

**A Review of How Trauma, Self-Efficacy for Self-Regulated Learning, and Academic
Achievement Interact in Middle School**

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Abstract

The impact of trauma on learners disrupts student self-concepts. Self-efficacy for self-regulated learning (SRL) is key to academic achievement, and students who do not have this part of their self-concept struggle with learning. It is worth exploring the relationship between trauma and SRL in adolescent learners who are at a pivotal point of developing their self-efficacy. To explore this, a literature review was conducted with respect to what is currently understood about how trauma and self-efficacy for SRL interact and impact achievement in middle school students. No direct connection between trauma or self-efficacy for SRL was uncovered in existing literature as no prior work explored a direct connection. However, common mediators between these two concepts (e.g., executive functioning, SRL, locus of control, metacognition) and academic outcomes were discussed in the body of literature.

Introduction

Self-Regulated Learning (SRL) is a key facet of learning that provides a strong foundation for academic achievement, as well as student success across the board. From Zimmerman's theory, SRL has three components: forethought, performance, and reflection. In the forethought phase, in which learners may plan out how to approach a learning task or set goals. This is followed by the performance phase, in which learners engage in the learning task and self-monitor their progress as they work. Finally, the learners enter the reflection phase, in which they think about the experience they had learning, whether or not they met their goals, what was difficult, and reassess how they can grow from this process when approaching such tasks going forward (Zimmerman, 1990).

Self-efficacy is another construct that relates to the self-beliefs of individuals. With respect to self-efficacy, learners will take what they learned about their own abilities from the performance and reflection phases of SRL, and apply these within the forethought phase to self-assess how well they think they may perform at a learning tasks and set goals accordingly (Pintrich, 2000; Zimmerman, 2000). It is in this way that self-efficacy, specifically for their SRL strategy use, influences the actual use of SRL strategies. SRL strategy-use positively predicts academic achievement, which subsequently informs student self-efficacy for SRL. It is in this way that self-efficacy for SRL positively predicts academic achievement. Furthermore, elementary age students have a more nebulous self-concept, but by high school and college learners have more solidly constructed self-beliefs, making middle school a critical development point for self-efficacy for SRL and SRL strategy development (Dermitzaki & Efklides, 2000; Pintrich, 2000).

Strongly in contrast, learner history of trauma and Post-Traumatic Stress Disorder (PTSD) symptomatology has been shown to be negatively predictive of academic achievement (Boyratz et al., 2016). Exposure to trauma has been shown to have widespread effects on the individual learner, including changes in neurology, development, social skills, emotional regulation, and more. This includes one's self-concept and related subcomponents. These changes are one with the learner; they are not a separate entity, and are in fact brought into the classroom with the learner since this symptomatology is in essence the adaptation of the learner to their environment (Boyratz & Granda, 2019; Romano et al., 2015). Given that learners have ample experiences in our present world to experience trauma (e.g., social unrest, systemic inequities, the COVID-19 pandemic), understanding how the self-efficacy component of learners' self-concept relates to traumatic experiences could be vital in creating accessible classrooms that foster academic success, even in students who have had these adverse experiences.

Therefore, this literature review aimed to explore the following research question:

1. What is currently known about the relationship between trauma and self-efficacy for SRL and the impact of this relationship on the academic outcomes of middle school students

Literature Review

Procedures

In preparation for this literature review, various databases of academic publications were searched. The utilized databases included Google Scholar, Proquest Education Journals, Sage Journals, and Science Direct. A combination of keywords were used alongside Boolean language were entered in each database to find results. Sets of keywords entered contained the following: a

keyword related to trauma, a keyword related to middle school, a keyword related to self-efficacy for self-regulated learning, and a keyword for academic achievement. Trauma keywords included “trauma,” “PTSD,” “post-traumatic stress disorder,” “posttraumatic stress disorder,” “post traumatic stress disorder,” “mental health,” “trauma-informed education,” “trauma informed education,” “trauma-informed classroom,” and “trauma informed classroom.” Middle school keywords included “middle school,” “junior high school,” “junior high,” “secondary school,” “7th and 8th grade,” “seventh and eighth grade,” “7th grade,” “seventh grade,” “8th grade,” “eighth grade,” “adolescence,” and “early adolescence.” Self-efficacy for self-regulated learning keywords included “self-efficacy for self-regulated learning,” “self-efficacy beliefs for self-regulated learning,” “self-efficacy for SRL,” “self-efficacy belief for SRL,” and “self-regulated learning beliefs.” Finally, keywords used related to academic achievement included “academic achievement,” and “academic success.”

For a paper to be included in this literature review, a paper needed to explicitly relate to at least three of the four included concepts, as well as be an empirical, original, peer reviewed study. Papers were excluded if they were not empirical, including literature reviews or editorial commentaries. Meta-analyses were included in this literature review, but only one emerged from the searches performed. Excluded studies that met the criteria for keyword relevancy had their references examined for relevant works.

The Impact of Self-Efficacy For SRL on Academic Achievement

Self-efficacy for SRL is vital for SRL strategy use and achievement, and has been examined most commonly in college students. For instance, Ismail and Sharma (2012), as well as Kitsantas and Zimmerman (2009) found this predictive relationship between self-efficacy for SRL and achievement emerge in their samples of university students. In 2011, Zimmerman et al.

explored if a self-efficacy for SRL intervention could increase mathematics achievement. Participants who engaged in the intervention completed math achievement exams, a self-efficacy questionnaire (Bandura & Schunk, 1981), and completed a mathematics self-evaluation. This information allowed the authors to calculate student self-efficacy, as well as the bias present in their self-evaluations. Results showed that participants enrolled in the intervention did experience increased academic achievement. Furthermore, the intervention supported students being able to recalibrate their self-perceptions to be more accurate. Finally, the authors concluded from the results that student self-efficacy for SRL did positively predict academic achievement (Zimmerman et al., 2011).

Other research has shown that there is a positive feedback loop with respect to these ideas as well. For instance, one study saw that the more SRL strategies English Language Learners (ELL) utilized, the more their self-efficacy for SRL increased (Kim et al., 2015). Despite this seemingly consistent relationship, however, there are exceptions. For instance, one study found that there were no differences in levels of self-efficacy for SRL across achievement (DiFrancesca et al., 2016). Furthermore, some research has shown that age and self-efficacy for SRL have a negatively correlated relationship (Pajares & Valiante, 2002). By the time learners reach high school, however, a causal relationship between self-efficacy for SRL and achievement seems to emerge (Zimmerman & Martinez-Pons, 1990).

The Impact of Self-Efficacy for SRL on Academic Achievement in Middle School

In the realm of middle school specifically, self-efficacy for SRL has been shown to positively correlate with achievement (Britner & Pajares, 2006; Zuffiano et al., 2013), just as with other populations. Usher and Pajares in 2006 went further to explore the sources of this self-efficacy for SRL in middle school students. They found four major sources: mastery experiences,

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vicarious experience, social persuasion, and physiological state were all predictive of self-efficacy for SRL in all middle school student surveyed, with some variation based on race, gender, and achievement (Usher & Pajares, 2006).

One notable study relating to self-efficacy for SRL was performed by Dermitzaki and Efklides in 2000. The authors explored in what ways self-concept might be broken down into subconstructs, including self-efficacy. Furthermore, they wondered if self-perceptions could influence other parts of self-concept. Ultimately, they also wanted to know if the components of self-concept could either influence or were influenced by academic achievement. The authors had their participants complete an instrument on academic self-concept in language; the Kit of Factor-Referenced Cognitive Tests (Ekstrom et al., 1976); as well as perform language tasks as they might see in their classrooms. The authors found that, in their middle school student participants, that self-efficacy was a component of the students' self-concepts, and positively correlated academic achievement (Dermitzaki & Efklides, 2000). This paper further established how self-efficacy, SRL, and achievement are related in academic settings.

The Impact of Trauma on Academic Achievement

There is a sizable body of literature exploring the relationship between trauma and academic achievement. Six studies were selected for inclusion in this section introducing the idea. Here, studies have explored the concept in university students. Güler Boyraz and multiple sets of coauthors, for instance, have multiple publications addressing the outcomes of students who report PTSD symptomatology in their first semester of university. This author began this vein of research in 2013 with a paper asking if PTSD in a student's first college semester correlates negatively with first year GPA, as well if first year GPA mediates the relationship between PTSD symptomatology and second year university enrollment. To do this, they

collected demographic information, as well as had participants complete the Stressful Life Events Screening Questionnaire (SLESQ; Goodman et al., 1998); The Persistence/Voluntary Dropout Decisions Scale (P/VDD; Pascarella & Terenzini, 1980); and The PTSD Checklist–Civilian Version (PCL–C; Weathers et al., 1993). They did indeed discover that PTSD symptomatology in first semester college students correlates negatively with first year GPA, and that GPA did mediate the relationship between PTSD and second year enrollment in female students, but not male (Boyraz et al., 2013).

Boyraz et al. built upon these findings by first replicating these results and exploring if first year GPA is positively correlated with second year enrollment. They further built upon their work by asking if effort regulation in a student's first semester positively correlated with first year GPA and second year enrollment, as well as if effort regulation and first year GPA mediate the relationship between PTSD and second year enrollment. Some of the same instruments were used, including the revised SLESQ (R-SLESQ; Goodman et al., 1998; Green et al., 2006), the PLC-C, GPA, and enrollment records. In addition, to measure effort regulation, the Effort Regulation scale of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1991) was included. The researchers indeed replicated their findings, and were able to add effort regulation to the list of mediating factors, alongside first year GPA, on the negatively correlated relationship between PTSD symptomatology and second year enrollment (Boyraz et al., 2016).

In 2019, Boyraz & Granda again built off this research thread by asking if PTSD symptomatology experienced during a student's first college semester directly predicted subsequent university graduation. In addition, they explored if enrollment was predicted, or if trauma type predicted enrollment or graduation in students. Consistency is observed in instruments used, as they implemented the SLESQ-R, the PCL-C, GPA, and enrollment records.

None of their results were significant aside from GPA being predictive of graduation, differing from the outcome expected based on their prior work (Boyraz & Granda, 2019).

Boyraz and colleagues published an additional study in 2019 where they asked if PTSD predicted academic achievement in students, and they also sought to build on their work by examining if avoidance coping and academic locus of control were mediators in the hypothesized relationship between PTSD and academic achievement. A slightly different set of instruments were used aside from college GPA, including the Life Events Checklist for DSM-5 (LEC-5; Weathers, Blake, et al., 2013); the PTSD Checklist for DSM-5 (PCL-5; Weathers, Litz, et al., 2013); the Academic Coping Strategies Scale (ACSS; Sullivan, 2010); and the Academic Locus of Control Scale (ALCS; Trice, 1985). In line with their prior work, they found evidence that PTSD symptomatology does predict academic achievement, and avoidance coping and external locus of control were mediators (Boyraz et al., 2019).

Overall, Boyraz and colleagues focused their work specifically on student experiences and outcomes with the university environment. Other researchers expand this lens slightly to look at how childhood experiences impact college outcomes. For instance, in 2017, Welsh and colleagues explored what parts of executive functioning mediate the relationship between childhood maltreatment and academic achievement in university. To answer this question, they used several instruments and cognitive psychology tasks, including The Childhood Trauma Checklist (CTQ; Bernstein et al., 2003); the Go-No-Go task (Hare et al., 2008); the Iowa Gambling Task (Chan et al., 2008); the Student Adaptation to College Questionnaire (SACQ; Baker and Siryk, 1999); and student university GPA. These authors found that higher reported levels of childhood trauma predicted lower GPA and reduced adaptation to college, replaced by risky task responses during the Iowa Gambling Task. In addition, they found childhood

maltreatment and academic outcomes were slightly but significantly mediated by executive functioning; furthermore, higher reported emotional neglect correlated with faster reaction times to presented neutral faces during the Go-No-Go tasks, and in turn lower levels of positive adaptation to college (Welsh et al., 2017).

Recently, in 2020, Ferrara and Panlilio also examined how childhood experiences impact academics in college by exploring if trauma symptoms from adverse childhood events negatively predict reading comprehension. Furthermore, they aimed to see if metacognition mediates the relationship between childhood experiences, trauma, and reading comprehension. They operationalized this by using the Metacognitive Awareness Inventory (MAI; Schraw & Dennison, 1994); the Metacognitions Questionnaire (MCQ-30; Wells & Cartwright-Hatton, 2004); the Adverse Childhood Experiences (ACEs) Study Questionnaire (Felitti et al., 1998); and the Trauma Symptom Checklist-40 (TSC-40; Briere & Runtz, 1989); as well as a reading comprehension task devised specifically for this study. They found adverse childhood experiences did not correlate with or predict reading achievement; however, trauma symptomatology did negatively predict reading achievement, and this was mediated by maladaptive metacognition (Ferrara & Panlilio, 2020). These results are a notable contribution as they may show that, if a student is resilient, these adverse experiences may not impact their academic experience, but if trauma emerges school may be more difficult.

The Impact of Trauma on Academic Achievement in Middle School

Slightly less work has explored trauma and academic achievement specifically in the middle school population. Much work focuses on the adverse experiences that may result in trauma symptomatology. As a result of this narrow vein of work, five studies are included in this section. Furthermore, two of the included works are roughly 30 years old due to how this niche is

addressed in research. The oldest included paper was published in 1990 by Wodarski et al and asked if maltreatment correlated negatively with academic achievement. To examine this, they asked participants to respond to the Child Well-Being Scales (Magura & Moses, 1986); the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1980); the Child Assessment Schedule (Hodges, 1987); the Jesness Inventory (Jesness, 1983); the Piers-Harris Children's Self-Concept Scale (Piers, 1986); the Scales of Independent Behavior (Bruininks et al., 1984); and student academic records. After responding to this extensive battery of instruments, the adolescents examined showed that maltreatment did indeed correlate negatively with academic achievement, but this impact was reduced with age (Wodarski et al., 1990).

In 2005, Crozier and Barth added to this literature by comparing maltreated and non-maltreated children's performance on cognitive and academic standardized tests. They performed this comparison to examine the relationships between performance on these assessments with different kinds of maltreatment experienced, as well as to explore if maltreatment was predictive of low levels of achievement. To do this, the authors had participants in the National Survey of Child and Adolescent Well-Being (NSCAW) complete a battery of assessments, including the Kaufman Brief Intelligence Test (K-BIT) (Kaufman & Kaufman, 1990); the Woodcock-McGrew-Werder Mini-Battery of Achievement (Woodcock et al., 1994); the Child Behavior Checklist (CBCL; Achenbach, 1991); and the Maltreatment Classification System (Barnett et al., 1993). In the end, the authors found that maltreated children were more likely to score lower on cognitive and academic standardized tests. Beyond this, no effect or differences were observed in achievement based on type of maltreatment experienced (Crozier & Barth, 2005).

Research in this vein has increased in recent years. In 2018, for instance, McGuire and Jackson explored if maltreatment severity negatively correlates with math and reading achievement. They additionally asked if neglect negatively correlates with math and reading achievement. To do this, the authors recruited participants and obtained their maltreatment history, as well as math and English grades. Participants responded to a self-report questionnaire about maltreatment (English et al., 2005), the Kaufman Brief Intelligence Test, Second Edition (KBIT-2; Kaufman & Kaufman, 2004), and their teachers responded to the Behavior Assessment System for Children, second Edition (BASC-2-TRF; Reynolds & Kamphaus, 2004). Overall, the authors found that the severity of emotional abuse was positively correlated with academic achievement; they posit this may be due to being sensitive to their teacher's emotions may help student responsiveness and engagement in the classroom. Furthermore, general maltreatment was negatively correlated with math achievement (McGuire & Jackson, 2018a).

These same authors performed a second study, also in 2018. Here, they inquired about the average difference in academic achievement between maltreated and non-maltreated children. This study was a meta-analysis, where the effect sizes of prior studies were integrated to draw conclusions about this research question. Their general finding corresponded with the findings of their previous study: children with a history of maltreatment are observed to have lower levels of academic achievement than their non-maltreated counterparts (McGuire & Jackson, 2018b). **The Relationship between Trauma and Self-Efficacy for SRL**

Very little research has been performed linking trauma and self-efficacy for SRL. Ben-Eliyahu and Linnebrink-Garcia are some of the few researchers examining this niche, and even so it is generally only adjacent to the topic at hand. For instance, in 2013 they examined how emotion and emotion regulation differ between preferred and non-preferred academic classes, as

well as how the method of emotion regulation predicts the emotions an individual feels. Emotions were assessed using an instrument developed by one of the authors, and types of emotion regulation (e.g., reappraisal, suppression, rumination) were adapted from instruments by Gross and John (2003) and Nolen-Hoeksema et al. (1993). They found that students used more reappraisal in their favorite classes, but more emotional regulation overall in their least favorite classes. Also of note was that suppression was used across all classes (Ben-Eliyahu & Linnenbrink-Garcia, 2013).

The Relationship between Trauma and Self-Efficacy for SRL in Middle School

The relationship between trauma and self-efficacy for SRL is even less researched in the middle school population. Rowe and Eckenrode ventured to explore these ideas by asking if student self-perceptions and motivation mediate the relationship between adverse home experiences and cognitive functioning. The authors extracted social service records for adolescents, and obtained their academic records. This included language and math grades, when grades were repeated, when those repetitions and grades occurred, as well as the duration of time between these events. The study found that middle school students who had experienced maltreatment were more likely to both repeat grades, as well as experienced lower levels of academic achievement when compared to non-maltreated students (Rowe & Eckenrode, 1999).

The Relationship between Trauma and Self-Efficacy for SRL and the Impact on Academic Achievement

The primary goal of this literature review is to explore the relationship between trauma and self-efficacy for SRL, as well as how this relationship may impact academic achievement in middle school students. As with some of the prior subcomponents of this, practically no research has been done on this specific intersection of topics. One somewhat relevant paper from 1990

was uncovered through this literature review. In this study, Vondra et al. explored if there were differences between self-perceptions of competence and acceptance between maltreated and non-maltreated preschool-aged children. Furthermore, they also investigated what relationships exist between self-perception, motivation, home environment, and perceived competence.

This was measured using several instruments, including the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Hatter & Pike, 1984); the Teacher's Rating Scale of Child's Actual Competence (Harter & Pike, 1984); the Stanford-Binet Intelligence Scale, fourth edition (Thorndike et al., 1986); the Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 1981); and the Family Environment Scale (FES; Moos & Moos, 1981). In addition, an observation was completed using the Home Observation for Measurement of the Environment (HOME) Inventory (Caldwell & Bradley, 1984). Participants also participated in a preference for challenge task where their preference for challenge, persistence, and accuracy were measured.

The authors found that maltreated children had reduced cognitive and physical competence by between ages three to five, as well as had exaggerated physical competence, perceptions of peer acceptance, and perceptions of maternal acceptance. In addition, the home environment was found to be associated with cognitive deficits in maltreated children. No differences in motivation were observed, and it was seen that perceptions and motivation do not mediate between home environment and cognitive functioning (Vondra et al., 1990).

Conclusion

Limitations

There were a number of limitations connected with this literature review. First, the terminology used when searching for papers to include may not have been as effective as one would have hoped. For instance, there were a large variety of terms related to each of the four ideas used as keywords. This large variety of terms could make it difficult to both include and filter out papers to end up with the most relevant works. Furthermore, ideas such as trauma and PTSD are not typically discussed often in the educational literature; even beyond this, educational literature seems to avoid terms such as “mental health.” This principle makes it more difficult to find research that addresses all concepts relevant to this literature review as each field has its own specific terminology, and those terms may not transcend areas of research.

Of the papers uncovered for this literature review, there seems to be limited research on self-efficacy for SRL in middle school populations, as well as how trauma relates to academic outcomes in this population. The majority of the research that has been done has occurred in college students. Even so, little to no research in college students approaches looking at the intersection of self-efficacy for SRL and trauma. This void of research is a weakness in the sense that little is known generally about how these two constructs might relate, and more questions emerge than answers. However, this emergence of more questions and this discovery of a gap in the research is indicative of a niche to be explored.

For this niche to be explored, however, researchers must have a starting place with respect to what instruments should be used to examine this idea. Therefore, it is worth noting very little consistency across all studies examined with respect to the instruments used. Measures of trauma were the most consistent overall, but even so some of those instruments required a clinical psychologist practitioner to be one of the researchers to ensure the instrument

was properly administered. While this is advantageous in that the assessment of trauma is more accurate, this may not be accessible for all researchers in terms of assembling their research team. Furthermore, measures of academic outcomes tended to center on student GPA or other standardized tests. Assessments such as these are notoriously not always accurate, and may even include racial or gender biases. In this sense, the measures of achievement used in the literature may not be the most equitable or provide the most accurate data. Given that marginalized populations will likely experience more trauma than others given systemic inequities, it is that much more important for research going forward to be mindful of how achievement and academic outcomes are measured.

Finally, only one theory of SRL was examined in this literature review. Zimmerman's theory of SRL (1990) was used for this study as it seemed to be most often cited by the relevant literature. Despite it being most frequently used, however, there are other theories of SRL in the literature. It may be that these other theories have stronger connections with the ideas of mental health and trauma. However, none of these other theories turned up when examining trauma-related literature. It would be worth examining this in more detail going forward, but is seemingly only a minor limitation compared to other emergent issues with the literature.

Implications

Based upon the findings of the studies examined in this literature review, there is much overlap between the constructs that serve as mediators between trauma and self-efficacy for SRL respectively, and various kinds of academic outcomes. Most notably, self-efficacy for SRL and trauma both seemed to have their impacts on academic outcomes mediated by executive functioning, metacognition, self-regulation skills, and locus of control. However, despite these

overlaps, no studies explicitly drew connections between trauma and self-efficacy for SRL when examining their impacts on academic outcomes.

Despite the lack of explicit connection, because prior research has shown how trauma relates to both self-concept and SRL with respect to academic outcomes, it is worthwhile for practitioners to know that there is overlap between what these two ideas affect in learners, as well as how this may indicate these learners can be best supported in their classrooms. For instance, multiple studies showed how, in middle school learners, interventions that target SRL skill development enhances the use of these skills, and in turn increases self-efficacy for SRL. Other studies show that self-regulation skills around other components of experiences (e.g., emotion regulation) support classroom functioning and improve outcomes of students with past adverse experiences. In this way, educators may want to shift the focus in their classrooms from a complete focus on content knowledge to instead develop self-regulation skills in their students; this could include social-emotional regulation skills or SRL skills. Regardless, and based upon the major ideas that emerged from this literature review, explicit instruction on these skills and the opportunity to practice them in academic contexts may foster the success of learners who have backgrounds of adverse experiences.

Future Research

Going forward, researchers should be cognizant of the lack of examination of how trauma and self-efficacy for SRL relate in middle school students. This literature review has established that there are clear connections to show how self-efficacy for SRL and trauma separately impact academic outcomes, as well as overlap in what mediates those relationships. Given how trauma can so harshly impact learners, and that self-efficacy for SRL can have such a positive predictive relationship with academic achievement, furthering these bodies of literature to improve student

outcomes is beneficial. Furthermore, since trauma can impact self-concept, and self-efficacy is a subcomponent of a learner's self-concept, an explicit exploration of the relationship between these two ideas would be highly advantageous for both researchers and the affected population of learners. Given the important point of human development learners experience during middle school, this makes this research even more vital.

Despite this, the connection established by this literature review is still tenuous. There is no research explicitly connecting the ideas of trauma and self-efficacy for SRL. Furthermore, each study that seems to come close uses different measures for each of these constructs. Despite how there seems to be a possible relationship between these two constructs, and despite that it seems logical for this relationship to exist, there is little to no evidence or a consistent way to measure this. In this way, initiating this vein of research by utilizing a qualitative methodology may provide researchers with the means to better explore the experiences of middle school students with both trauma and self-efficacy for SRL. Depending on the ideas that emerge from such a qualitative study, researchers would subsequently be enabled to continue further down this potentially important vein of work should a connection be shown.

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