Professional School Counseling
Volume 24(1b): 1-8

DOI: 10.1177/2156759X211007654
journals.sagepub.com/home/pcx
SAGE

Growth in Middle School Students' Curiosity, Executive Functioning, and Academic Achievement: Results From a Theory-Informed SEL and MBI School Counseling Intervention

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Abstract

The authors investigated a combined social and emotional learning and mindfulness-based intervention as delivered by school counselors to students in classrooms and their teachers using consultation practices. The study used a cluster-randomized design at the classroom level, with an ethnically diverse sample of 109 middle school students divided between treatment and delayed treatment groups. Analyses found significant intervention effects for the treatment group in students' changes in stress tolerance, social curiosity, executive functioning (i.e., shift, plan and organize, and task monitoring), and academic achievement (i.e., mathematics, science, English, and social studies). Implications of these findings evince how theory-informed school counseling can contribute to important outcomes in educational settings.

Keywords

academic achievement, executive functioning, mindfulness, school counseling, social and emotional learning

School counselors deliver interventions that contribute to student outcomes as consistent with the educational mission of schools (American School Counselor Association [ASCA], 2019). Student outcomes valued in school environments include not only academic performance but also development in students' psychological and social capacities. Academic performance and social and emotional development are not dichotomous as evinced by decades of findings in the literature suggesting that school-based interventions that target young peoples' development in areas such as social and emotional learning (SEL), self-regulation, and various noncognitive skills each contribute to learning behaviors and performance (Durlak et al., 2011). Therefore, the assertion that school counselors can administer interventions that accomplish both features of their professional identity as educators and counselors in a single intervention is reasonable (see Levy & Lemberger-Truelove, 2021).

Generally speaking, the literature reinforces the assertion that when school counselors engage students in direct services, results indicate desirable outcomes in a variety of areas including students' social and emotional development, academic performance, and college or career pursuits (Griffith et al., 2019; Whiston et al., 2011). Although these findings are encouraging, there is an overall dearth of well-designed empirical studies that evince the effects of school counseling intervention on student outcomes (Falco et al., 2011; Griffith et al., 2019). More concerning yet, the literature also indicates that many school counselors are encumbered with tasks that distance them from formal interventions intended to improve circumstances for students or other members of the school community (Fye et al., 2018). Given the paucity of empirical literature on evidence-based school counseling and the challenges that many school counselors face in implementing direct services, it is essential that any opportunities to support students and schools result in outcomes that are generalizable to a variety of objectives.

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Professionals often adopt theories of practice to ensure that the intended services are delivered in a consistent and helpful manner. For many school counselors, the theories discussed in training programs were not specifically tailored for school environments, the nature of children and adolescents as students in schools, or the roles and responsibilities of school counselors in particular (Dollarhide & Lemberger-Truelove, 2019; Lemberger-Truelove et al., 2020). As such, such generic approaches to practice are unlikely to contribute thoroughly to the unique and manifold demands of working as a school counselor or the needs of students and school environments.

Current Study

Inspired by the ASCA Mindsets & Behaviors (ASCA, 2014), which suggest that certain student skills are necessary for academic success, college and career readiness, and social and emotional development, we utilized a cluster-randomized trial to test how a theoretically grounded intervention tailored specifically for school counseling might contribute to desirable psychological and learning outcomes for middle school students in two urban middle schools. This school counseling theoretical approach, the Advocating Student-within-Environment (ASE) (Lemberger, 2010; Lemberger & Hutchison, 2014; Lemberger-Truelove & Bowers, 2019), is informed by a variety of sources including existential–humanistic counseling, social justice advocacy, neuroscience, SEL, and contemplative-mindfulness-based interventions (MBIs); each is relevant to the intervention behaviors customary to school counselors in K–12 settings. For the purposes of the current study, we focused predominately on the SEL and MBI practice aspects of the ASE approach. Combined SEL and MBI approaches are increasingly being utilized in school environments, supported by empirical findings that suggest intervention effects in favor of stronger student psychological functioning, social and relational skills, and academic performance (Emerson et al., 2020; Maloney et al., 2016). Given the relevance of these approaches in educational environments, coupled with school counselors' position within schools, the purpose of the current study was to pursue the following research questions:

1. Do middle school students who participated in a classroom-wide ASE intervention self-report changes in executive functioning and social curiosity?
2. Do middle school students who participated in a classroom-wide ASE intervention perform differently on a standardized academic achievement test in the areas of math, science, English, and social studies?

Method

Data Collection Procedures

The research team contacted a local school district to partner in delivering an intervention in middle schools. Six classrooms embedded within two separate middles schools in the district were identified based on administrators' and teachers' approval. We disseminated recruitment materials in classrooms, and one of the researchers also contacted relevant student guardians via phone to explain the research study. Simultaneously, researchers led a discussion in each participating classroom to explain the intervention and research purpose and procedures to students. Following the phone communication and classroom presentation, researchers sent consent forms home and provided assent forms to students. All guardians and students had the option for the student to engage in a different activity during the treatment if they decided not to participate in the current study.

To protect the students' identity, we assigned each student a random code number that was used for all data collection activities. To ensure the integrity of data collection, teachers completed the appropriate questionnaires in a controlled environment, free from distractions. For both the pre- and posttests, participating students completed all instruments during noninstructional class time. Students completed the pretests 1 week prior to the start of the intervention and the posttests 1 week after the final intervention session. During all stages of data collection, at least one researcher from the team was present to ensure data integrity. Finally, district-level administrators provided the researchers with participating students' academic exam scores for the periods preceding and following the intervention.

Instruments

The Five-Dimensional Curiosity (5DC) Scale. The 5DC Scale (Kashdan et al., 2018) is a self-report measure consisting of 25 items that assess the multifaceted construct of curiosity. The instrument, as suggested by its name, has five constructs: joyous exploration, deprivation sensitivity, stress tolerance, social curiosity, and thrill seeking. Each subscale is assessed by five items that ask respondents to respond to statements about how they feel and behave on a 7-point Likert-type scale. Scores from this scale have been validated by independent research teams in multiple countries (e.g., Birenbaum et al., 2019; Schutte & Malouff, 2019). In the current sample, the scores across each subscale and assessment point demonstrated strong reliability with α ranging from .78 to .85.

Behavior Rating Inventory of Executive Function (BRIEF). The BRIEF (Gioia et al., 2000) is an 80-item self-report measure of skills and behaviors related to executive functioning. The instrument assesses behaviors at school for children and adolescents aged 5–18 years. Teachers rate behaviors indicating their view of the students' ability to guide, direct, and manage cognitive, emotional, and behavioral functions. Teachers' responses are rated on a 3-point Likert-type scale of never, sometimes, and often. Statements on the BRIEF are written so that a response of "never" indicates a preferred response and "often" indicates an undesirable response (i.e., lower scores are more favorable).

The BRIEF is composed of eight subscales: Inhibit, Shift, Emotional Control, Monitor, Working Memory, Plan/Organize, Organization of Materials, and Initiate/Task Completion. BRIEF researchers have indicated that the instrument is appropriate for use with diverse ethnic and socioeconomic samples (Gioia et al., 2000). Cronbach's α reliability estimates for the subscales in the current study ranged from .80 to .92 across all subscales and both assessment points.

Academic outcomes. The district exam was written by a team of content experts employed by the school district. The exam is given to all students in the district four times annually as standard practice to assess student learning growth over the academic year in math, science, English, and social studies. Exam questions were adapted from prior state-mandated annual tests and norm referenced within the district. For the current study's analyses, we used the tests that occurred 2 weeks preceding the experimental treatment (pretest) and 1 week following (posttest) the treatment.

Participants

A sample of 116 students was recruited from six separate classrooms across two different middle schools in a single public school district in the Southwestern United States. The criteria for classroom selection included (a) a general classroom composed of students in Grades 6, 7, or 8 and (b) teacher and school administrator consent. We obtained informed consent from parents/guardians of all students enrolled in the selected classrooms. The school campuses included in the study were designated as Title I schools and therefore received school-wide assistance from the state due to their high percentage of children who qualify for free or reduced lunch. Randomization was performed at the classroom level, resulting in 51 students in the treatment group and 65 in the delayed treatment (control) group. The self-reported gender distribution for the sample was 73 female (62.9%) and 43 male students (37%). The grade levels of the participants were 42 sixth graders (36.2%), 40 seventh graders (34.4%), and 34 eighth graders (29.3%). Finally, the participants reported the following racial/ethnic backgrounds: 19.8% African American, 62.9% Hispanic, 12.9%, White, 2.6% Asian, and 1.7% Biracial.

Experimental Treatment

The ASE approach propounds that school counselors intervene with both students and adult stakeholders in corresponding ways such that individual capacities including executive functioning, school connectedness, and curiosity ripen into co-regulatory experiences and outcomes (Lemberger-Truelove & Bowers, 2019). Executive functioning (i.e., self-monitoring; emotional control; and task initiation, organizing, monitoring, shifting, and completion) are regulatory activities necessary to pursue intended goals (Diamond, 2013). Feelings of connectedness to the school environment (i.e., safety, contribution, and meaningfulness) and curiosity pertain to interactional gestures between the various agents and phenomena in a school (e.g., Engel, 2011; Liu et al., 2020). To facilitate these intervention priorities to student and teacher participants, the research team utilized psychoeducational and consultation practices; in particular, we exposed students and teachers to a manualized psychoeducational curriculum in their natural classrooms and teachers also participated in supplemental consultation activities intended to reinforce the activities in the psychoeducational component and broader experiences in the typical classroom environment.

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The use of combined psychoeducational and consultation practices inspired by the ASE approach has yielded a number of promising results in schools. For example, using multilevel modeling to illustrate growth longitudinally across four measures of mathematics and reading achievement in 193 ethnically diverse and economically challenged middle school students, researchers found not only intervention effects for academic growth in math and reading but also significant mediative relationships to students' changes in executive functioning and feelings of connectedness (Lemberger et al., 2015; Lemberger et al., 2018). Similar outcomes were reported with elementary students exposed to ASE-inspired interventions (e.g., Bowers et al., 2020; Webb et al., 2019) and with students in high schools (e.g., Lemberger & Clemens, 2012).

For the current study, the first and second authors trained a school counselor (third author) in the ASE approach for 6 months prior to the intervention period. In particular, the school counselor was trained to implement select aspects of the *Learning to Breathe* (L2B) curriculum (see Broderick, 2013) and ASE-informed SEL activities. The L2B is a manualized MBI psychoeducational curriculum, designed to be developmentally appropriate for children and adolescents and deliverable in various contexts including school environments. In consultation with the developer of L2B, we adapted the original 18-week intervention to six 45-min weekly sessions. The revision of the L2B curriculum was intended to highlight essential MBI practices to fit within the typical structure of classroom interventions as customarily delivered by school counselors. To complement the L2B components, participants were exposed to multiple dialogical and experiential SEL activities consistent with ASE theory. From an ASE perspective, SEL is not intended to dictate students' internal experiences to comply with external demands (see Stearns, 2019); rather, this application of SEL is focused on supporting students' inner and social awareness, integration, flexibility, and intentionality.

Table 1. Means and Standard Deviations by Outcome and Time Point.

	Preassessment		Postassessment	
Outcome	Treatment	Control	Treatment	Control
Curiosity				
Joyous exploration	15.37 (5.66)	17.75 (5.27)	16.31 (5.59)	17.17 (5.60)
Deprivation sensitivity	21.53 (7.70)	21.08 (7.65)	18.75 (7.83)	20.15 (8.37)
Stress tolerance	18.57 (5.84)	20.12 (6.67)	24.12 (5.74)	22.26 (8.62)
Social curiosity	19.90 (5.94)	19.78 (7.02)	22.10 (8.14)	19.23 (9.54)
Thrill seeking	23.98 (11.63)	25.25 (10.69)	24.67 (10.26)	23.98 (11.63)
Executive functioning				
Inhibit	1.31 (0.52)	1.34 (0.59)	1.10 (0.36)	1.31 (0.52)
Shift	1.24 (0.42)	1.11 (0.31)	1.04 (0.19)	1.06 (0.24)
Emotional control	1.08 (0.27)	1.06 (0.34)	1.04 (0.19)	1.06 (0.23)
Task monitor	1.27 (0.53)	1.11 (0.31)	1.10 (0.30)	1.02 (0.12)
Working memory	1.16 (0.41)	1.15 (0.40)	1.04 (0.19)	1.00 (0.01)
Plan/organize	1.24 (0.55)	1.29 (0.52)	1.04 (0.19)	1.20 (0.40)
Organization of materials	1.06 (0.23)	1.03 (0.17)	1.02 (0.14)	1.00 (0.01)
Task completion/initiate	1.43 (0.64)	1.28 (0.51)	1.12 (0.32)	1.15 (0.36)
Academic				
English	71.00 (14.38)	72.86 (14.82)	75.73 (14.09)	71.73 (14.09)
Math	53.90 (16.83)	55.43 (18.91)	58.35 (16.87)	57.97 (17.56)
Science	60.80 (16.55)	68.48 (14.83)	65.29 (15.06)	65.46 (17.01)
Social studies	57.10 (18.55)	64.83 (15.69)	63.10 (16.12)	66.08 (17.25)

The consultation component occurred weekly after each psychoeducational session and focused on how the teacher might be able to apply L2B activities during the standard class periods. Also built into each consultation session were supplemental ASE-inspired SEL practices for teachers to consider and apply (see Collaborative for Academic, Social, and Emotional Learning, 2020; Palacios & Lemberger-Truelove, 2019).

Finally, to assure adherence to the treatment protocol, the intervening school counselor took part in a 3-hr weekly supervision session with the first and second authors. During supervision, the school counselor reviewed anecdotal notes and discussed notable moments.

Results

To determine whether significant differences emerged between students who received the intervention and those in the control condition, we used a mixed analysis of variance (ANOVA). For each mixed ANOVA, intervention status (treatment vs. control) was the between-subjects factor and students' scores on curiosity, executive function, and academic achievement at each time point were the within-subjects factor. We report Cohen's d adjusted by the correlation between pre- and postassessment for each significant finding. Table 1 provides means and standard deviations by condition and time point. Last, prior to running our analyses, we tested and met assumptions for a mixed ANOVA (e.g., homogeneity of variance) and examined initial differences across treatment groups and classrooms; no significant differences emerged ($p < .05$).

Curiosity

Results suggest that differences across time and by intervention status were present within the construct of curiosity. Significant differences emerged for students' stress tolerance and social curiosity. For stress tolerance, all participants saw a statistically significant increase in their scores from pre- to postassessment, $F(1, 114) = 16.65$, $p < .001$. A significant interaction between time (pre to post) and intervention status suggests that this positive change was dependent on our intervention, $F(1, 114) = 4.23$, $p = .04$, Cohen's $d = .53$. Specifically, students who were exposed to our treatment increased 5.5 points on average in their stress tolerance, whereas the control group was relatively stable with less than a 2-point change. We found similar results in the subscale of social curiosity. Student growth from pre- to postassessment was dependent on our intervention, $F(1, 114) = 5.36$, $p = .02$. Students who were exposed to our treatment had positive (2.5 points) change in their social curiosity whereas students in the control condition actually declined in their social curiosity, Cohen's $d = .43$. No significant differences between groups emerged for the other curiosity subscales (joyous exploration, deprivation sensitivity, and thrill seeking).

Executive Functioning

Results for executive functioning demonstrated growth from pre- to postassessment time points in several subscales including students' ability to inhibit, shift between tasks, plan, and organize their work and monitor their tasks. In each of these domains, we saw that students who received our treatment were perceived by teachers as better able to perform these essential tasks of executive functioning. Specifically, for inhibit, we saw

significant growth for all students, $F(1, 114) = 10.57, p = .002$, and significant interaction between time and intervention status, $F(1, 114) = 6.94, p = .01$. Students who received our intervention increased in their ability to inhibit distracting stimulus from pre- to postassessment more so than students in the control group, Cohen's $d = .31$. Significant interactions were also found for shifting, $F(1, 114) = 6.49, p = .012$; planning and organizing, $F(1, 114) = 5.95, p = .014$; and task monitoring, $F(1, 114) = 4.10, p = .04$. Across each of these subscales, improvement in these functions was dependent on intervention status, with students who received our treatment having, on average, greater change from pre- to postassessment, Cohen's $d = .41$, .32, and .28, respectively.

Achievement

Our intervention had a positive impact on students' achievement. Results in students' achievement tests for English, science, and social studies all demonstrated that students who were exposed to the intervention improved in their academic achievement. In English, although significant growth did not occur for all students from pre- to postassessment ($p < .05$), we did find a significant interaction, $F(1, 114) = 6.71, p = .01$. The significant interaction indicates that change in English scores from pre- to postassessment was dependent on receiving our intervention, Cohen's $d = .41$. Students who received our intervention increased their scores from pre- to postassessment by an average of 4.73 points, whereas students who were in the control condition decreased, on average, by 1.21 points. Growth in science scores was also dependent on our intervention, $F(1, 114) = 6.91, p = .011$. On average, the science scores of students who received our treatment increased by 4.49 points whereas their control counterparts decreased by 3.02 points, Cohen's $d = .48$.

The intervention effects on students' grades in social studies were greater than for other disciplines. Although all students increased their social studies scores from pre- to postassessment, $F(1, 114) = 10.46, p = .002$, growth was still dependent on intervention status, $F(1, 114) = 4.50, p = .036$, with students who received the treatment increasing on average by 6.0 points and those in the control condition increasing by only 1.25 points on average, Cohen's $d = .45$. Finally, for mathematics, all students made gains in their pre- to posttest scores, $F(1, 114) = 8.15, p = .005$, but the interaction between time and intervention status was not significant.

Discussion

The results from a cluster-randomized analysis indicate that students who were exposed to an ASE-inspired school counseling intervention in two ethnically diverse and economically challenged middle schools exhibited greater positive changes in stress tolerance, social curiosity, executive functioning (i.e., shift, plan and organize, and task monitoring), and academic achievement (i.e., mathematics, science, English, and social studies). This work has a variety of implications, including how these findings might contribute to the empirical literature in support of direct services provided by school counselors, and the relevance of SEL and MBI activities in middle schools. Most importantly, results from the current study demonstrate the developmental and learning potential of all students, particularly minoritized and economically challenged students who are often erroneously considered from a deficit position.

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Griffith and colleagues (2019) considered 10 years of school counseling scholarship affiliated with relevant counseling associations and journals and found that less than 1% of articles pertained to school counseling interventions, and most were quasiexperimental, single-group, and pre-/posttest design with a fairly small sample size. Although the results from the current intervention study cannot fill the gap in the broader literature or lend thoroughgoing evidence that school counseling interventions contribute to desirable and relevant outcomes, our study does provide incipient support for theoretically driven school counseling interventions. Specifically, the results of this study indicate that it is possible for school counseling interventions to influence outcomes that are consistent with the intentions of schools as they promote social and emotional and academic development in students.

The results also support some conceptual assumptions promulgated by ASCA, particularly those found in the ASCA Mindsets & Behaviors (ASCA, 2014). The intervention included learning strategies, self-management skills, and social skills delivered in classrooms and through consultation activities with teachers, and these cohere with the specific recommendations offered in the ASCA Mindsets & Behaviors. In this way, the student participants in this study exhibited greater positive changes in stress tolerance, social curiosity, executive functioning, and academic achievement in all four areas tested, which seems to reflect the suggestion that delivering such school counseling interventions "helps students achieve their highest potential" (ASCA, 2014, para. 2).

Findings from this study also add to the nascent empirical literature in support of the ASE theory for school counseling. Consistent with prior intervention studies inspired by ASE, results from the current study illustrate that school counselors can participate in practices that result in social and emotional and academic outcomes for students (see Bowers et al., 2020; Lemberger et al., 2015; Lemberger et al., 2018; Webb et al., 2019). Interventions that enrich attentional, relational, and expressive skills can contribute to learning outcomes including performance on standardized tests, as consistent with the findings in the current study, but might also galvanize subsequent

learning and social opportunities. Sharpening of one's stress response, curiosity, and executive functioning can be used by students and educators to promote individual development, create more facilitative classroom climates, and even contribute to the dismantling of oppressive forces in and beyond schools.

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Beyond a particular focus on school counseling, the results of this intervention support SEL and MBI practices in schools more broadly. The intervention effects witnessed in the current study are congruous with findings reported in recent meta-analyses and reviews of the literature associated with SEL and MBIs as delivered to young children (Burke, 2010; Durlak et al., 2011; Zoogman et al., 2015). Given the sample in the current study and priorities implicit to ASE theory, our findings might have particular relevance for SEL and MBIs directed toward children in historically marginalized communities and any criticism that these approaches might not best serve their interests. SEL and MBI practices within an ASE framework suggest that

> counselors who use SEL and MBI activities do not assuage students, especially those who have experienced personal or social harm. Instead, mindfulness-based nonjudgment, for example, refers to students' experiential discernment and the inclination to suspend pernicious identification or evaluation of these experiences. Stated otherwise, students from disenfranchised communities do not accept inadequate or deleterious social conditions; instead, using social–emotional and mindfulness strategies, they accept their cognitive and affective reactions and respond with clearer intentionality. (Lemberger-Truelove et al., 2018, p. 299)

As such, the most effectual versions of SEL and MBIs require that students, educators, and other relevant community members actuate certain capacities that contribute to mutual development and support.

Study Limitations and Future Research

The current study's limitations include several that are characteristic of interventions in natural classroom environments. First, given that all student participants were nested in individual classrooms, it is conceivable that classroom effects existed that cannot be captured in the study analyses (see Selig et al., 2017). Future studies, to account for nesting within classrooms, would require a greater number of individual classrooms in both the treatment and delayed treatment groups. Second, an intervention of six sessions is a relatively modest dosage and potential exists for treatment diffusion over time. We chose six sessions because of agreements with the partnering school district and to be consistent with practices that are feasible and generalizable with the standard school counselor. Although these design decisions were practical, a more longitudinal design might offer more durable treatment effects for the purposes of scholarship. A longitudinal design also might allow for analyses of student growth over time. Finally, although the school counselor participated in ongoing supervision, the study did not include data collection processes to verify fidelity to the treatment or strict adherence to ASE theory. In future studies, researchers might collect quantitative or qualitative data to further substantiate how the intervention links to student outcomes (see Bowers & Lemberger, 2016).

Conclusion

School counselors are charged with supporting the total school as educators and counselors. Theoretical approaches to school counseling practice such as ASE have the potential to bring together the differing identities and responsibilities of a school counselor as each contributes to the ways these activities lead to desirable student outcomes. What is shared with the students in these interventions certainly can support learning behaviors while extending beyond into myriad aspects of social and emotional development.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by a grant from the Hackett Fund in cooperation with the Dean of the College of Education at the University of North Texas.

References

American School Counselor Association. (2014). *ASCA mindsets & behaviors for student success: K-12 college- and career-readiness standards for every student*. https://schoolcounselor.org/getmedia/7428a787-a452-4abb-afec-d78ec77870cd/Mindsets-Behaviors.pdf

American School Counselor Association. (2019). *The ASCA National Model: A framework for school counseling programs* (4th Ed.). Author.

Birenbaum, M., Alhija, F. N. A., Shilton, H., Kimron, H., Rosanski, R., & Shahor, N. (2019). A Further look at the five-dimensional curiosity construct. *Personality and Individual Differences*, *149*, 57–65. https://doi.org/10.1016/j.paid.2019.05.038

Bowers, H., & Lemberger, M. E. (2016). A person-centered humanistic approach to performing evidence-based school counseling research. *Person-Centered & Experiential Psychotherapies*, *15*(1), 55–66. https://doi.org/10.1080/14779757.2016.1139502

Bowers, H., Lemberger-Truelove, M. E., & Whitford, D. K. (2020). Kindergartners are ready to learn: Applying student-within-environment theory to a school counseling intervention. *The Journal of*

Humanistic Counseling, *59*(1), 3–19. https://doi.org/10.1002/johc.12126

Broderick, P. C. (2013). *Learning to breathe: A mindfulness curriculum for adolescents to cultivate emotion regulation, attention, and performance*. New Harbinger.

Burke, C. A. (2010). Mindfulness-based approaches with children and adolescents: A preliminary review of current research in an emergent field. *Journal of Child and Family Studies*, *19*, 133–144. https://doi.org/10.1007/s10826-009-9282-x

Collaborative for Academic, Social, and Emotional Learning. (2020). *CASEL's SEL framework: What are the core competence areas and where are they promoted?* https://casel.org/wp-content/uploads/2020/10/CASEL-SEL-Framework-10.2020-1.pdf

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, *64*, 135–168. https://doi.org/10.1146/annurev-psych-113011-143750

Dollarhide, C. T., & Lemberger-Truelove, M. E. (Eds.). (2019). *Theories of school counseling for the 21st century*. Oxford.

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*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Emerson, L. M., de Diaz, N. N., Sherwood, A., Waters, A., & Farrell, L. (2020). Mindfulness interventions in schools: Integrity and feasibility of implementation. *International Journal of Behavioral Development*, *44*(1), 62–75. https://doi.org/10.1177/0165025419866906

Engel, S. (2011). Children's need to know: Curiosity in schools. *Harvard Educational Review*, *81*(4), 625–645. https://doi.org/10.17763/haer.81.4.h054131316473115

Falco, L., Bauman, S., Sumnicht, Z., & Engelstad, A. (2011). Content analysis of the professional school counseling journal: The first ten years. *Professional School Counseling*, *14*(4), 271–277. https://doi.org/10.1177/2156759X1101400403

Fye, H. J., Miller, L. G., & Rainey, J. S. (2018). Predicting school counselors' supports and challenges when implementing the ASCA National Model. *Professional School Counseling*, *21*(1), 1–11. https://doi.org/10.1177/2156759X18777671

Gioia, G. A., Isquith, P. K., Guy, S. C., & Kenworthy, L. (2000). *Behavior rating inventory of executive function (BRIEF): Professional manual*. Psychological Assessment Resources.

Griffith, C., Mariani, M., McMahon, H. G., Zyromski, B., & Greenspan, S. (2019). School counseling intervention research: A 10-year content analysis of ASCA- and ACA-affiliated journals. *Professional School Counseling Journal*, *23*(1), 1–12. https://doi.org/10.1177/2156759X19878700

Kashdan, T. B., Stiksma, M. C., Disabato, D. J., McKnight, P. E., Bekier, J., Kaji, J., & Lazarus, R. (2018). The five-dimensional curiosity scale: Capturing the bandwidth of curiosity and identifying four unique subgroups of curious people. *Journal of Research in Personality*, *73*, 130–149. http://doi.org/10.1016/j.jrp.2017.11.011

Lemberger, M. E. (2010). Advocating student-within-environment: A humanistic theory for school counseling. *The Journal of Humanistic Counseling, Education and Development*, *49*(2), 131–146. https://doi.org/10.1002/j.2161-1939.2010.tb00093.x

Lemberger, M. E., Carbonneau, K., Selig, J. P., & Bowers, H. (2018). The role of social-emotional mediators on middle school students' academic growth as fostered by an evidence-based intervention. *Journal of Counseling and Development*, *96*(1), 27–40. https://doi.org/10.1002/jcad.12175

Lemberger, M. E., & Clemens, E. V. (2012). Connectedness and self-regulation as constructs of the student success skills program in inner-city African American elementary school students. *Journal of Counseling & Development*, *90*(4), 450–458. https://doi.org/10.1002/j.1556-6676.2012.00056.x

Lemberger, M. E., & Hutchison, B. (2014). Advocating student-within-environment: A humanistic approach for therapists to animate social justice in the schools. *Journal of Humanistic Psychology*, *54*(1), 28–44. https://doi.org/10.1177/0022167816652750

Lemberger, M. E., Selig, J. P., Bowers, H., & Rogers, J. E. (2015). The influence of the student success skills program on the executive functioning skills, feelings of connectedness, and academic achievement in a predominately Hispanic, low-income middle school district. *Journal of Counseling and Development*, *93*(1), 25–37. https://doi.org/10.1002/j.1556-6676.2015.00178.x

Lemberger-Truelove, M. E., & Bowers, H. (2019). An Advocating student-within-environment approach to school counseling. In C. T. Dollarhide & M. E. Lemberger-Truelove (Eds.), *Theories of school counseling for the 21st century* (pp. 266–294). Oxford.

Lemberger-Truelove, M. E., Carbonneau, K. J., Atencio, D. J., Zieher, A. K., & Palacios, A. F. (2018). Self-regulatory growth effects for young children participating in a combined social and emotional learning and mindfulness-based intervention. *Journal of Counseling and Development*, *96*(3), 289–302. https://doi.org/10.1002/jcad.12203

Lemberger-Truelove, M. E., Ceballos, P. L., Molina, C. E., & Dehner, J. M. (2020). Inclusion of theory for evidence-based school counseling practice and scholarship. *Professional School Counseling*, *23*(1 part 3). https://doi.org/10.1177/2156759X20903576

Levy, I. P., & Lemberger-Truelove, M. E. (2021). Educator-counselor: A non-dual identity for professional school counselors. *Professional School Counseling*, *24*(1b), 1–7. https://doi.org/10.1177/2156759X211007630

Liu, Y., Kim, H., Carney, J. V., Chung, K. S., & Hazler, R. J. (2020). Individual and contextual factors associated with school connectedness in the context of counseling in schools. *Journal of Counseling & Development*, *98*(4), 391–401. https://doi.org/10.1002/jcad.12341

Maloney, J. E., Lawlor, M. S., Schonert-Reichl, K. A., & Whitehead, J. (2016). A mindfulness-based social and emotional learning curriculum for school-aged children: The mind up program. In K. Schonert-Reichl & R. W. Roeser (Eds.), *Handbook of mindfulness in education* (pp. 313–334). Springer.

Palacios, A. F., & Lemberger-Truelove, M. E. (2019). A counselor-delivered mindfulness and social–emotional learning intervention for early childhood educators. *The Journal of Humanistic Counseling*, *58*(3), 184–203. https://doi.org/10.1002/johc.12119

Schutte, N. S., & Malouff, J. M. (2019). A meta-analysis of the relationship between curiosity and creativity. *The Journal of Creative Behavior*. https://doi.org/10.1002/jocb.421

Selig, J. P., Trott, A., & Lemberger, M. E. (2017). Multilevel modeling for research in group work. *Journal for Specialists in Group Work*, *42*(2), 135–151. https://doi.org/10.1080/01933922.2017.1282571

Stearns, C. (2019). *Critiquing social and emotional learning: Psychodynamic and cultural perspectives*. Rowman & Littlefield.

Webb, L., Brigman, G., Carey, J., Villares, E., Wells, C., Sayer, A., Harrington, K., & Chance, E. (2019). Results of a randomized controlled trial of the student success skills program on grade 5 students' academic and behavioral outcomes. *Journal of Counseling and Development*, *97*(4), 398–408. https://doi.org/10.1002/jcad.12288

Whiston, S. C., Tai, W. L., Rahardja, D., & Eder, K. (2011). School counseling outcome: A meta-analytic examination of interventions. *Journal of Counseling & Development*, *89*(1), 37–55. https://doi.org/10.1002/j.1556-6678.2011.tb00059.x

Zoogman, S., Goldberg, S. B., Hoyt, W. T., & Miller, L. (2015). Mindfulness interventions with youth: A meta-analysis. *Mindfulness*, *6*, 290–302. https://doi.org/10.1007/s12671-013-0260-4

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