmental pre-school children with and without developmental delay: Behavior problems and parenting stress over time. *Journal of Intellectual Disability Research, 47*, 217-230.
- Belsky, J. (1999). Quantity of nonmaternal care and boys' problem behavior/adjustment at ages 3 and 5: Exploring the mediating role of parenting. *Psychiatry, 62*(1), 1-20.
- Berlin, L. J., & Cassidy, J. (2000). Understanding parenting: Contributions of attachment theory and research. *WAIMH handbook of infant mental health, 3*, 137-170.
- Bibou-Nakou, I., Kiosseoglou, G., & Stogiannidou, A. A. (2000). Elementary teachers' perceptions regarding school behavior problems: Implications for school psychological services. *Psychology in the Schools, 37*(2), 123-134.
- Blair, K. S. C., Umbreit, J., & Bos, C. S. (1999). Using functional assessment and children's preferences to improve the behavior of young children with behavioral disorders. *Behavioral Disorders, 24*(2), 151-166.

- Brennan, L. M., Shaw, D. S., Dishion, T. J., & Wilson, M. (2012). Longitudinal predictors of school-age academic achievement: unique contributions of toddler-age aggression, oppositionality, inattention, and hyperactivity. *Journal of Abnormal Child Psychology*, 40, 1289–1300.
- Bryk, A., & Schneider, B. (2002). *Trust in schools: A core resource for improvement*. Russell Sage Foundation.
- Carr, E. G. (1997). The motivation for self-injurious behavior: A review of some hypotheses. *Psych Bulletin*, 84, 800-816.
- Chandler & Dahlquist (2006). *Functional Assessment: Strategies to prevent and remediate challenging behavior in school settings*. Pearson Higher Ed
- Chitiyo, J., & May, M. E. (2018). Factors predicting sustainability of the school-wide positive behavior intervention support model. *Preventing School Failure: Alternative Education for Children and Youth*, 62(2), 94-104.
- Chitiyo, M., Chitiyo, G., Chitiyo, J., Oyedele, V., Makoni, R., Fonnah, D., & Chipangure, L., (2014). Understanding the causes and management of problem behavior in Zimbabwean schools: teacher perceptions. *International Journal of Inclusive Education*, 18(11)1091-1106.
- Crone, D., & Horner, R. (2002). Contextual, conceptual, and empirical foundations of functional behavioral assessment in schools. *Exceptionality*, 8, 161-172.
- Davis, B. & Sumara, D.J. (1997). Cognition, complexity and teacher education. *Harvard Educational Review*, 67(1), 105–125.
- Darch, C. B., & Kameenui, E. J. (2004). *Instructional classroom management: A proactive approach to behavior management*. Prentice Hall.
- Eisenhower, A. S., Baker, B. L., & Blacher, J. (2005). Preschool children with intellectual disability: Syndrome specificity, behavior problems, and maternal well-being. *Journal of Intellectual Disability Research*, 49(9), 657-671.
- Emery, D. W., & Vandenberg, B. (2010). Special Education Teacher Burnout and ACT. *International Journal of Special Education*, 25(3), 119-131.
- Emerson, E., Einfeld, S., & Stancliffe, R. J. (2010). The mental health of young children with intellectual disabilities or borderline intellectual functioning. *Social Psychiatry and Psychiatric Epidemiology*, 45(5), 579-587.
- Fauth, R. C., Platt, L., & Parsons, S. (2017). The development of behavior problems among disabled and non-disabled children in England. *Journal of Applied Developmental Psychology*, 52, 46-58.
- Grayson, J.L. & Alvarez, H.K. (2007). School climate factors relating to teacher burnout: A mediator model. *Teaching and Teacher Education* 23, 1349–1363.

- Hall, R. V., Axelrod, S., Foundopoulos, M., Shellman, J., Campbell, R. A., & Cranston, S. S. (1971). The effective use of punishment to modify behavior in the classroom. *Educational Technology*, 11, 24-26.
- Hastings, R. P., & Bham, M. S. (2003). The relationship between student behavior patterns and teacher burnout. *School Psychology International*, 24(1), 115-127.
- Hauser-Cram, P., & Woodman, A. C. (2016). Trajectories of internalizing and externalizing behavior problems in children with developmental disabilities. *Journal of Abnormal Child Psychology*, 44(4), 811–821.
- Lane, K. L., Robertson, E., & Graham-Bailey, M. (2006). An examination of school-wide interventions with primary level efforts conducted in secondary schools: Methodological considerations. In *Applications of Research Methodology* (pp. 157-199). Emerald Group Publishing Limited.
- LaVoie, J. C. (1973). Punishment and adolescent self-control. *Developmental Psychology*, 8(1), 16.
- Mavropoulou, S., & Padeliadu, S. (2002). Teachers' causal attributions for behaviour problems in relation to perceptions of control. *Educational psychology*, 22(2), 191-202.
- McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53(2), 185.
- Macmillan, D. L., Forness, S. R., & Trumbull, B. M. (1973). The role of punishment in the classroom. *Exceptional Children*, 40(2), 85-96.
- Miller, N. B., Cowan, P. A., Cowan, C. P., Hetherington, E. M., & Clingempeel, W. G. (1993).
Externalizing in preschoolers and early adolescents: A cross-study replication of a family model. *Developmental Psychology*, 29(1), 3-18.
- Pancsofar, N., and Petroff, J. G. (2013). Professional development experiences in co-teaching: Associations with teacher confidence, interests, and attitudes. *Teacher Education and Special Education*, 36(2), 83–96.
- Reid, R., Trout, A. L., & Schartz, M. (2005). Self-regulation interventions for children with attention deficit/hyperactivity disorder. *Exceptional Children*, 71(4), 361.
- Rohrbeck, C. A., Ginsburg-Block, M. D., Fantuzzo, J. W., & Miller, T. R. (2003). Peer-assisted learning interventions with elementary school students: A meta-analytic review. *Journal of educational Psychology*, 95(2), 240.
- Severson, H. H., Walker, H. M., Hope-Doolittle, J., Kratochwill, T. R., & Gresham, F. M. (2007). Proactive, early screening to detect behaviorally at-risk students: Issues, approaches, emerging innovations, and professional practices. *Journal of School Psychology*, 45, 193-223.

- Shen, B., McCaughtry, N., Martin, J., Garn, A., Kulik, N., & Fahlman, M. (2015). The relationship between teacher burnout and student motivation. *British Journal of Educational Psychology*, 85(4), 519-532.
- Skinner, M., & Hales, M. (1992). Classroom teachers' explanations of student behavior: One possible barrier to the acceptance and use of applied behavior analysis procedures in the schools. *Journal of Educational and Psychological Consultation*, 3, 219-232.
- Sprague, J. R., Walker, H. M., Sowards, S., Van Bleom, C., Eberhardt, P., & Marshall, B. (2002). Sources of vulnerability to school violence: Systems-level assessment and strategies to improve safety and climate. In G. Stoner, M. Shinn, & Walker (Eds.), *Interventions for achievement and behavior problems* (pp. 295-314). Silver Springs, MD: National Association of School Psychologists.
- Sugai, G., & Horner, R. (2002). The evolution of discipline practices: School-wide positive behavior supports. *Child & Family Behavior Therapy*, 24(1-2), 23-50.
- Walker, S. O., & Plomin, R. (2005). The nature–nurture question: Teachers' perceptions of how genes and the environment influence educationally relevant behavior. *Educational Psychology*, 25(5), 509-516.
- Wolfe, D. A. (1999). *Child abuse: Implications for child development and psychopathology* (Vol. 10). Sage Publications.
- Hall, R. V., Axelrod, S., Foundopoulos, M., Shellman, J., Campbell, R. A., & Cranston, S. S. (1971). The effective use of punishment to modify behavior in the classroom. *Educational Technology*, 11(4), 24-26.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the Journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (**CC BY-NC-ND**) (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).