Self-talk in middle childhood: A mechanism for motivational resilience during learning

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Abstract

All individuals possess an inner voice that helps them to navigate life and its challenges. However, little is known about how children use self-talk to maintain their momentary engagement during academic tasks. Using qualitative methods, this study investigated how 19 children (aged 8–12 years) from one primary school prospectively used self-talk to maintain their motivation. Vignettes were used to prompt children’s reports on what they would say to themselves to stay motivated during challenges they might typically encounter in the classroom. These included becoming frustrated or tired, and having to choose between work and play. The data were deductively coded into 11 coping families typically measured in academic settings within the framework of motivational resilience. The data were then inductively coded within the best represented coping families to uncover subthemes of coping. The results extend the motivational resilience literature and illustrate the multidimensional nature of coping with challenges in classrooms.

Keywords

coping, middle childhood, momentary engagement, motivation, motivational resilience, self-talk

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Motivation and engagement fuel learning and development (Reschly & Christenson, 2012). In formal educational contexts, some students persist in learning despite encountering difficulties, and others avoiding challenging tasks and give up in the face of setbacks (Symonds et al., 2020). This process is referred to as motivational resilience (Skinner et al., 2014), and comprises the patterns of engagement that allow students to constructively cope with, overcome, recover, and learn from encounters with academic obstacles, challenges, and failures (Skinner et al., 2016).

An important outcome of motivational resilience is engagement. Engagement in academic tasks involves affect and emotional responses, concentration, effort, reflection, and perseverance (Skinner et al., 2013). It can be viewed as the manifestation of motivation, in its form as energized, directed, and sustained action (Finn & Zimmer, 2012). At its core, engagement involves making a concerted effort toward achieving a goal. As a construct, engagement is multidimensional in nature with distinct behavioral, emotional, and cognitive components (Fredricks et al., 2004), which are shaped by interactions between an individual and their environment in momentary time (Symonds et al., 2019). Ongoing engagement provides energy and momentum to sustain and guide students when they encounter academic difficulties (Cleary & Zimmerman, 2012). Accordingly, engagement is a resource for adaptive coping and self-regulation (Cleary & Zimmerman, 2012). It is conceptualized within the model of motivational resilience as the outcomes of re-engagement or disengagement, after encounters with setbacks (Skinner & Pitzer, 2012).

The factors that allow students to develop their capacity to engage and build their motivational resilience merit further investigation (Martin & Marsh, 2009). In recent years, researchers have become particularly interested in identifying the factors that promote or hinder children’s ability to cope constructively in the face of academic challenges (Dweck, 2006). One such factor, mentioned only occasionally in the engagement literature, is children’s self-talk; otherwise known as inner speech. Self-talk or inner speech has been defined as statements that are addressed, either overtly or covertly, to oneself and not to others (Berk, 1986). It has been widely recognized as an important tool used by children to self-regulate their thinking and behavior (Winsler & Naglieri, 2003), and for stimulating and retaining motivation (Vygotsky, 1986). However, although self-talk is central to self-regulation and motivation, few studies have investigated how children use self-talk as a mechanism for motivational resilience during academic tasks. Particularly during middle childhood, at a point when self-talk is largely internalized, understanding the role played by children’s inner speech during academic tasks is crucial. It is a unique window into the child’s intrapersonal world, coping capability, and motivational resilience. Accordingly, the current study aimed to examine how children prospectively used self-talk to motivate themselves to overcome setbacks in the context of standard academic classroom tasks.

1.1 | Motivational resilience

In classroom contexts, motivational resilience contributes to students’ long-term development and educational success (Skinner et al., 2013). Motivational resilience is a broad construct encompassing mastery versus helplessness, engagement, coping, self-regulated learning, emotion regulation, persistence, and perseverance. These processes work together to give rise to different ways of responding to problems and difficulties. Studies span a variety of contexts and age ranges. However, researchers who investigate this range of social, developmental, and educational processes share a common focus. They posit that if students are to reach their personal and educational potential, they must learn how to deal constructively with the challenges they encounter with their daily classroom academic tasks. Everyday coping and resilience foster individual confidence, self-regulatory skills and overall positive functioning, development, and growth (Martin, 2013; Martin & Marsh, 2009). Therefore, when
using coping skills to be resilient to academic demands, children can also potentially develop adaptive coping strategies to deal with everyday stressors and support their overall wellbeing (Leung & He, 2010).

1.2 | Academic coping

Coping is the psychological regulatory action that individuals use when facing challenges or threats (Skinner & Zimmer-Gembeck, 2007). This regulatory action is essential to individuals’ healthy adaptation (Eisenberg et al., 2009). In the academic context, coping refers to the actions of students that help them manage the challenges they encounter in the classroom. These actions shape whether students can recover successfully from the difficult experience and emerge ready and willing to learn.

Within the motivational resilience literature, 11 “families” of coping strategies are prioritized in academic settings: including 5 adaptive families (strategizing, help-seeking, comfort-seeking, self-encouragement, and commitment) and 6 maladaptive families (escape, confusion, concealment, self-pity, rumination, and projection; Skinner & Wellborn, 1997; Skinner et al., 2013). These categories organize and articulate typical coping responses used by students in the face of stress. Few studies have directly examined the connections between academic engagement and coping, self-regulatory strategies, and persistence, but those that have, found expected relations (Martin & Marsh, 2009; Reschly et al., 2008). Research suggests by engaging in classroom processes, children can be supported in building a repertoire of self-regulatory and coping strategies to support their resilience in the face of everyday challenges (Pitzer & Skinner, 2013; Wang & Holcombe, 2010).

1.3 | Self-talk

Self-talk is the use of language as a tool for thought and constitutes an important part of cognitive development (Vygotsky, 1986). According to Vygotsky (1986), self-talk originates in a child’s social world and overt self-talk serves as a bridge between social/external speech and covert self-talk in a young child. Self-talk can be used to guide cognitive functioning, and in its most sophisticated form, is the basis for motivation (Vygotsky, 1987).

Across childhood, an individual’s ability to engage in self-talk improves, and self-talk becomes increasingly internalized (Winsler & Naglieri, 2003). This internalization progresses over the ages of 5–9, with overt self-talk disappearing somewhere between the ages of 7 and 10, to become thought (Kohlberg, 1968). By 7 years old, it is suggested that children have more awareness of the content of their thought processes including an understanding that thoughts can influence felt emotions and mental states (Flavell et al., 2001). At this point of middle childhood, children’s coping strategies also become more differentiated and sophisticated. More complex methods of achieving goals and problem-solving emerge with the development of more complex language and metacognitive capacities (Compas et al., 2001).

1.4 | The role of self-talk in motivational resilience

Previous studies have shown that children’s self-talk serves a self-regulatory function in specific problem-solving tasks and is positively and dynamically related to gains in children’s performance over time (Corkum et al., 2008). Children who engage in a higher proportion of metacognitive self-talk are also more likely to strive to complete challenging tasks without the direct assistance of an adult. This might be because self-talk can enhance persistence toward academic goal completion in demotivating situations (Bembenutty & Zimmerman, 2003), as a form of self-regulation of motivation (e.g., Järvelä et al., 2012).
Research does not typically investigate children’s self-talk once self-talk has typically become internalized after the age of seven (Girbau, 2002). This may be due to the challenge of investigating internalized speech among children. Furthermore, most studies on children’s self-talk have relied solely on adult observations and interpretations, rather than seeking out children’s perspectives. As a result, the role played by self-talk for helping children cope with academic tasks in middle childhood remains unclear. There is an increasing obligation for educators to support children’s use of self-talk strategies to regulate their learning and task performance (Winsler et al., 2007). However, educators need to understand the content, context, and dynamics of children’s self-talk in endeavoring to support their use of self-talk in managing cognitive, motivational, and socioemotional challenges (Lee, 2011). By better understanding how to bolster students’ adaptive coping skills, educators can design curricula, utilize pedagogical approaches, and create classroom contexts that are conducive to students’ coping, motivation, and resilience.

1.5 | The current study

In the current study, we (the researchers) aimed to capture children’s prospective use of self-talk for maintaining their motivation during challenging academic circumstances. The qualitative investigation was structured using the framework of motivational resilience and coping (Skinner et al., 2013), which served as a basis for the thematic analysis. The study was both confirmatory and exploratory: we aimed to ascertain (a) how children’s projected uses of self-talk in the classroom fit with the coping families proposed in Skinner et al.’s (2013) framework of motivational resilience, and (b) what was the depth and breadth of self-talk strategies used to maintain children’s momentary engagement. Because private speech is social in origin (Vygotsky, 1986), studying self-talk in the social context of the classroom was of vital importance. We focused on the developmental period of middle childhood, to extend the literature on self-talk which typically studies children under the age of 7 years, and to facilitate children’s voices in the project given that this age group of children are generally better able to articulate their views of self-talk than younger children.

2 | METHODS

2.1 | Participants

Children between the ages of 9 and 12 years of age were recruited from one primary school in a small town in Ireland that had approximately 700 primary school pupils enrolled. After informed consent was obtained from the school principal, teachers of the fourth, fifth, and sixth class groups (equivalent to Grades 4, 5, and 6) were invited to send out information and consent forms to the parents of children in their classes. The researchers then worked with the teachers to identify a smaller sample of children who were stratified according to gender (male or female), age group (fourth, fifth, or sixth class), and achievement (lower achievement, average achievement, or higher achievement) based on the children’s most recent national standardized achievement test results. The combination of these eight categories created 18 strata of potential participants. All children with a signed consent form within the categories were identified as potential participants and were listed within the strata in alphabetical order. Teachers selected the first child on the list, after excluding children who might experience difficulty participating in the interviews about self-talk (those with diagnosed special educational needs and/or language difficulties). A total of 19 children participated and gave informed assent. The stratified sample is displayed in the table below. All children were White and from middle-class backgrounds. Pseudonyms are used in this article to protect the children’s identities (Table 1).
The study methods were approved by the ethics committee of the authors’ research institution. First, the children participated in a methodological introduction session with the other 6–7 participating children from their class, designed to help children develop an understanding of the concept of self-talk. During the session, the researcher defined self-talk as what we say to ourselves, in our heads or out loud. The researcher began the session by showing the children a short video about how thoughts (self-talk) are like bubbles that arise and pop in our minds. This was followed by a discussion on the meaning of self-talk. Next, participants were shown four different pictures of children with an empty thought bubble above their heads, doing different activities including playing football, singing on stage, and reading. Participants were asked to think of things the children in the pictures might be saying to themselves. Once the discussion had finished, participants were escorted back to their normal lesson and then were brought out one by one to do their interview.

The children were interviewed individually by the researcher for approximately 7–10 min each, in a quiet room on the school premises. The semi-structured interview schedule consisted of 23 questions. The first few questions aimed to uncover children’s understanding of self-talk in the classroom. Next, children responded to vignettes, each designed to elicit children’s anticipated self-talk during specific classroom situations that would challenge their momentary engagement in learning (Symonds et al., 2019).

The vignettes aimed to elicit classroom-based situations that would be familiar to the children, where the children might struggle to maintain their momentary engagement. Momentary engagement is conceptualized as the dynamic flow of an integrated and reciprocal system of shifting emotion, motivation, mental action, and physical action (Symonds et al., 2019). Within momentary engagement, emotion constitutes affect, mood, and emotional responses that arise from moment to moment: for example, anticipation, embarrassment, excitement, and nervousness (Pekrun & Linnenbrink-Garcia, 2012). Motivation involves initiation and momentum; energy, purpose, and durability (Skinner et al., 2009) that keeps the person focused on the task. Physical action comprises goal-directed behavior (e.g., motor skills and organismic processes like attention) that enables the task to proceed, and affects the individual’s alertness, concentration, and mood (Sohlberg & Mateer, 2001). Mental action within momentary engagement involves a wide set of goal-directed mental processes such as planning, memory retrieval, concentration, cognition, and reasoning (Symonds et al., 2019). In the study vignettes, the children had to harness their self-talk to sustain their engagement in the face of challenges to these four elements of engagement. The vignettes were designed by the researchers who are both qualified teachers experienced in primary school teaching (Table 2).

2.3 | Analysis plan

The children’s interview responses were analyzed using thematic analysis following Braun and Clarke (2006). Data were coded using NVivo 12 Plus Software (Bazeley & Jackson, 2013). Thematic analysis is a method for identifying,
analyzing, organizing, describing, and reporting themes found within a data set (Braun & Clarke, 2006) to provide a
detailed and complex account (King, 2004). Analysis began by reading each of the 19 interviews and to familiarize
the researcher with children’s descriptions of self-talk and its functions. Next, the transcripts were coded de-
ductively into Skinner et al.’s (2013) coping families which capture adaptive and maladaptive coping in the academic
domain during childhood. Data on self-talk were coded into the deductive themes of self-encouragement, strate-
gizing, help-seeking, commitment, and comfort-seeking, rumination, mental escape, and confusion. In the three
themes which had the largest number of coded references, the references were inductively coded into subthemes
to identify more refined methods of coping.
To ensure analytical rigor, we used verification strategies to help identify when to continue and when to modify our research process (Morse et al., 2002). One strategy we used was investigator responsiveness, which is remaining openminded throughout the analysis and letting go of ideas that are not reflected in the data (Morse et al., 2002). For example, we let go of our original notion that “reassurance of knowledge” and “reassurance of ability” were substantively different experiences, and instead, merged the two codes. Another strategy was methodological coherence, which means we iteratively discussed our questions, method, and data to ensure they were aligned with the thematic analysis approach (Morse et al., 2002). Finally, we consistently checked and rechecked our ideas with each other to confirm and reconfirm the coding and thematic development. Memos taken during data collection and analysis also provided a means of increasing the rigor of the coding process and aided the development of explanatory themes and results (Riessman, 2008).

All initial coding was done by the first author, working in conceptual partnership with the second author. We then checked the reliability of the codes using an inter-rater coding procedure. The second author was provided with a random sample of blinded references (N = 72, 25%) which had their assigned code names removed. The second author then assigned each reference to one of the seven deductive themes, with no knowledge of where they had been assigned previously. The number of references coded into the same themes by each author was taken as the measure of inter-rater coder reliability. The agreement between the first and second authors was 81%.

3 | RESULTS

3.1 | Fit between projected self-talk strategies and the coping families framework

To answer research question one, we analyzed the number of references coded into Skinner et al.’s (2013) 11 families of coping framework (Table 3). All the children’s self-talk examples (a total of 291 references) fit conceptually within the 11 families of coping and were coded into the framework. All adaptive coping families (strategizing, help-seeking, comfort-seeking, self-encouragement, and commitment) were represented within the set of statements. In comparison, fewer of the maladaptive coping families (confusion, escape, concealment, self-pity, rumination, and projection) were represented, with only confusion, escape, and rumination strategies described.

3.2 | Breadth and depth of projected self-talk strategies

Once the data on the children’s self-talk were coded deductively into the coping themes shown in Table 3, the references within the three themes which had the largest number of coded references were then inductively coded into subthemes to identify more refined methods of coping and to further detail the motivational resilience model as it manifested in the self-talk of participants. Examples of the coded data within subthemes and themes are illustrated in Table 4 to follow.

Below we give a summary of the types of statements coded into each theme and subtheme. The subthemes were generated for the three largest categories of coping: self-encouragement, strategizing, and commitment. The remaining themes had too few references to warrant coding into internal subthemes.

3.2.1 | Self-encouragement

Within the theme of self-encouragement (154 references), seven subthemes of motivational self-talk were identified.
3.3 | Effort and persistence

This subtheme encapsulates participants’ effort and persistence during academic tasks. For example, children encouraged themselves to stay on task saying “Just keep on going. Don’t stop because then it won’t get done.” Children also reported trying to stay focused when faced with distraction or frustration: “you need to focus when you are in the classroom” and “I just need to focus more than I am.” One child described how he would override his feelings to maintain his concentration, by saying “even though you don’t like it let’s just get through it.” Overall, within this subtheme, children projected using self-talk to encourage themselves to keep going, keep focused, and try their best.

3.4 | Failure and mistakes are okay

In this subtheme, children’s projected self-talk concerned with encouraging themselves by positively evaluating their experiences of failure and mistakes. Many children felt it was okay to make mistakes: “even if you make a mistake it is nothing to worry about.” Children also told themselves there will be chances to do better: “even if I do get them wrong, I will try harder next week to get them done” and that sometimes you can learn from mistakes: “It is just a maths sum, if you get it wrong you will maybe get it right the next time.” The importance of trying, regardless of the result, was also highlighted: “even if you get a bad result you still tried to do the spelling test.”

| Coping theme            | References, N | References, % | Definition from Skinner et al. (2013)                                      |
|-------------------------|---------------|---------------|--------------------------------------------------------------------------|
| Adaptive coping         |               |               |                                                                          |
| Self-encouragement      | 154           | 52.9          | Attempts to regulate one's flagging emotions by bolstering confidence and optimism. |
| Strategizing            | 77            | 26.5          | Attempts to figure out what to do to solve problems or prevent them in future encounters. |
| Commitment              | 36            | 12.4          | Attempts to remind oneself why challenging academic work is personally important and worth the effort. |
| Help-seeking            | 13            | 4.5           | Going to teachers or other adults for instrumental aid in understanding material or in figuring out how to learn more effectively. |
| Comfort-seeking         | 2             | 0.7           | Turning to others for emotional reassurance, consolation, and cheer.       |
| Maladaptive coping      |               |               |                                                                          |
| Confusion               | 4             | 1.4           | Stress reaction in which thoughts or next steps become unclear or disorganized. |
| Escape                  | 3             | 1             | Attempts to mentally avoid or remove oneself from difficulties and poor outcomes. |
| Rumination              | 2             | 0.7           | Preoccupation with the negative or anxious features of a stressful situation. |
| Concealment             | 0             | 0             | Attempts to prevent others from finding out about the occurrence of negative events. |
| Self-pity               | 0             | 0             | Feeling sorry for oneself and one's tribulations.                        |
| Projection              | 0             | 0             | Blaming other people for the negative outcome.                           |
| Total references        | 291           | 100.0         |                                                                          |
### Table 4: The three largest coping themes, their subthemes, and coded interview data

| Coping theme       | Coping subtheme               | Examples of the children’s coded interview data                                                                 | Coding rationale                                                                 |
|--------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Self-encouragement | Effort and persistence         | “Keep on trying and do your best.”                                                                               | The child urging themselves to apply themselves and persist.                      |
|                    | Failures and mistakes are okay  | “It is okay even if you are stuck on this one.”                                                                    | The child telling themselves it is okay to be unsure.                             |
|                    | Self-praise                    | “That is a big achievement, and you should be proud of yourself.”                                                 | The child acknowledging and praising their own progress.                          |
|                    | Promise of relief or reward    | “The lunch bell is soon.”                                                                                         | The child reminds themselves of when there will be relief.                        |
|                    | Reassurance of knowledge and ability | “This looks pretty simple; I can do this.”                                                                           | The child noticing what they think they are able for.                             |
|                    | Regulating emotions and sensations | “Breathe in through your nose and breathe out. It is okay.”                                                          | The child encouraging themselves to regulate emotions through breathing.          |
|                    | Reducing task cost             | “It’s not that long.”                                                                                              | The child reminding themselves that the task would finish soon therefore they could keep persisting. |
| Commitment         | Usefulness of learning and achievement | “I need to have it done because it is important to have it done.”                                                      | The child insinuating the importance of schoolwork and the need to learn and achieve. |
|                    | Positive outcomes of engagement | “I’m doing my Irish so that maybe I will get time to play with my friends.”                                        | The child reminding themselves of positive things to come once work is finished.  |
|                    | Negative outcomes of disengagement | “Okay I need to stop and do my homework or I’m going to get in trouble tomorrow.”                                  | The child reminding themselves of negative consequences of not working.          |
| Strategizing       | Self-direction                 | “Right let’s spend a little time on this and double-check it.”                                                      | The child urging themselves to focus and self-check their work.                  |
|                    | Read for meaning               | “I should try and read it again and try and figure out what I was stuck on.”                                       | The child trying to comprehend and extract meaning.                               |
|                    | Ignore distractors             | “Don’t turn around and talk. just to keep your head down in the work.”                                             | The child instructing themselves to avoid chatting to peers to persist.          |
|                    | Planning                       | “I need to concentrate a lot and listen a lot to the story.”                                                        | The child considering what is necessary to carry out a task.                     |

### 3.5 | Self-praise

Praise was evident in a lot of the children’s projected self-talk, mainly when the children were asked to imagine their teacher praising them. One child said she would say to herself “I am really proud of myself for finishing it properly and that is really good,” and another reassured himself by praising his project: “my project is good, and people will probably think it is good.” Another child assured himself that he was worthy.
of praise from his teacher as well as praising himself: “I would say you did put a lot of work into it and you deserve that compliment.”

3.6 | Promise of relief or reward

Many children described how they would remind themselves of a relief or reward to come after the challenge, as a technique to keep themselves motivated in the task. Several children said they would remind themselves about positive things that would happen when a task was over, such as time to eat, time to play, time to rest, or a change of activity. For example, children stated: “it's going to be fine; lunch is in just in a few minutes and all you have to do is this,” and “the faster I get it done, the faster I can also be playing a game with my friends.” One child identified both shorter and longer-term rewards: “I will be finished, and I will have more fun things to write about after. Once school is over, I can go home, and I can have a rest.”

3.7 | Reassurance of knowledge and ability

Children also projected reassuring themselves of their knowledge and/or ability using self-talk. One child described how if a task was easy, he would say: “it's going to be good. You're going to be able to do this” and if a task was harder he would say: “You can still do it. It's not too difficult. Nothing is too difficult for you.” Another child said he would encourage himself to believe in himself: “whatever you do it's going to be good, so believe in yourself.” For some children, the reassurance of knowledge and ability came from being prepared beforehand. One child stated: “I have learned all the spellings so it should be okay”, while another said: “I have practiced hard so I am probably going to be able to do it and I know all my timetables.”

3.8 | Regulating emotions and sensations

In projecting how they would deal with the challenges presented in the vignettes, children referred to the need to manage a variety of emotions and sensations including nervousness, frustration, worry, fear, hunger, and happiness. When feeling nervous about an upcoming test, one child said she would say "Just try and calm down. Take deep breaths in and out" whereas another imagined saying "there's no reason to be worried you can still do it." When faced with the scenario of presenting in front of his classmates, one child said he would say "oh my god I need to be brave" while another said he would say "don't be scared." One child tried to ignore his feelings of hunger by saying "just forget about being hungry."

3.9 | Reducing task cost

Many children projected self-talk that would help the academic task appear less costly to them in terms of negative emotion and psychological effort. Some children tried to convince themselves a task was less boring and more interesting. One child stated: "I know this is not boring because it's fun and easy"; and another said: "if I think about it, it might become interesting or I could learn something." Both these children reduced the emotional and psychological costs of an imagined test by stating: “it is really just a test, it is not like the big standardized tests" and "it's just a test and it is not that big of a deal."
3.9.1 | Strategizing

Strategizing had the second most prevalence across the coded statements (77 references). Within this coping family, children’s projected self-talk detailed both practical and tactical ways in which they would try to solve or prevent problems and persist on tasks. This theme had 12 subthemes, demonstrating the largest internal variance of the three most prevalent coping families. For brevity, we summarize the least common subthemes and report on the three most common subthemes in more detail.

The least common themes in strategizing were: *skip it and come back* (n = 2) "maybe just skip it and then come back to it"; *change learning material* (n = 2) "change your book"; *computation* (n = 3) "okay 5 times 5 is 25", *listen to learn* (n = 3) "if you’re not listening then you won’t know what to do"; *memory and retrieval* (n = 4) "just try to remember if you have read the story before"; *making a guess* (n = 4) "write down a random number if you feel you can’t get it"; *checking work* (n = 4) "spend a little time on this and double-check it"; and *self-questioning* (n = 5) "well what do I know so far?".

3.10 | Self-direction

The largest subtheme within strategizing was self-direction (n = 25). This subtheme contained a large number of individualized strategies for overcoming challenges that were linked both to the qualities of the task and of the child. The hallmark of these strategies was that the child was giving themselves instructions, in the same way, a teacher might instruct the child. For example, the children said: "read the question properly"; "don’t do it fast"; "just get out your work and just start it"; and "just go back to the start and try to get through it step by step."

3.11 | Read for meaning

The children also mentioned reading over their work, to aid their understanding so they would be able to stay focused on learning (references, n = 14). For example, they projected saying to themselves: "reread it and see if things come out clearer this time"; and "just read the page that you got confused on and if you’re still confused, then read the page before it and then you might get it."

3.12 | Ignore distractors

Children also projected telling themselves to ignore distractions in their classroom environments to maintain their concentration (n = 11). Their self-talk projections included: "don’t turn around and talk, just to keep your head down in the work"; "don’t look at people that will make you laugh or don’t look at your friends or anyone"; and "just pretend nobody is there."

3.13 | Planning

The final larger subtheme within strategizing was planning (n = 11). Children explained how they would plan their actions to complete or maintain engaged with the task. For example, they projected saying to themselves: "I need to do this that and that to get this"; and "I need to do rough work on the page and not do it in my head because it would just be confusing."
3.13.1 | Commitment

Within the larger theme of commitment (36 references), three subthemes best summarized how the children attempted to remind themselves why challenging academic work was important and worth the effort.

3.14 | Usefulness of learning and achievement

A total of 24 references were coded into this subtheme. Several types of anticipated reward for maintaining engagement were imagined in the children’s projected self-talk. These included short-term benefits for personal attainment: “just keep doing it because you’ll get better doing it,” and “if I get it finished in time, I will be able to get high scores in my test.” Also, long-term benefits of maintaining work concentration were noted: “this is really important work that you need to listen to because in your life, this could come up again and you wouldn’t know what it is if you skipped it.”

3.15 | Positive outcomes of engagement

Similar to the subtheme within self-encouragement, of ‘promise of relief or reward’, references within the commitment category also concerned being committed to the task to achieve a positive outcome (n = 5). The distinction between these two subthemes is that under self-encouragement, children were actively willing themselves through self-talk to persist. In the commitment subtheme, children were stating reasons for their commitment to the task. For example, children anticipated saying to themselves: “when you finish it all you will get to do something fun afterward and you will probably get a reward” and “you just have to get your work done and you just get to do something good.”

3.16 | Negative outcomes of disengagement

Children also rationalized their commitment to the task as a means to avoid negative outcomes, for example: “just keep doing your work or you will get in trouble,” and “my teacher wouldn’t be happy if I don’t get most of it done so I just keep doing it.”

3.16.1 | Help seeking

The majority of references in the help-seeking category (n = 13) referred to an urge to involve the teacher as a social support for engagement. Children projected asking the teacher for help, for example, “this looks a bit harder than all the other ones, maybe I should ask the teacher what it means”; and it’s time to ask the teacher how do you do this.” They also described asking the teacher for help, to overcome negative emotions/mental states of frustration and confusion “if you ask teacher then you will know what it is, so you won’t get cross and frustrated with yourself again.”

3.16.2 | Comfort-seeking

Within the comfort-seeking category (n = 2), a child expressed excitement at telling her parents about her work, and said “I’m happy, excited to tell my parents.”
3.16.3 | Maladaptive coping families

Only three maladaptive coping families (confusion, escape, and rumination) were represented in the data. These are summarized here. The confusion theme contained references \((n = 4)\) about children feeling anxious about not being able to complete a task: “oh no I can’t do this so I’m not going to be able to finish this and I’m going to be in trouble.” The references in the escape theme \((n = 3)\) signaled how children can sometimes experience an urge to disengage: “I don’t want to do this because it would just be awkward.” Finally, within the rumination theme \((n = 2)\), references to worrying about negative things that could happen were evident: “oh no if I make a mistake is a class going to laugh at me.”

4 | DISCUSSION

In the present study, we analyzed the self-talk of children in middle childhood, to explore the functions of self-talk as a mechanism for motivational resilience and momentary engagement. The children’s unique perspectives on how they use self-talk for coping during classroom-based tasks were represented using qualitative methods and a mixture of deductive and inductive analytical strategies. A clear, practical application of motivation theory was tested using the coping families proposed in Skinner et al.’s (2013) framework of motivational resilience. The multidimensional measure focused on 11 ways of coping, considered to be adaptive and maladaptive when used in school.

The study’s results demonstrated that children in middle childhood were able to articulate a broad range of prospective uses of self-talk for coping with academic challenges. Participating children contributed examples of self-talk within nine of the 11 coping families observable in academic settings: self-encouragement, strategizing, commitment, help-seeking, comfort-seeking (all of which are adaptive) and confusion, escape, and rumination (all of which are maladaptive) (Skinner et al., 2013). There were no mentions of self-talk strategies within the maladaptive coping families of concealment, self-pity, or projection, possibly due to the nature of the vignette prompts during interview. The children’s self-talk overwhelmingly demonstrated adaptive coping rather than maladaptive coping with challenges. The self-talk of participants detailed both practical and tactical ways in which they tried to solve or prevent problems and persevere. They appeared to know how to deploy strategies to moving forward effectively and encouraged themselves to do so using their inner speech.

Within the best represented themes of self-encouragement, strategizing, and commitment, the data were coded inductively to elicit subthemes of coping. The inductive analysis revealed that within the self-encouragement family, the children used: self-talk for effort and persistence, reassurance that failure and mistakes are okay, self-praise, promise of relief or reward, reassurance of their knowledge and ability, regulation of their emotions and sensations, and reduction of task cost. Within the commitment family, the children used self-talk to assert: the usefulness of learning and achievement, the positive outcomes of engagement, and the negative outcomes of disengagement. As part of the strategizing family, the children used self-talk to self-direct, encourage themselves to read for meaning, ignore distractions, and to plan. They also strategized by telling themselves to skip things and come back to them, to change their learning material or task as needed, and to listen to learn. Evidently too the children used self-talk for memory and retrieval, checking work, and self-questioning. This suggests that these children were developmentally and cognitively equipped to use adaptive self-talk strategies to encourage their efforts and persist in the face of challenge.

4.1 | Motivational implications

Contemporary theories of motivation presume the involvement of intrapersonal mental processes that are not directly observable (Cook & Artino, 2016). They acknowledge that human cognition itself exerts powerful
motivational control. The contemporary motivational theory also recognizes that motivation involves reciprocal interactions between an individual and their social context (Cook & Artino, 2016). Classroom experiences cumulatively allow students to develop motivational resilience. They help students to build a repertoire of coping and self-regulatory strategies that will allow them to deal constructively with the setbacks and obstacles they are sure to encounter when engaging in challenging academic tasks (Skinner, 2015).

4.1.1 | Extrinsic and intrinsic motivation and self-determination theory

The examples of self-talk provided by the children in this study pointed to both the power of self-talk and the significance of their classroom interactions, classroom environment, and larger sociocultural context. They implied the power of the self as a motivator and alluded to sociocultural factors as a basis for the formation of some of the types, and nuances, of self-talk connecting to motivation and engagement. Hence, there are both personal and social resources that allow children to cope well with academic challenges and difficulties in the classroom. Motivation has been conceptualized as arising from outside (extrinsic) or inside (intrinsic) the individual. Intrinsic motivation involves engaging in a behavior because it is personally rewarding; essentially, performing an activity for its own sake (Lee et al., 2012). Extrinsic motivation occurs when we are motivated to perform a behavior or engage in an activity to earn a reward or avoid punishment. In this case, you engage in behavior not because you enjoy it or because you find it satisfying, but to get something in return or avoid something unpleasant (Tranquillo & Stecker, 2016). Sometimes, one can be motivated simultaneously by extrinsic and intrinsic factors (Tranquillo & Stecker, 2016). Self-determination theory proposes that optimal performance results from actions motivated by intrinsic interests or by extrinsic values that have become integrated and internalized (SDT; Deci & Ryan, 2002).

Overall, the self-talk of children in this study implied that they viewed their effort positively. They demonstrated how by using self-talk they could forego immediate pleasures for the sake of their schoolwork (Mischel et al., 1989). They engaged in self-praise, reassured themselves of their knowledge and/or ability, and reassured themselves that it is okay to make mistakes as there would be chances to do better. They identified that challenging tasks would help them learn new things and they tried not to be derailed by difficulty, be it intellectual or social. Some saw setbacks as opportunities for learning or a problem to be solved. Extrinsic motivation seemed to be particularly beneficial in situations where the children needed to complete a task that they find unpleasant or challenging in some way. At times like these, they promised themselves relief or reward.

4.1.2 | Academic emotions

It was also evident that in struggling to deal with challenges, children referred to the need to control or harness a variety of emotions such as nervousness, frustration, worry, fear, and hunger. Emotions are ubiquitous in academic settings, and they profoundly affect students’ academic engagement and motivation (Pekrun, 2016). Educational research is just beginning to acknowledge the importance of affect and emotions in response to academic tasks or in relation to social interactions in the classroom. As some say thoughts and emotions are inextricably linked (Davis et al., 2010), perhaps future research can be successful in developing ways to shape academic settings so that adaptive student self-talk and positive academic emotions can foster student engagement.

4.1.3 | Expectancy-value theory

In expectancy-value theory, both expectancies and values play an important role in predicting an individual’s engagement, persistence, and achievement (Eccles & Wigfield, 2020). In this study, some children emphasized
through their projected self-talk that learning is of personal value, and that achievement is important in the classroom context and in wider society. They appeared to communicate a "need" to engage and an internalization of the importance of test scores and results and they did not want to be discouraged by the possibility of failure. There was also a sense that the children felt they "have to" do academic work which could be echoing classroom expectations and societal norms. Many of the children seemed to engage in self-talk that made the academic task at hand less threatening. They seemed to occasionally be driven by imagining that a task was easier than it really was; thus reducing the perceived cost of the task, both emotional and psychological (Eccles & Wigfield, 2020).

According to expectancy-value theory, motivation also depends on an individual's retention of positive expectancies and values (Eccles & Wigfield, 2020). The impact of previous learning experiences was evident in the self-talk of the children in this study too. For some children, their reassurance of knowledge and ability came from prior preparation or practice for the task at hand. It seems as though prior experiences of encounters with challenges had an impact on their self-talk, coping ability, and motivational resilience. This highlights the importance of pitching academic challenges adequately so that children are not overwhelmed and instead, working within their "zone of proximal development" with a supportive adult nearby to help (Vygotsky, 1986). The children seemed to be very well supported by their teachers. It was evident that much of their self-praising self-talk arose when they were asked to imagine their teacher praising them. They also felt urges to ask their teacher for help when challenges began to get too great. The children seemed to have internalized strategies such as taking deep breaths and rereading for meaning which had been taught to them by more able others or learned from society. This illuminates the importance of the teacher and other adults in supporting children's coping through communication, relationships, and everyday interactions in classrooms.

4.2 | Strengths, limitations, and future directions

The current study is, to our knowledge, the first to investigate the self-talk of children within the framework of motivational resilience and in the context of academic tasks. By adopting an open approach, it examined the unique perspectives of children and provided some potentially useful insights on how children utilize self-talk to cope with academic challenges. However, this study was not without its limitations.

The children's self-talk was investigated by means of a semi-structured interview. This meant that the researchers relied on children's self-report of their inner speech. It may have been useful to have incorporated additional objective measures and to have triangulated data. There are obvious constraints to the approach taken, such as the biased reporting of self-talk strategies and the difficulty that some school-aged children may find in articulating themselves. The degree to which the prospective self-talk recorded in the study might reflect the thoughts that would naturally occur in the moment and in a natural classroom setting is unclear. Nonetheless, like other internal cognitive processes, inner speech cannot be directly observed but only indirectly inferred and this study elucidates children's perspectives which are not often represented in the literature.

Although the sample of this study was large enough to facilitate meaningful thematic analysis and included students from a range of classes and achievement levels, all of the participants were of Caucasian ethnicity and from middle-class families. The majority of participants also seemed to be functioning quite well academically, as evidenced by their knowledge of adaptive coping strategies. However, an examination of motivational resilience, engagement, and academic coping, might be particularly important for students from minority backgrounds. Children from low socioeconomic backgrounds, ethnic minorities, or immigrant groups, are not only at-risk for academic underachievement, but also face stresses associated with poverty and discrimination (Tolan & Grant, 2009). Developmental delays and deficits in the ability to engage in self-talk have also been observed among children with autism spectrum disorder and attention deficit hyperactivity disorder (Wallace et al., 2009; Zorcec & Pop-Jordanova, 2010). Studies involving children with additional needs such as these would further our knowledge of the impact of individual differences. Investigations of whether children's use of self-talk alters or decreases
between childhood and adulthood would also be beneficial in examining self-talk from a developmental perspective (Wallace et al., 2009).

Future studies could make use of the multidimensional measure of coping, and the larger model of motivational resilience of which it is a part, to begin answering further questions about the social and personal resources that allow children to cope well with academic challenges and difficulties in the classroom. Studies might also seek to investigate the outcomes of academic coping, in both the academic and socioemotional domains. Research of this kind could expand and improve the conceptualization and measurement of coping and further develop the motivational resilience model. To expand our understanding of how children learn to cope with challenges, it may also be particularly informative to consult closely related areas of research that focus on regulation (Skinner & Zimmer-Gembeck, 2009). In the academic domain, it would be especially important to connect coping to the rich set of strategies studied in research on self-regulated learning (Zimmerman & Cleary, 2009). The study of coping and that of self-regulated learning, although from two largely distinct traditions, may have much to offer each other. Coping itself might be a site for the development of self-regulated learning and a point where academic and socioemotional development is inseparable.

4.3 | Relevance to educational practice

In the research, we took a sociocultural perspective to investigate self-talk in the classroom context. This approach assumes that children’s development and learning are shaped by interactions among the environmental factors, relationships, and learning opportunities they experience (Rose et al., 2013). Similarly, contemporary educational psychology practice is characterized by universal interventions that aim to influence the whole school culture, are informed by prevention science, and have the goal of building competencies and resilience, and promoting psychological wellbeing and academic success (Darling-Hammond et al., 2020). A key implication for practice arising from this study is that interventions for enhancing children’s use of self-talk for motivational resilience should focus on the classroom context as a core venue for the social construction of children’s self-talk. This focus contrasts with the notion of enhancing positive self-talk through individual cognitive focused interventions that do not take account of context. Our position builds on the constructivist perspective that children do not learn in isolation, but rather construct meaning based on their lived experiences and situated communicative interactions (Vygotsky, 1986). Relationships between teachers and students, what is said to children in classrooms, and what is instilled in children by their teachers and peers, should be a point of intervention focus. Classrooms are a nexus where children internalize motivational language which then becomes part of their “self” (Vygotsky, 1978). Put simply, children learn how to talk to themselves in classrooms.

A second implication for practice is teacher education including programs for preservice teachers and continued professional development. Teacher education should stress that the development of self-talk in childhood progresses from external to internal verbalizations, and that teachers’ personal motivational strategy verbalizations and methods of motivation coaching with their students can influence the language that children internalize and use to motivate themselves in challenging situations. Self-talk and other socioemotional skills can be practiced and reinforced through everyday pedagogies and through natural interactions (Banerjee et al., 2016). If positive self-talk is instilled through supportive interactions, relationships, and affirmations in classrooms, this could potentially impact children’s academic and personal self-talk as they age. Positive Student–teacher relationships are linked to children’s engagement, emotional regulation, social competence, and willingness to take on challenges (Osher et al., 2018). Accordingly, educational psychologists should consider the mutually influential relations between children’s intrapersonal skills and the classroom contexts in which they grow and develop (Lerner & Callina, 2013). Educational psychologists wishing to enhance children’s motivational resilience through self-talk should work with not only children, but also with classroom teachers, to foster positive developmental conditions for motivational resilience to occur.
The promotion of motivational resilience, momentary engagement, and coping in the classroom setting, should be an essential goal in all efforts to support student development and success. If educators allow these factors to move to undefined center stage, they can create dynamics in the classroom that raise the quality of students' experiences and their enthusiastic participation in the processes of learning (Skinner, 2015). Furthermore, coping not only protects children from the harmful effects of stress but also contributes to their success, growth, and positive development (Skinner & Zimmer-Gembeck, 2007, 2009). Fostering adaptive self-talk and bolstering academic coping may even transfer to coping in life outside the classroom, as building everyday resilience can help students be prepared to bounce back from greater challenges and struggles (Martin & Marsh, 2009).

CONFLICT OF INTERESTS
The authors declare that there are no conflict of interests.

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