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# **Exploring self-regulated learning during middle school: views of parents and students on parents' educational support at home**

**- ACCEPTED FOR PUBLICATION**

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## **Exploring self-regulated learning during middle school: views of parents and students on parents' educational support at home**

The transition period from elementary to middle school is challenging. Students are expected to be more autonomous. To cope with these increased levels of autonomy, self-regulated learning skills might help. Previous research has shown that parents play a crucial role in students' self-regulated learning development. However, research focusing on parental involvement during middle school and the ways in which parents support self-regulated learning at home is limited. Therefore, the present study explores the practices that parents use at home to support middle school students' autonomy and self-regulated learning. It draws upon semi-structured interviews with eighteen families. The results show that parents mainly guide students' learning behaviours and motivation. Additionally, parents and students can be divided into three groups based on differences in autonomy granted during learning; these groups reported varying parental practices in fostering self-regulated learning. Overall, the present study highlights the importance of parents' educational involvement during middle school.

Keywords: self-regulated learning; learning support at home; parents; middle school; adolescence

## **Introduction**

More than a quarter century of research has shown the benefits of self-regulated learning (SRL) for a successful school career, lower drop-out rates, students' wellbeing, and lifelong learning in general (Martinez-Pons, 2002; Noble & Wyatt, 2008; Zimmerman, 2000). During transition periods in particular, e.g. from elementary to middle school, students' self-regulated learning (SRL) skills as well as teachers' active promotion of SRL have been found to be very important for students' learning (Vandevelde, Van Keer, & Rosseel, 2013). Consequently, SRL is seen as key to effective learning and is identified as a major objective of schooling (Grolnick, Kurowski, & Gurland, 1999). Hence, most researchers have investigated how SRL skills can be effectively promoted in classroom settings (e.g. Dignath-van Ewijk & van der Werf, 2012; Kitsantas & Zimmerman, 2008; Peeters, De Backer, Kindekens, Triquet, & Lombaerts, 2016; Schuitema, Peetsma, & van der Veen, 2016; Zuffianò et al., 2013). Nonetheless, the promotion of these skills outside classroom settings remains under investigated. Despite the important role of teachers in developing the SRL-skills of their students in the classroom, parents are also considered essential role models and a source of inspiration for students' SRL. Regarding parental educational practices, several studies (e.g. Froiland & Worrell, 2017; Fulton & Turner, 2008; Vasquez, Patall, Fong, Corrigan, & Pine, 2016) have showed positive links between autonomy granting, SRL and students' achievement in school. For example, parents can positively impact students' engagement and motivation to learn (e.g. Fulton & Turner, 2008; Pomerantz, Moorman, & Litwack, 2007; Raftery, Grolnick, & Flamm, 2012; Xu, 2004) and foster effective learning strategies (e.g. remembering and summarizing strategies) (e.g. Borgonovi & Montt, 2012). Likewise, Grolnick and Slowiaczek (1994) stated that parents are a key resource for children's school success, even in middle school

education (Purdie, Carroll, & Roche, 2004). Despite these positive effects, research about specific parental practices at home that foster SRL is still scarce. Therefore, the present study explores in depth both parents' and students' views on how parents stimulate and maintain autonomous SRL with their youngsters.

In raising their children, parents foster a broad spectrum of skills. In this study, the focus is on autonomy granting as one specific parental behaviour used in the home environment that may help to foster students' SRL. Autonomy (granting) is a prominent aspect of middle school students' lives. Furthermore, for parents, autonomy is a complex and demanding notion with which to engage. Additionally, both SRL and autonomy are interrelated, reflecting students as active agents.

### ***Self-regulated learning (SRL) and SRL support***

“Self-regulated learners are autonomous, reflective and efficient with (meta)cognitive abilities as well as motivational beliefs and attitudes regarding understanding, monitoring and directing their own learning” (Wolters, 2003, p.189). The concept of SRL consists of three main interwoven components: the metacognitive, behavioural, and motivational components (Zimmerman, 2002). The metacognitive component covers planning, setting goals, organizing, self-monitoring and self-evaluating at various points during the learning process. The behavioural component refers to selecting, structuring, and creating environments that optimize learning. The motivational component emphasizes high self-efficacy, self-attributions, and intrinsic task interest.

However, students do not become self-regulated by themselves. Research argues that SRL is shaped by multiple and varied learning experiences in different contexts

(Pintrich, 1999). Bandura (1986), who described a social-cognitive perspective on self-regulation (Zimmerman, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992), assumed that self-regulation is an interaction of the triadic factors of person, behaviour and environment. Much of the abovementioned research on SRL was primarily investigated in school contexts (e.g. Authors, 2016; Dignath-van Ewijk & van der Werf, 2012; Kitsantas & Zimmerman, 2008; Schuitema, Peetsma, & van der Veen, 2016; Zuffianò et al., 2013). Researchers have identified two broad methods of promoting SRL in education: indirect and direct SRL promotion (Dignath-van Ewijk & van der Werf, 2012). Although most of the research applies to the school context, several authors have indicated (e.g. Martinez-Pons, 2002; Zimmerman, 2002; Zuffianò et al., 2013) that parents, in addition to teachers and peers, can be models for their children and provide support for their self-regulatory skills. For example, in the home environment, parents can facilitate SRL indirectly by supporting their children's autonomy (Grolnick & Ryan, 1989). Borgonovi and Montt (2012) also found that parents who actively engage in conversations with their children (regarding about books they are reading, social or political issues) foster knowledge and the appropriate use of learning strategies. Furthermore, parents can also model or explain certain SRL strategies, which is referred to as direct stimulation of SRL (Kistner, Rakoczy, Otto, Dignath-van Ewijk, Büttner, & Klieme, 2010).

Pomerantz and colleagues (2007) have identified two models of how parents can impact students' learning related to SRL. The skill development model refers to skill-related resources (like cognitive abilities, phonological awareness, metacognitive abilities, planning, and monitoring) that parents provide through their involvement with their children. The motivational development model refers to motivational resources (such as a sense of control and positive self-efficacy). Parental involvement in students'

education may influence learning through both skill and motivational development. Both models for SRL support (Kistner et al., 2010; Pomerantz et al., 2007) can be used in combination. The skill development model of Pomerantz and colleagues (2007) can be linked to the direct method of SRL promotion of Kistner and colleagues (2010). The motivational development model (Pomerantz et al., 2007) is more closely linked with the indirect method of SRL promotion (Kistner et al., 2010), which involves more contextual (motivational) opportunities that parents provide for their children.

### ***Autonomy and autonomy support***

As they grow up, youngsters have an increased desire and need for autonomy and independence (Kreider, Caspe, Kennedy, & Weiss, 2007). First, developmental changes, such as biological growth, and changes in social and family relationships fuel youngsters' desire for autonomy (Lerner & Steinberg, 2004; Steinberg & Silk, 2002). Second, students experience changes in school structure when they enter middle school (Hill & Tyson, 2009). At this stage, the schools are larger, with more teachers and peers, and overall require more decisions regarding courses, more independent learning strategies and, consequently, greater autonomy (Dauber & Epstein, 1989; Hill & Chao, 2009). According to the self-determination theory (SDT; Ryan & Deci, 2000), autonomy is one of the basic psychological needs that must be met for optimal functioning, next to needs of relatedness and competence. Autonomy refers to the need to make one's own choices rather than from pressure or an external control (Ryan & Deci, 2000; Vansteenkiste, Ryan, & Deci, 2008). Autonomy in learning often refers to students' engagement in their learning and self-regulation (e.g. Deci & Ryan, 1985, 2002; Gonzalez-DeHass, Willems & Holbein, 2005; Soenens & Vansteenkiste, 2005; Wolters, 2003; Zimmerman, 1990). Self-regulated learners feel autonomous (Cubukcu, 2009) and are active participants in their own learning processes (Wolters, 2003).

Furthermore, self-regulated learners are intrinsically motivated to learn (Zimmerman, 2002). Specifically, the cognitive evaluation theory (Deci & Ryan 1980, 1985), a sub theory of the SDT, tries to determine the social and environmental factors that assist or hinder intrinsic motivation (Deci & Ryan, 2012). Next to the changes described above on individual level (e.g. developmental) and the educational changes accompanied by the transition to secondary education, parents are also part of the social context that impacts students' learning in general and motivation in specific. Despite youngsters' desire for autonomy, they continue to rely on the support of their parents. In fact, autonomy support is one of the elements of an authoritative parenting style, and it serves as a basis for fostering the self-regulation and independence necessary for school success (Gonzalez-DeHass et al., 2005; Grolnick et al., 1999; Grolnick & Ryan, 1989; Pomerantz et al., 2007; Purdie et al., 2004; Steinberg, 1990; Steinberg & Silk, 2002). Autonomy support serves as a protective factor in new situations (e.g. the transition from elementary to middle school), and it provides motivational resources for positive engagement in school. Notwithstanding, a few studies address parental involvement at home in middle school education (e.g., Hill & Tyson, 2009; Kreider et al., 2007; Xu & Corno, 2003). Most of the relevant studies are instead situated in the context of elementary education. Furthermore, the current literature lacks in depth information on how parents foster students' autonomy and consequently SRL.

### ***Current study***

Parents continue to be a major source of support for their youngsters in middle school (Collins & Laursen, 2004). Parents' involvement in their youngsters' schooling, and autonomy support appears important for students' academic outcomes and development of SRL (Hill & Tyson, 2009; Pino-Pasternak & Whitebread, 2010, Steinberg et al., 1992). Research shows that parents can play an important role in the development of



SRL (e.g. Borgonovi & Montt, 2012; Daniel, Wang, & Berthelsen, 2016; Pomerantz et al., 2007; Purdie et al., 2004). However, what is not clear from the literature is the contribution of specific parenting behaviours to the development of SRL skills in the middle school years. Therefore, the following research questions were addressed: (1) What parental practices do middle school students' parents use to stimulate students' SRL? (2) How do parents and students differ in the ways that they perceive autonomy granting for learning? (2a) How are differences in parental autonomy granting related to parental support of students' SRL?

## **Methodology**

### ***Participants***

Participants were drawn from middle schools in Flanders, Belgium, and in the region of the capital, Brussels. A sample of twelve schools was randomly selected, seven schools agreed to participate. The schools received some initial information about the aims of the study, and when approved, school personnel distributed an invitation for participation to all parents of first-year students at the middle school. In total, 18 families from eight schools agreed to be involved in the study. Considering the in-depth nature of the present study, which involved the synergy of parents and students' perceptions, and its goal of identifying supporting practices that parents use, the sample was kept deliberately small. The parents that wanted to be involved in the study were contacted by the researchers, and an appointment was made to conduct the interviews with the parent and the student. One parent (2 fathers, 16 mothers) and one student (7 boys, 11 girls) per family were interviewed (see Table 1 for more information on the composition of parent-student units), resulting in 36 interviews. Students ranged in age from 12 to 14 years (first grade of middle school). The parents had an average age of 45

years. Fifteen of the 18 students lived with both parents, and all students were born in Belgium. Ten out of the 18 students were the oldest child of the family. Regarding parents' work, six mothers worked fulltime, eleven mothers worked part-time, and one mother was on a temporary break from work; only one father worked part-time, while the others worked fulltime.

*[Insert table 1 here]*

### ***Procedure and instrument***

To establish accuracy, students' responses were triangulated with parent interviews (Pino-Pasternak, 2008). Two semi-structured interview guides were created to collect the data from parents and students. Previous qualitative research with parents (e.g. Grolnick & Ryan, 1989; Bradley et al., 2000) and the SRL models of Zimmerman (2002), Pino-Pasternak and Whitbread (2010) and Kistner and colleagues (2010) were used as the guiding principle for interview development. Most of the questions were developed by a team consisting of educational experts or adapted from these previous studies. The interviews were piloted with three families, which resulted in minor changes (e.g. different word usage, change in the order of questions). All interviews were conducted outside of school hours in the family's home. The interview (see interview guide in appendix) focused on the examination periods that students have once or twice a year. This was mainly to have a reference point to answer the questions. The parent and child were interviewed separately with similar questions.

### ***Analysis***

The interviews were transcribed and analysed in MaxQDA using thematic analysis which is "a form of pattern recognition within the data, with emerging themes becoming the categories for analysis" (Fereday & Muir-Cochrane, 2006, p. 4). The systematic and

iterative approach for thematic analysis of Braun and Clarke (2006) was used as a frame to guide the data analysis. A data-led approach (Braun & Clarke, 2006) was used meaning that the structure of the initial coding was suggested by a careful analysis of the content of the data. Ultimately, the codings were combined into five main themes and eleven more detailed codes. Regarding trustworthiness, all coding steps and labelling processes were executed by two researchers to make sure that all parental practices were identified.

## **Results**

### ***Parental practices at home fostering SRL***

In this study, we mainly focused on how parents foster students' SRL. The concept of SRL comprises three components: behavioural, metacognitive and motivational. The results indicated that the participating mothers and fathers predominantly mentioned stimulation of the behavioural component of SRL (see Table 2).

*[Insert table 2 here]*

The interviewed parents commonly stated that they aimed to create and structure a learning environment that optimizes learning during an exam period: *"I check on him more. I try to ask my boss if I can work from home during the exams. He needs to sit next to me instead of being alone in his room."* (Parent 5) Parents imposed rules to structure students' learning environments. For example, they are strict on bed time: *"I watch her a bit, making sure that she does not eat too many candies and that she does not go to bed too late"* (Parent 18) Or, they set rules regarding mobile phones: *"I have to go to bed on time, and I have to leave my mobile phone with my parents while studying."* (Student 4).

Next, regarding management of the environment, students' knowledge of the exam material is regularly tested and questioned by their parents (at the initiative of one of both parties), or the mothers or fathers provided help when students have questions and explain the learning content when needed. For example, Parent 7 indicated she test the knowledge of her son through exercises, *"I sometimes make exercises for him, to practice"*. Regarding questioning, student 11 mentioned: *"My dad occasionally approaches me to check if I am studying. When I come downstairs after studying, he always tests me first (Student 11)"*. Similarly, parent 4 noted that the youngster takes initiative for questioning, *"She always asks me to test her."* (Parent 4)

Furthermore, the interviewed parents regularly referred to the support of organizational and practice skills, which is another parental practice that encourages the behavioural SRL component. For example, parents reported helping students to summarize learning material, or find tricks to remember things, *"For French, I have to help him sometimes by giving some tips or prompts...(Parent 13)"*. Similarly, students indicated this help of their parents, for example student 11 mentioned, *"They help me make an outline of the learning content."*

In addition to the behavioural component, parents and students commonly mentioned the stimulation of the motivational component of SRL. For example, parents and students indicated that the parent tries to stimulate their student's efforts and persistence by encouraging them: *"My mother says, 'You are really doing well; keep going!' (Student 5)*. To stimulate their children's efforts, most of the mothers also reported that they regularly pampered them: *"When I was home, I went upstairs frequently and asked, 'How are you doing?' and I brought cookies, water or tea."* (Parent 16)

Furthermore, most mothers mentioned trying to create an environment where they were present for their children. For example, parent 6 noted that *“It is important that you are there to listen.”* Especially in the first year after the transition to middle school parents think it is important to be there for the child, as parent 1 noted:

*“Especially in the first term of the school year, I have to keep the peace, calm and reassure her.”* Furthermore, also students indicate they appreciate the support of their parents, *“It is always nice that there are people supporting you, who know that you can. Yes, I think that's important.”* (Student 6)

Lastly, both parties revealed the stimulation of metacognitive aspects of SRL by parents. For example, the respondents (both parents and students) identified parents as a resource for help with planning, the organization of learning and time management. Student 17 mentioned *“together with my mother I went over which course I was going to study first, what is the most difficult subject, when is my free time etc”*. Likewise, parent 7 reported the following:

*For more difficult courses, we had to check beforehand. ‘How much do you need to study? Show me what you have to study. Do you think you will be able to manage?’ These are the most important questions. Especially for the know-by-heart courses, like history or geography, we did some planning together.*

In addition to support with the organization of learning, parents stimulated their children’s sense of self-evaluation by asking them questions and talking about studying and their exams. Parent 2 said: *“[After an exam] I always ask how it went. Sometimes I also ask her whether she thought she had studied well or could have done better. So that she thinks about it herself.”* Similarly, student 8 mentioned her parents stimulated her to

think about her learning, *“We talked about it, what went well, what didn’t go so well, what I might do better next time.”*

### ***Autonomy and students’ SRL***

The data revealed three groups of parents and students based on the extent to which respondents indicated that the student studied autonomously (see Table 3). We found that eleven parents allowed their youngsters to study independently without the help of their parents, four mothers occasionally helped their youngsters study (context dependent, e.g. subject matter) and three mothers studied with their youngsters.

*[Insert table 3 here]*

The first group (group 1), which comprised nine mothers and two fathers who let their youngsters study independently, frequently referred to students’ autonomy. This is illustrated in statements of this mother, *“She is very autonomous, doing her homework. I never have to urge her; she is very organized (Parent 18)”*.

Furthermore, as presented in Table 3, parents in group 1 repeatedly pointed to the three SRL-components and a broad spectrum of SRL skills. In line with the other two groups but to a greater extent, the parents of the students who study autonomously stimulated the behavioural component of SRL. In contrast to the other groups, the parents of group 1 stimulated the metacognitive component of SRL to a great extent. These parents frequently reported helping their youngsters with planning and organizing their schoolwork: *“We sat together. I asked, ‘What subject do you think is difficult? When do you have free time? How are you going to plan it?’ (Parent 17)*

Regarding the motivational component of SRL, the parents in group 1 highlighted the stimulation of their children’s efforts and persistence, and they emphasized the importance of establishing a supportive environment.

The second group consisted of four mothers who occasionally studied with their youngsters (group 2). The data showed that the amount of support that they provided was context dependent. The support was sometimes greater for certain topics, or more autonomy was granted in the beginning or at the end of the schoolyear. Overall, the same patterns as the other groups could be identified. The mothers mainly controlled and structured the learning environment (behavioural component). For example, parent 2 stated: *“Watching television was reduced to a minimum, only in the evenings or on the weekends. The use of her mobile phone was only for asking questions to her friends.”* Next, regarding the behavioural SRL stimulation, the mothers of group 2 reported promoting the motivational component (e.g. stimulation of effort and persistence) and the metacognitive component (e.g. planning skills) to a great extent.

In contrast to the first two groups, the third group (group 3) consisted of three families with students who were not ready to study independently. As a result, these mothers studied with their youngsters. For example, the mother of student 8 had to sit down with her because she did not know how to study. Student 12 mentioned: *“They [parents] helped me a lot; they sat next to me and studied together with me”*. Overall, the variety of SRL skills that these parents promoted was more limited compared to the parents in group 1 (see Table 3). Regarding the behavioural component, these mothers were most likely to provide instructional scaffolds. Parent 9 professed: *“I try to say to him: ‘This is the end of the chapter, start by looking at the whole chapter. You start with the title, that is the structure of the chapter...’ That is what I’m trying to teach him.”* Additionally, these mothers repeatedly indicated that they structured the learning environment and mentioned multiple times that they stimulate students’ efforts and persistence. In contrast, the group 1 parents very rarely indicated that they support metacognitive skills (e.g. planning skills).

The students were classified in the same groups as their interviewed parent, and roughly the same patterns could be found with the students (see Table 3). When compared to their parents' reports, the students reported less SRL encouragement. Similar to their parent, the students reported that their parent mainly foster SRL skills from the behavioural component. Students in group 1 (studying autonomously) reported receiving support for a larger variety of SRL skills in comparison to the other groups. According to the students, their parents had to explain much of the learning content to them, structure the learning environment and answer their questions (behavioural component). Additionally, parents helped the students evaluate themselves and plan (metacognitive component). For example, the father of student 17 helped her when she had questions: *"When I don't understand something of e.g. mathematics, I ask dad for extra explanation. He then looks at the material together with me and tries to explain it to me."* Students who studied with their mother (group 3) reported practices similar to those that their mothers had discussed. These students indicated that their mother directed most of her attention to instructional scaffolds and explaining the learning material (behavioural component). The students in group 2 (studied occasionally with parents) mainly reported support with organization and rehearsal skills (behavioural component), effort and persistence (motivational component) and planning (metacognitive component). For example, student 4 stated, *"My parents and I did some planning together, keeping in mind when I had an exam and which of my parents would stay at home when I was studying."*

## **Discussion**

This study aimed to explore the practices that parents use at home to foster students' learning, and more specifically, the focus was the processes of SRL and autonomy in the early middle school years.



### ***Promotion of SRL***

Several authors (e.g. Borgonovi & Montt, 2012; Daniel et al., 2016; Pomerantz et al., 2007; Purdie et al., 2004) have asserted the importance of parents' roles in students' SRL skills. The parents and students in our study most commonly mention support of the behavioural component of SRL. The mothers and fathers report engaging most often in the creation, controlling and structuring of the students' learning environments. Similarly, Xu and Corno (1998), in their study of six families with third-grade children, found that parents helped to arrange the learning environment and monitored students' attention by setting boundaries during homework. Additionally, Hoover-Dempsey, Battiato, Walker, Reed, DeJong and Jones (2001) and Walker and colleagues (2004) identified the establishment of structures for the student as one method that parents could use when they get involved in students' learning (such as create time schedules for learning). The attention that the parents in our study pay to the structure of the learning environment and the provision of rules regarding studying may be explained by the normality or expectedness of these parental behaviours (Purdie et al., 2004). Parents are used to setting the rules and structuring the environment for their children. However, imposing rules can be either seen as a form of external regulation, whereby students are not fully able to self-regulate, or as parents' helping in the gradual process of becoming self-regulated. The latter process is also closely linked to the concept of scaffolding (Bruner, 1978; Pino-Pasternak & Whitebread, 2010), which is situated, as Hodapp and Goldfield (1985) indicated, between Vygotsky's other regulation and Piaget's self-regulation. Furthermore, linked to the findings of Pino-Pasternak and Whitebread (2010), the parents and students in our study indicate that the parents provide support and guidance regarding studying and repeatedly offered students instructional scaffolds repeatedly. These instructional scaffolds were identified as a key element in the

stimulation of SRL (Pino-Pasternak & Whitebread, 2010). However, these scaffolds may not only support but also hinder SRL development, depending on the context in which they are used (e.g. testing to see if the student understood the learning material or parents correcting answers). Next, for learning strategies, similar to the findings of Borgonovi and Montt (2012), who discussed the PISA 2009 results, the participants of the present study repeatedly report stimulating skills and actions related to elaboration, organization and summarizing strategies. Parents' educational involvement and attempts to encourage students' SRL can take many forms. As already described, in addition to offering learning structuring and modelling strategies, parents can also help students understand the learning material by answering students' content-related questions and by testing them (Hoover-Dempsey et al., 2001). Our participants indicated that this kind of strategy, especially parents' help with checking the students' understanding of the learning material, is often helpful (Walker et al., 2004; Hoover-Dempsey et al., 2001).

Furthermore, students, and especially parents, repeatedly report parents' stimulation and maintenance of the students' motivation. Correspondingly, Gonzalez-DeHass and colleagues (2005) showed in their literature review regarding parental involvement and student motivation across age groups, the beneficial effects of parental involvement, motivation, perceived competence and SRL. Additionally, several other researchers reported the importance of parents for students' motivation (e.g. Fan & Williams, 2010; Fulton & Turner, 2008; McCaslin & Murdock, 1991; Pomerantz et al., 2007; Walker et al., 2004; Xu & Corno, 2003). However, there is a difference between motivating students and supporting their self-motivation. The parents in our study indicate more often the support of students' motivation (keeping students motivated) instead of supporting the students in learning how they can motivate themselves (self-motivation) or letting them become aware of their motivational resources (Zimmerman,

2002). Specifically, the stimulation and support of students' efforts and persistence is repeatedly reported by parents and students in our interviews. Previous studies found similar results (e.g. McCaslin & Murdock, 1991; Walker et al., 2004; Xu & Corno, 2003). Parents can assist students in dealing with distractions, focus and persistence (Xu & Corno, 2003) and stimulate students in monitoring their motivations and emotions (McCaslin & Murdock, 1991). Additionally, the study of Walker and colleagues (2004) found that parents' emotional support for students' performance, ability and effort is one parental activity that can contribute to student motivation and performance. In line with this, the parents and especially the mothers in our study repeatedly declare the importance of being available for the student, being present for help and to answer questions and being supportive. Nearly all parents in our study report trying to establish an encouraging environment for their youngsters, which is in line with the earlier findings of Pino-Pasternak and Whitebread (2010) who found emotional responsiveness as one of the SRL-stimulating parenting behaviours with fourth-grade children, and it is also important for students' motivation. Furthermore, creating an environment for the student is in line with Dignath-van Ewijk and van der Werf's (2012) indirect track of SRL-promotion. Most parents in our study stimulate SRL in an indirect way by creating a motivating, emotionally responsive home environment, and being present for the student in case of questions and difficulties. Additionally, the parent participants of our study repeated several times that while studying, they often pamper the students verbally and with food or drinks, for example. However, as at first glance, this kind of praising may not truly support students' SRL, and it may be more associated with external regulation (Deci & Ryan, 1980) (as guided by an external source). Nevertheless, this pampering or praising can also support SRL (Pino-Pasternak, Whitebread, & Tolmie, 2014; Xu & Corno, 1998), for example, when parents use it to

set a good example and encourage their youngsters to be kind to themselves (self-praise, self-reward) and in this way implicitly stimulate self-efficacy.

Continuing with SRL encouragement, the parents and especially the students in our study indicate that parents devote a great amount of attention to the stimulation of the metacognitive component of SRL (e.g. planning). In line with Walker and colleagues (2004), parents help their students organize their schoolwork, self-monitor and to regulate their emotional responses to homework. They asked their youngsters to think about their ways of learning and, in this way, try to engage the youngsters in self-evaluation, which is also a metacognitive strategy.

Overall, as we studied parents' and students' perceptions, differences in perceptions of SRL-promotion among parents and students were identified. For example, parents indicate more encouragement of students' efforts and persistence, and students indicate more help with instruction from parents (e.g. answering content-related questions). Similarly, Purdie and her colleagues (2004) found that parents and students differed somewhat in their perceptions of how much autonomy was granted and how involved parents were in students' schoolwork. However, the subtle differences in perceptions can maybe be attributed to differing judgements of important aspects of the family and the relationships within the family (e.g. Feinberg, Howe, Reiss, & Hetherington, 2000; Tien, Roosa, & Michaels, 1994).

### ***Autonomy and students' SRL***

Regarding autonomy granting for learning, the participants of our study can be divided in three groups: parents (mothers and fathers) who give their youngsters full autonomy for learning, mothers who occasionally assist their youngsters with studying depending on the context and mothers who study with their youngsters. Especially at this age, some students gradually want more independence regarding how and when to engage in

schoolwork. Parents, on the other hand, recognize the importance of encouraging their youngsters to take ownership of their learning. At this developmental stage, the parent-youngster relationship undergoes changes (Hill & Chao, 2009). These changes in the relationship entail a process of rethinking to what extent parents must or can grant autonomy to their youngsters (Purdie et al., 2004), which in turn can be an explanation for the differences between families. However, the extent to which parents support their youngsters during learning, the ways in which they do so, and the extent of autonomy granted are highly dependent on the specific needs of the student and the family context (e.g. time) (Walker et al., 2004). Corresponding to earlier research, parents who indicate high levels of involvement and autonomy are found to encourage third to sixth graders' SRL to a great extent (Grolnick & Ryan, 1989). Likewise, Pino-Pasternak (2008) suggested that autonomy, along with responsiveness and parental warmth, are encouraging for students' SRL. In our study, it was found that the parents who let their youngsters study autonomously, support a larger variety of SRL skills, especially metacognitive aspects, than parents who grant less autonomy to their youngsters. The mothers who studied with their youngsters and did not grant much autonomy for learning reported less of a variety of SRL supporting practices and mainly behavioural SRL support, with a focus on giving the students' instructional assistance and scaffolds. The above findings describe a balance between autonomy and involvement, which are also linked to Veenman's availability and production deficiency. Learners with an availability deficiency do not have the adequate knowledge and skills (do not know how to self-regulate, e.g. group 3 students who study with their parents), while those with production deficiency are unable to apply their knowledge and skills (Veenman, Van Hout-Wolters & Afflerbach, 2006). Considering the stimulation of SRL, parents should adapt their SRL supporting behaviour to the student, especially keeping in mind

deficiencies, e.g. parents of youngsters with the availability deficiency should not just stimulate youngsters' efforts but also teach the youngsters how to motivate themselves.

### ***Limitations***

Triangulating data by conducting qualitative interviews with both middle school students and their parents offered valuable insights about the stimulation of SRL in the home environment. Nevertheless, we want to discuss some study limitations. A first limitation is the exclusive reliance on self-report interviews. However, McCardle and Hadwin (2015) indicated self-reports provide important information in studying SRL as they provide learners' perceptions of the actions that they engage in during studying and allow a deeper understanding of regulation as it develops over time. Additionally, when researching SRL, it is critical to examine how students have experienced their own learning (Karabenick & Zusho, 2015). On the other hand, Greene, Caracelli and Graham (1989) highlighted that the "use of only one method to assess a given phenomenon will inevitably yield biased and limited results" (p. 256). However, most of the studies cited above used questionnaires while our study used interviews, which provide a more detailed view. In addition, to ensure validity, we combined the data of the parents and the students. Further research with, for example, observations of parents and students would provide additional, more objective information. A second limitation concerns the generalizability of our results. It is plausible that our sample is somewhat different from the total population. Because of our choice to conduct in-depth interviews and to combine parents' and students' perceptions, the size of our sample was relatively small. Furthermore, schools were asked to send out an information letter to invite parents to participate, but the parents themselves chose if they wanted to participate or not. This approach may have impacted our results. However, our sample included families with various structures (i.e. single parent, married parents, multiple

children) who were geographically spread and who lived in different types of neighbourhoods (i.e. urban and more rural). Considering our research aim to study parental SRL-supporting practices, this sample was preferred because of the in-depth, qualitative nature of the study, which tried to gain insight into what supporting practices parents use. Following Marshall (1996), in qualitative research, “improved understanding of complex human issues is more important than generalizability of results”. A third limitation regards the conceptualization of parental involvement. Given the majority of the participants are mothers, it is necessary to be careful with generalising these results for parents in general. Notwithstanding, fathers also play a role, though their role could be conceptualized differentially (Andrews, Luckey, Bolden, Whiting-Fickling, & Lind, 2004; Craig, 2006). Further research with a better balance between participating mothers and fathers can give insights into ‘parental involvement’ as a whole. More specifically, the differences between the roles of mothers and fathers in students’ learning, especially self-regulation can be an interesting topic for future research.

### **Conclusion and implications**

The present study contributes to the existing research on parental involvement and SRL by focusing specifically on the middle school context and by triangulating parent and students’ views of parental involvement and SRL at home. The results can be considered a first step in gaining deeper, qualitative insight into parental involvement in middle school education and specifically what practices parents use to stimulate middle school students’ autonomy and SRL at home. Our findings show the importance of parents in middle school students’ education. Previous studies have focused on parental involvement in elementary school and assumed that parents are less involved in the more advanced school career of their children (Froiland & Davison, 2014; Matejevic,

Jovanovic, & Jovanovic, 2014). However, important processes regarding youngsters' upbringing and support with learning take place at home, even during the middle school years. Our study shows that parents directly and indirectly stimulate SRL. More specifically, parents are of considerable importance for students' motivational resources (e.g. Cheung & Pomerantz, 2012; Raftery et al., 2012), as teachers do not always have sufficient attention for this SRL component (Ames, 1990; Wentzel & Ramani, 2016). Parents can play an important 'missing' factor in this process, as they can have sufficient time and knowledge for a more individualized approach to foster students' motivation. Additionally, the parents in our study engage often in stimulating students' learning behaviours (behavioural SRL component). The school can give parents advice regarding student learning behaviours. For example, schools can give parents insights into how they can effectively help their children with schoolwork and studying (Dauber & Epstein, 1989; Eccles & Harold, 1994; Pechackova, Havigerova, Jezkova & Kucerova, 2012), with a great amount of autonomy for the student and a high degree of encouragement. In conclusion, this study is a first step in providing schools with a more profound understanding of how to help reinforce SRL at home and consequently supplement the teaching-learning context in the classrooms to make learning activities more effective.



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## **Appendix**

### ***Interview guide parents***

- (1) Can you tell me more about yourself? (e.g. (work)situation parents, age, number and age of son/daughter ...)
- (2) Can you tell me more about your son/daughter? How would you describe him/her? What are his/her likes/dislikes (in general)?
- (3) How would you describe your relation with your son/daughter? How would you describe the relationship between the children?

### ***School***

- (4) Can you describe the previous period of exams? How would you describe your role during this period?
- (5) To what extent you guided in this period (cognitive component)? How would you describe your help? Can you give some examples?
- (6) To what extent you observed what your son/daughter studied? Did you, for example, knew what he/she had to study for each subject matter? Did this differ for certain courses?
- (7) To what extent you observed how your son/daughter studied during the period of exams? Can you give some examples? (E.g. ask questions in preparation of exam, help youngster with a task, monitor concentration, make planning ...) Did this differ for certain courses?
- (8) Did you get tips from the school to help your child during the exams?
- (9) How would you describe the motivation to study of your son/daughter during the period of exams? How come? What role did you have in this? What did you do to motivate your son/daughter? What would help him/her to get motivated?

- (10) How did you motivate your son/daughter during studying? What did you say/do?
- (11) Was your son/daughter getting a reward when he/she did a good job on an exam/studied enough?
- (12) How do you dealt with your son/daughter having difficulties with a certain topic/course/exam? How do you encouraged him/her to deal with the difficulties?
- (13) Describe a situation when your son/daughter came home after an exam that went well (or when he/she had a good feeling after the exam)? What did/said your son/daughter after the exam? Was it a good exam after all?
- (14) To what extent you talked to your son/daughter about the exam (metacognitive component/self-reflection)? About what you talked?
- (15) To what extent you reflected together on what went good/bad and how to proceed with the following exams? Can you give an example?
- (16) Describe a situation when your son/daughter came home after an exam that went not so good or bad (or when he/she had a bad feeling after the exam)? What did/said your son/daughter after the exam?
- (17) How did you react if your son/daughter was disappointed in him/herself after studying/the exam? What did you say/do?
- (18) To what extent you talked to your son/daughter about the exam (metacognitive component/self-reflection)? About what you talked?
- (19) To what extent you reflected together on what went good/bad and how to proceed with the following exams? Can you give an example?
- (20) Did your son/daughter have certain expectations/goals for him/herself? Which ones?

- (21) Did he/she have the feeling to be able to reach these expectations/goals? If yes: what did he/she do exactly to reach these expectations/goals? If no: how do he/she cope with this? Why he/she is not able to reach the goals/expectations?
- (22) Did you or your partner have certain expectations? Which ones? Was your son/daughter aware of these expectations? How?
- (23) To what extent did you talk about this with your son/daughter? Can you give an example?
- (24) To what extent did you have (implicit/explicit) rules about studying (during a period of exams)? What (sort of) rules? Did your son/daughter know this?
- (25) How were these rules set? Did your son/daughter/other kids have a say? Are there differences with the other parent/care giver/...?
- (26) To what extent these rules and expectations were met? Can you give an example?
- (27) To what extent did you do different things now compared to the period of tests in primary education?
- (28) To what extent you acted/did the same things/stimulated the same regarding studying in comparison to the other children? (e.g. less strict/more rules/...)?
- (29) What were, until now, the most difficult and challenging aspects of supporting school-related work at home? Are there any aspects you would like to improve?
- (30) With who, in your opinion, lies the greatest responsibility that your son/daughter performs his/her schoolwork independently? With your son / daughter, with the school, with you as parents, with parents and school or all of you together?

Table 1. Composition of interviewed parent-student unit

Table 2. Statements per SRL-component for parents and students

Table 3. Groups of parents and students and their SRL-promotion (displayed per component)