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Dyslexia and dyslexia related emotion and motivation regulation in language learning

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Abstract

The study aims to explore the emotional and motivational experiences of learners with dyslexia in the context of language learning. Dyslexia is recognized as one of the most common learning disabilities, and the persistence of academic difficulties associated with dyslexia can have significant implications for the cognitive, emotional, and motivational aspects of learning. By filling a gap in current research, this study examines the academic problems encountered by learners with dyslexia, their emotional and motivational states during language learning, and the regulation strategies employed to navigate these challenges. Utilizing a qualitative research approach, semi-structured interviews were conducted with 8 participants diagnosed with dyslexia. The results show a pattern of task-related difficulties, negative emotions, and the need for emotion and motivation regulation strategies to sustain learning progress. The study emphasizes the significance of investigating this topic to enhance our understanding of the unique experiences and needs of learners with dyslexia. By shedding light on the cognitive, emotional, and motivational dimensions of language learning for learners with dyslexia, this study contributes to the advancement of inclusive educational practices and promotes an environment that recognizes and supports the diverse needs of learners with dyslexia.

Keywords: Dyslexia, language learning, emotion regulation, motivation regulation, learning disabilities, academic difficulties

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1 Introduction

In the school environment, many teachers deal with students that display symptoms of learning difficulties, especially in reading and writing. Dyslexia is considered the most frequent type of learning difficulty. According to the International Dyslexia Association, dyslexia affects approximately 15-20% of the population or around 1 in 5 people (International Dyslexia Association, 2023). The literature explains that dyslexia reflects an inadequacy in processing the different linguistic units that make up words, namely phonemes (Shaywitz, 1996). The definitions of dyslexia also mainly explain why some intelligent people are having trouble learning reading and achieving and completing language-related tasks. For the last decades, much research related to dyslexia has been done, and many results show that students with dyslexia are likely to face a lot of obstacles during learning languages (Downey et al., 2000). Especially, while learning new languages, reading and spelling skills are essential. Therefore, it can be said that students with dyslexia, particularly in foreign language classes when the association between the sound/symbol is considered, are at risk for failure (Downey et al., 2000). Additionally, persistent feelings of failure among students can pose a risk to lose their motivation to learn languages (Kormos & Csizér, 2010). Furthermore, the negative experiences associated with reading and writing difficulties can result in negative emotions that impact the motivation of learners with dyslexia in language learning.

Dyslexia can cause a lot of obstacles and hamper emotions in learning, particularly in language learning. Thus, in addition to the support from the environment, for these specific students to decrease the risk of failure, motivation, and emotional regulation are necessary. In the field; there are examples of studies and research that focuses on how to support learners with dyslexia during language learning such as Dolaiso (2017) and Franklin (2018). Dolaiso (2017) has explored various strategies for supporting learners with dyslexia in the English

Language Teaching (ELT) classroom and found that learners with dyslexia benefit from support in language learning in several areas such as interactive activities, explicit instruction of phonics, and spelling rules, the use of assistive technology. Additionally, Franklin (2018) provides suggestions and strategies for parents of children with language-based learning disabilities. However, the gap in research shows that there cannot be found a specific study that reflects the emotional and motivational challenges and strategies of learners with dyslexia especially in language learning. Therefore, exploring more about the challenges that students with dyslexia can face during language learning and discovering the ways of emotional and motivation regulation in such a setting is important and worth studying to fill the gap in research. Therefore, this Master's thesis aims to explore the emotional and motivational challenges of learners with dyslexia and their regulation strategies in specifically language learning context. The study also aims to explore the aforementioned aspects through a developmental aspect. Hence, to reach this aim; the qualitative study method has been used through conducting retrospective interviews with 8 learners with dyslexia.

2 Theoretical Framework

The theoretical framework of this Master's thesis will be covering first, the cognitive perspective on dyslexia, which is introduced in order to draw a picture of the difficulties the students with dyslexia may face in language learning. Second, the concepts of emotions and motivation and their regulation will be defined to clarify the definitions of concepts used in this study to understand language learners' emotion and motivation regulation. Further, the research done of emotions and motivation and their regulation particularly in language learning context will be introduced to elaborate the context of language learning. Third, the literature on the impact of dyslexia on emotions and motivation in language learning will be reviewed. Based

on this framework, the thesis can examine the impact of dyslexia on emotions and motivation in language learning, and the effectiveness of regulation strategies in overcoming these difficulties.

The findings of this research can contribute to our understanding of the complex relationship between dyslexia, emotions, and motivation in language learning, and provide practical implications for educators and caregivers in general and individuals with dyslexia.

2.1 The cognitive perspective on dyslexia

Dyslexia is considered a learning difficulty or disability highly related to reading and writing. Therefore, it is crucial to understand the impact of dyslexia on the cognitive development of the learners to be able to examine its relation to the learner's emotions and motivation.

Dyslexia has a big impact on language learning when the role of reading and writing has been considered in language learning. According to Shaywitz and their colleagues (1998) learning how to read requires phonological constituents and awareness, however; these are lacking in readers with dyslexia. That is why learners with dyslexia are having difficulties mapping the alphabetic characters to the spoken world. According to the research, this is an impairment in the neural system (Shaywitz et al., 1998). The measurement done in 1998 about this impairment supports that the impairment in learners with dyslexia is phonologic, moreover; their brain activation patterns provide a neural signature for this impairment (Shaywitz et al., 1998).

Translation of written symbols, graphemes, and phonemes are requirements of learning how to read (Snowling, 2000). This is called the mapping process and this mapping process engages various brain mechanisms that serve different purposes (Snowling, 2000). The

interaction between these mechanisms and systems brings fluency in spelling and reading performance (Snowling, 2000). According to Snowling (2000), written language is a complexity, however; the majority of children with the correct instructions can learn how to read easily. On the other hand, a minority of the children have difficulty related to the acquisition of literacy skills even though they can do very well on other tasks. These children who belong to the minority are sometimes called "dyslexic" (Snowling, 2000). In short, Snowling (2000) defines dyslexia as a developmental disorder extending across the lifespan based on their case study.

A number of studies have been done on the cognitive-developmental framework of dyslexia that is important to mention. On this perspective, some retrospective studies of comparison between children with dyslexia and children without dyslexia showed that at age 2,5 the children with dyslexia made more speech errors, at age 3 children with dyslexia had more difficulties at object naming, and at age 5 difficulties of the children with dyslexia extended to phonological awareness problems (Snowling, 2004). Moreover, some studies showed that adults with dyslexia have difficulties with decoding words that they have not seen before (unknown words), and have issues related to phonological awareness, speeded naming, and tasks related to verbal short-term memory (Bruck, 1990, 1992; Pennington, von Orden, Smith, Green & Haith, 1990; Snowling, Nation, Moxham, Gallagher & Frith, 1997 as cited in (Snowling, 2004). Therefore, it can be said that dyslexia cause difficulties both in childhood and adult time of the individuals that can affect literacy skills crucially.

Lastly, it is crucial to mention some important factors of dyslexia in different languages within the framework of this master's thesis. Different factors can cause different reading and spelling symptoms of dyslexia (Snowling, 2004). The nature of the language (whether it is opaque or transparent language) that is being learned, and the style of the teaching practice are

some of the factors that can affect the variety of the reading and spelling symptoms in the context of dyslexia (Snowling, 2004).

Almost a decade later, Snowling (2013) published another article about dyslexia. Snowling (2013) discusses similar themes to Snowling (2000) and Snowling (2004) regarding dyslexia and reading difficulties. Snowling (2013) also emphasizes the importance of early identification and intervention for dyslexia, as well as the need for individualized, evidence-based interventions that address the specific needs of each child. Additionally, Snowling (2013) discusses the comorbidity between dyslexia and other developmental disorders such as ADHD and language impairment and the importance of addressing these co-occurring difficulties in order to provide effective intervention.

In addition to the contributions of Snowling (2000, 2004) and Shaywitz (1998), more recent studies on specifically developmental dyslexia are related to mention. The phonological theory (Snowling, 2000, 2004) is considered one of the main theories of dyslexia. However, new studies and reviews on theories bring attention to phonological theory be not explanatory enough (Stein, 2019). When the nature of the phonological theory is observed, it explains that children with dyslexia cannot decode translating letters into sounds (Snowling, 2000; 2004) but according to Stein (2019); this theory fails to explain why children with dyslexia fail to decode. Therefore, when only phonological theory is considered, it becomes almost impossible to distinguish poor readers from individuals with dyslexia (Stein, 2019). For overcoming this problem, many new signal detection, neurological, and psychological theories have been introduced recently to the field (Stein, 2023).

When the current situation about dyslexia is observed, the initial point to mention is that the diagnosis of developmental dyslexia has been moved to educational psychologists from medics (Stein, 2023). Therefore, with the new perspectives in the field, the point of view of phonemes showed a difference (Stein, 2023). Simply, learning to translate letters into sounds

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(phonemes) is considered the essence of reading (Stein, 2023). However, phonemes are not standard and acoustic signals, therefore; children need to learn 'phonological principal' which is a semi-abstract concept (Stein, 2023). With this specific principle, the phonological theory of dyslexia becomes more dominant in the field (Stein, 2023) even though it fails to explain some particular points (Stein, 2019). The reason for this dominance is that it proves that children cannot understand the spoken form of a word until they learn that the written forms of words occur with sequences of separate letters (Stein, 2023).

It is very significant to mention that this phonological principle applies not only to dyslexia but to all reasons for failure to learn how to read (Stein, 2023). The research shows that the majority of children who leave school unable to read are not always children with dyslexia but children who experience the disadvantage of the toxic combination of low general ability, lack of family support, poor teaching, and other social factors (Stein, 2023).

Moreover, another research has explored the relationship between dyslexia, dysgraphia, procedural learning, and the cerebellum, as outlined in the article by Nicolson and Fawcett (2011). The findings of this research suggest that learners with dyslexia can benefit from support in language learning in areas such as phonology, phonological awareness, orthography, and the structure of language (Nicolson & Fawcett, 2011). The article also highlights the persistent academic difficulties faced by individuals with dyslexia, which may impact their language learning abilities (Nicolson & Fawcett, 2011).

To sum up, dyslexia is a reading and spelling difficulty that is caused by some disruptions in an individual's neural systems (Shaywitz et al., 1998). Moreover, it can have different symptoms in different settings and conditions. Therefore, it is closely related to the learning process and can cause disruptions while learning, especially in new subjects that require a lot of reading and spelling skills such as language learning. On this matter, alongside the cognitive perspective of dyslexia, it is a requirement to examine the role of emotions and

motivation in language learning within this framework to grasp the theoretical perspective of this thesis.

2.2 Emotions and motivation in language learning

2.2.1 Emotions in the general academic context and language learning context

Emotions have a meaningful impact on individuals' lives in each setting and environment. Therefore, emotions carry a crucial role during the learning process, as well (Boekearts & Pekrun, 2016).

A deeper understanding of the concept of academic emotions is crucial to highlight within this Master's thesis theoretical framework. As mentioned previously, emotions have an important impact on all settings in one's life. Typically, emotions are defined as a multifaceted phenomenon and they include different coordination of psychological processes such as affective, cognitive, motivational, physiological, and expressive factors (Shuman & Scherer, 2014). Pekrun (2006) groups emotions according to their degree of activation and valence. When valence is the matter, positive emotions can be differentiated from negative emotions such as pleasant joy versus unpleasant anger (Boekaerts & Pekrun, 2016). Moreover, when the activation is the matter, physiologically activating emotions can be differentiated from deactivating emotions (Boekaerts & Pekrun, 2016) such as activating hope versus deactivating sadness. Both valence and activation are used to arrange impactful states in two-dimensional space as Barret & Russel (1998) name it as the "circumplex model" of affect. Distinguishing specific academic emotions can be done through the object focus as another dimension called three-dimensional taxonomy is addressed by Pekrun (2006). These specific groups of emotions can shortly be listed as (1) Achievement emotions which are the emotions directly linked to the

achievement activities or outcomes (Boekaerts & Pekrun, 2016), (2) Epistemic emotions which belong to the knowledge-generating qualities of activities, and cognitive tasks. Boekarts & Pekrun (2016) exemplify these emotions as curiosity, excitement, frustration, and joy of confirmation, (3) Topic emotions confines on epistemic emotions however they only appeal to learning material effect (Boekaerts & Pekrun, 2016), (4) Social emotions are considered significant, especially in teacher-student and student-student interaction. Love, gratitude, sympathy, anger, and social anxiety are common examples of social emotions. This group of emotions can sometimes overlap with achievement emotions when they are related to the success and failure of others (Boekaerts & Pekrun, 2016).

In addition to these, Zeidner's (1998) prior research about emotions and test anxiety is worthwhile to mention in this section. Zeidner's (1998) book is focused on the relationship between test anxiety and emotions. The research offers a comprehensive overview of the current state of research on test anxiety, including the cognitive, affective, and behavioral aspects of this phenomenon. Zeidner (1998) is discussing the emotional experiences of test anxiety, such as worry, tension, and fear, and how these emotions can impact the cognitive functioning of individuals taking tests. Moreover, another research by Zeidner (2014), focuses on different types of anxiety experienced by students, for example, test anxiety, social anxiety, and math anxiety, and how these anxieties can affect students' academic performance particularly. Emotions are a key component of anxiety, and the book discusses how emotions can trigger and perpetuate anxiety, as well as strategies for managing anxiety and its emotional components (Zeidner, 2014).

There is a very close relationship between motivation and emotions (MacIntyre, 2002). This relation can be explained through Tomkins' arguments about conceptualizing effects. According to Tomkins (1970), affect is the initial motive for humans. Moreover, emotion is described as an amplifier which is providing urgency, intensity, and energy to behavior

(Tomkins, 1970). Hence, when the emotions are considered within the frame of its function as an amplifier effect, it has a big impact on everything that is being done (Tomkins, 1970). In this regard, it can be said that when the emotion is stronger, the impact is going to be even greater (MacIntyre, 2002). Therefore, MacIntyre (2002) points out that strong emotions can disrupt cognitive processes.

The role of emotions in language learning is a very significant factor that should be mentioned. Especially because of the dominant effect of foreign language anxiety, the value of positive emotions in second language acquisition research stays more in the shadow (Dewaele et al. 2018). However, it is considered that this situation might change with the contributions of Positive Psychology which is simply an empirical study of how people flourish and thrive (Dewaele et al. 2018).

Positive Psychology targets to widen the general point of view in general psychology with a focus on disorders, mental illness, and abnormalities, moreover, the ways of developing to reduce pain and learning to handle negative experiences with the help of the tools that help to build positive emotions, promote a better engagement, and hoist the gratitude to meaning in life (MacIntyre & Mercer, 2014). The introduction of Positive Psychology offers a new area of research in the field of second or foreign language acquisition (Deweale et al. 2019). The interventions of Positive Psychology have been used in schools to fortify the experiences of learners and teachers with the flow of hope, creativity, well-being, optimism, courage, and happiness while aiming to enhance the linguistic progress of learners (Deweale et al. 2019). In short, emotions are the center of language learning and teaching however they are considered as staying in the shadow in the last decades of linguistic research (Deweale et al. 2019). Even though they are not researched so much in the field, with the interventions of Positive Psychology, the implications of the roles of emotions in language learning are starting to get attention as recent studies show (Deweale et al. 2019).

Therefore, it can be summarized that emotions have a big and significant role in the language learning context when also its tight connection with the role of motivation is considered.

2.2.2 Motivation in the general academic context and language learning context

Additionally, motivation and what it refers to should be stated. In the academic context, motivation can be characterized as a product and process. It refers to learners' willingness to engage in a task and stay persistent in it when motivation is viewed as a product. Also, when motivation is viewed as the process that narrates learners' motivation or goal-directed behavior. In both viewings, motivation has an impact on learners' feelings and self-efficacy (Wolters, 2010). Moreover, a study by Rhodewalts and Vohs (2005) focuses on motivation in a self-regulatory process, as the importance of the outcome of their study is noteworthy. Rhodewalt and Vohs (2005) propose a self-regulatory process view of defensive strategies and motivation, examining how learners' beliefs about their abilities and perceived threats affect their behavior in challenging situations. The researchers discuss that individuals may use defensive strategies to protect their self-esteem and avoid negative outcomes, but these strategies can also hinder their ability to achieve their goals (Rhoewalt & Vohs, 2005).

Before having a deeper understanding of the role of motivation in specifically language learning context, it is crucial to mention what kind of variables in second language learning have been studied. It is broadly discussed that especially second language learning process includes Individual Differences (from here on it will be addressed as ID). Moreover, motivation has been founded as one of the crucially affect language learning success ID variables (Dörnyei, 2005). Additionally, Dörnyei (2005), argues that without adequate motivation, individuals would not be able to accomplish long-term goals regardless of their remarkable abilities. At the same time, high motivation has a positive impact on individuals' both language aptitude and learning conditions (Dörnyei, 2005).

According to Gardner's Model of Second Language Acquisition (2001), language achievement is impacted by language aptitude, integrative motivation, and many other factors. Another important study about the role of motivation in language acquisition has been done by Clement and his colleagues. When second language learning is observed from a motivational perspective, the most significant factor that has been studied is considered self-confidence which is generally referred closely to the individual's belief in having the ability to accomplish goals, produce results, and/ or perform tasks proficiently (Clement & Gardner 2001 as cited in Dörnyei, 2005). Another important theory of motivation in language learning that should be mentioned in this paper is the Self Determination Theory broadly discussed by Ryan & Deci (2017). The self-determination theory particularly focuses on different types of intrinsic and extrinsic motives in second language learning settings (Dörnyei, 2005). This theory, over the years, has been argued by many other researchers in the field (Dörnyei, 2005).

After Ryan & Deci came up with the self-determination theory in the early 1980s (Dörnyei, 2005), especially Kim Noels' empirical study with two other self-determination theory experts Luc Pelletier and Robert Vallerand shaped the theory further in the 1990s (Dörnyei, 2005). This initial study of Noels and her associates added dimensions to this theory. In these studies, examination of environmental influences on the learners' self-determination showed a consistent pattern between the teacher's controlling, constructive feedback and the learner's intrinsic motivation (Noels, 2001). Shortly for instance, if the learner feels that the teacher is controlling too much or failing to give constructive feedback, the learner's intrinsic motivation decreases. Moreover, these studies also proved that the learners who studied a second language on their own will showed less sensitivity to the teacher's influence as an extrinsic motive (Noels, 2001).

A decade after Dörnyei's book (2005), Dörnyei and Ryan (2015) revisited the theories that are mentioned in Dörnyei's previous book to discuss the theories according to the current

research in the field. From this revisit, the most related chapter is simply the most dynamic conception, and the most researched ID "Motivation" is also discussed (Dörnyei & Ryan, 2015). Dörnyei and Ryan (2015) discuss the newer insights into motivation as a situation dependent. Besides Dörnyei's (2005) earlier version of the self-theory of second language learner motivation, a new theory which is called the directed motivational currents construct (DMC) is introduced (Dörnyei & Ryan, 2015). This new theory can simply be explained as the trial to achieve some directed goal while the learners steer energy to complete tasks during being driven by a dream of envisioned future state (Dörnyei & Ryan, 2015).

To sum up, the role of motivation and emotions have an important impact on the cognitive processes of second language learning. The lack of motivation can affect the quality of learning and motivation has a great influence on the emotions of the individuals.

2.3 Emotion and motivation regulation in language learning

2.3.1 Emotion Regulation

Regulation of emotions is an important aspect of the regulation of learning (Boekaerts & Pekrun, 2016). In short, emotion regulation refers to processes of reactions and monitoring and evaluation of emotional experience (Wolters, 2003) when it is regarded as the focus of the learning theorists. However, emotion regulation is also defined by various theorists such as internal processes and behavioral manifestations (e.g. Eisenberg, Hofer, Sulik, and Spinrad, 2014 as cited in Kurki, 2017). Other theorists referred to emotion regulation as willing efforts to modify, inhibit or change actions, and emotional reactions according to the individual's expectations or own goals (McClelland et al. 2007, Morris et al. 2007, Whitebread & Basilio 2012 as cited in Kurki, 2017).

To understand emotion regulation, it is important to mention the core features of emotion regulation. The first core feature of emotion regulation is the activation of the goal. The goals should be activated to alter the emotion-generative process. This activation can be done by oneself or by others. These can be referred to as intrinsic emotion regulation (when the regulation is done in oneself) and extrinsic emotion regulation (when the regulation is done in someone else) (Gross, 2014). The second core feature is about the engagement of the responsible processes for altering the emotional trajectory. This is explained mostly by emotions being implicit versus explicit. Emotion regulation can be done consciously, however, there are also situations where emotion regulation is unconsciously activated. For instance, hiding the attraction to someone else (Gross, 2014). The last core feature of emotion regulation is based on the impact on emotion dynamics (Thompson, 1994). These dynamics depend on the person's goals and emotion regulation can change in time according to the emotional response (Gross, 2014).

Emotions are regulated and monitored by others, mainly the caregivers and parents in the early stages of life. However, with the development of the person, emotions are self-regulated with the growth of cognitive and linguistic skills (Thompson, 1994). As emotions are a part of one's life every day in every field, these also have a big role in the school. Especially when some challenges occur during learning, the regulation of emotions becomes more essential to overcome the obstacles.

Emotion Regulation Strategies

The ability to regulate emotions for even very young children is considered a very important skill (Wolters, 2003). When emotion regulation is considered from a developmental point of view, this type of regulation integrates children's capability to monitor, evaluate, and change the intensity, occurrence, or duration of specific emotional experiences (Eisenberg et

al., 2001; Thompson, 1994; Walden & Smith, 1997 as cited in Wolters, 2003). As examples of emotion regulation strategies that especially young children use can be given as attention shifting (such as looking at something/somewhere else), attention focusing (such as thinking of something else), thumb-sucking, and avoiding specific situations (Wolters, 2003).

As Boekarts and Pekrun (2016) emphasize that emotions can be often found in classroom settings. For example, the learner can feel the enjoyment of learning, the boredom of academic tasks, or hope for success (Boekaerts & Pekrun, 2016). Briefly, with the evidence in research, it can be said that emotions can be seen as instrumental in personal growth and as well as achievement (Boekaerts & Pekrun, 2016). While experiencing positive emotions can help a learner see goals, stimulate creative problem-solving, and provide help for self-regulation (Clore & Huntsinger, 2009; Fredrickson, 2001 as cited in (Boekaerts & Pekrun, 2016), experiencing negative emotions can hinder academic performance, cause school dropout, and impact health negatively (Zeidner, 1998, 2014; Boekaerts & Pekrun, 2016).

There are several studies and research that show emotions can be regulated in many different ways. In an especially academic setting, emotion regulation strategies are generally described with the distinction between problem-focused versus emotion-focused coping (Boekaerts & Röder, 1999; Boekarts & Pekrun, 2016) and Gross' process model of ER (Jacobs & Gross, 2014). Research on emotion-focused versus problem-focused strategies focuses on the distinction between problem-focused strategies that involve attempts of changing the stressor, and emotion-focused strategies that focuses on attempting to change the emotions directly (Boekaerts & Pekrun, 2016). The examples of the problem-focused and emotion-focused coping strategies can be seen in the Table 1.

Table 1

Examples of problem-focused and emotion-focused coping strategies

Problem-focused coping strategies	Emotion-focused coping strategies
Situation selection	Self-blame
Working hard	Self-talk
Seeking help	Distraction
	Relaxation

*Adapted from Boekarts & Röder (1999) as cited in Boekarts & Pekrun (2016)

Additionally, Gross's process model of ER is widely described. This model consists of five families of ER strategies which are situation selection, situation modification, attentional deployment, cognitive change, and response modulation (Jacobs & Gross, 2014). Especially the first four of the listed categories are shown before the person is appraising the situation therefore, these strategies can be specifically adaptive when the situation happens before the emotional response occurs (Jacobs & Gross, 2014; Boekarts & Pekrun, 2016). From Gross's model, I will briefly mention the specific categories which are more related to the ER in the academic context. These specific categories are situation selection, situation modification, cognitive change, and response modulation. Especially the first four of the listed categories are shown before the person is appraising the situation therefore, these strategies can be specifically adaptive when the situation happens before the emotional response occurs (Boekaerts & Pekrun, 2016). Firstly, situation selection is the strategy that consists of the choice of the situation that can minimize to face an emotional stressor such as failure, and increase the possibility of strengthening the positive emotions. Situation modification is another group of strategies that tries to interfere in the social, physical, and instructional environment so that its emotional impact can be changed (Boekaerts & Pekrun, 2016). This group of strategies is found useful in classroom settings for social support (Boekaerts & Pekrun, 2016). Cognitive change links to

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the modification of appraisal of the situation hence it can change its impact on emotions (Boekaerts & Pekrun, 2016). Finally, response modulation refers to the regulation of emotion by influencing behavioral, psychological, and physiological responses (Boekaerts & Pekrun, 2016).

On the other hand, emotion control can be described as one of the motivation strategies within educational settings (Wolters, 2003), and this describes the learners' capability to regulate their emotional experience to guarantee to finish academic tasks (Corno, 1993; Schutz & Davis, 2000 as cited in Wolters, 2003). Therefore, the control of emotions is often seen as essential for reducing negative affective responses that are related to performance evaluations (Spielberger & Vagg, 1995; Zeidner, 1998 as cited in Wolters, 2003). In the academic context, it is less frequently highlighted but learners can use strategies to control positive emotions as well (Wolters, 2003).

Many particular strategies that are used by learners to influence or manage their emotional reactions can be observed throughout the field (Wolters, 2003). These strategies can be listed as; slow and deep breathing, slowly counting to 10, and wishful thinking (Knapp, Kukjian, Spirito, & Stark, 1991; Schutz & Davis, 2000 as cited in Wolters, 2003). In addition to these, individuals can use inner speech to control their emotional reactions (Wolters, 2003). Another strategy that learners use is a self-affirmation process by which learners are conducting a cognitive search for positive evaluations of themselves (Garcia & Pintrich, 1994; Wolters, 2003). Moreover, the literature proves that school-age children can understand and use many particular strategies to regulate their emotional responses (Thompson, 1994; Wolters 2003).

2.3.2 Motivation Regulation

Learners' ability to control their motivation and motivational aspects is affecting their achievement and learning (Wolters, 2010). Zimmerman identifies motivation as one of the areas

of the learning process in which learners self-regulate actively within the models of self-regulated learning (Zimmerman, 1994). Shortly, the literature about motivation shows that learners can monitor and regulate their motivation, and this form of self-regulation action ultimately influences learners' learning and achievement (Wolters, 2010). Motivation regulation can be defined as the activities that learners act to initiate and maintain their willingness to begin, process the work toward, and/or finish a specific goal or activity (Wolters, 2010). Additionally, this regulation form is done by intervening in, managing, and controlling which determines the willingness (Wolters, 2010). Therefore, in short; when the role of motivation is considered in self-regulated learning models, learners are expected to collect adaptive attitudes and beliefs to drive their willingness, to engage in, and persist in at their academic tasks (Wolters, 2003).

Motivation Regulation Strategies

Motivation regulation strategies to keep the aforementioned factors driven while persisting on the willingness during learning have been researched in the field before. Research has identified various strategies that learners use to regulate their motivation (Wolters, 2003). The key activities used by learners to regulate their motivation will be mentioned in the following.

One of the key strategies to regulate motivation is self-consequating. It is a strategy that can be used by the learner as an administration of extrinsic reinforcements or punishments to reach specific goals that are related to completing a task (Wolters, 2003). This strategy can shortly be explained with the following examples; a learner can state "If I write one chapter for my essay, I can play my favorite video game for half an hour tonight." Wolters (2003) states that this rewarding strategy has been labeled as self-reinforcement in some research. However, it is also emphasized that the learners can rely on punishments as well (Wolters, 2003). For

instance, learners can state themselves "If I cannot finish reading the book, I cannot meet my friends tonight as I planned."

The second key strategy to be mentioned is goal-oriented self-talk. This strategy relies on learners' willingness to reach different goals that are related to completing particular academic tasks (Wolters, 2003). Goal-oriented self-talk strategy involves learners' use of ideas and thoughts or subvocal statements when they are doing an academic activity (Wolters, 2003). However; Wolters (2003), mentions that the context of these thoughts is considered different than reinforcing or punishing specific behaviors. It is considered to be more about learners' self-talk or reasoning themselves to persist or complete a task (Wolters, 2003).

Another motivation regulation strategy is interest enhancement. Learners can focus on increasing the aspects of their intrinsic motivation. Especially, the learners can use strategies that aim to increase the sudden enjoyment or the situational interest they are experiencing when completing an activity (Wolters, 2003). Numerous research has been done (Sansone, Weir, Harpster, & Morgan, 1992; Sansone, Wiebe, & Morgan, 1999 as cited in Wolters, 2003) proved that learners usually preferred this strategy while modifying the repetitive or boring tasks to make them more situationally enjoyable, interesting or challenging to complete.

Environmental structuring is considered one of the key motivation regulation strategies. This strategy is briefly learners' arrangement of their study environment to be less distracting or easier to be focusing (Wolters, 2003). In addition to this, self-handicapping is the strategy related to manufacturing obstacles before or during the task to make the task more difficult to perform (Wolters, 2003). As an example, the learner can blame going out with friends the night before the exam for the low grade, and according to the research, it helps the learner to maintain their self-worth and self-belief instead of accepting low ability (Urdan & Midgley, 2001). While self-handicapping allows learners an initial manipulation before and during tasks, attribution

control as another strategy can allow learners to have causal attributions manipulation during or after a task that can more positively influence their motivation (Wolters, 2003).

The final key strategy in motivation regulation is efficacy management which can be discovered through proximal goal setting, defensive pessimism, and efficacy self-talk (Wolters, 2003). Proximal goal setting can be briefly explained as the strategy of breaking complex or large tasks into simpler and smaller segments that can be completed quickly (Wolters, 2003). Moreover, defensive pessimism is another strategy that is related to learners' perceived skills to finish a task. This strategy allows learners to emphasize their inexperience level, lack of competence, or other factors to persuade themselves that they are not likely to complete a task successfully (Garcia & Pintrich 1994, Norem & Cantor, 1986 as cited in (Wolters, 2003). Finally, the efficacy self-talk strategy is closely related to learners' thoughts or subvocal statements that aim to impact their efficacy for an ongoing task (Wolters, 2003). For instance, during the academic task learner can state "Good job, you are doing amazing!"

Many of the previous studies show that motivation regulation strategies are mainly effective for the sustainability of the learners' persistence and effort, however; it is less known which strategy works the best (Schwinger & Otterpohl, 2017). Recently, there are studies done to explore motivation regulation strategies based on the key strategies that are coined by Wolters (2003). These recent studies are mainly focusing on exploring the best strategies and variations of the motivation regulation strategies based on the learners' motives while self-regulating. The study by Schwinger and Otterpohl (2017) shows the significance of setting and supporting achievement-related goals in the academic context. Moreover, this study points out that teachers and educational psychologists can encourage unmotivated learners to set goals for their studying and continuously reflect and recall those goals (Schwinger & Otterpohl, 2017)

Additionally, a study by Ilishkina and their colleagues (2022) shows that motivational elements which are motives, emotional state, means and beliefs and goals are interrelated to

motivation regulation strategies that are suggested by Wolters (2003). The findings of the study show target interest, personal significance, and mastery orientation have strong relations with intrinsic motives to self-develop (Ilishkina et al. 2022). Moreover, target performance, goal-setting, self-consequating, and environmental control have stronger relations with extrinsic motives for self-respect (Ilishkina et al. 2022). Therefore, the motivation regulation strategies that are used by learners when grouped by the motivational elements can help to discover different motives orientations and this can lead learners to regulate their motivation within the frame of self-regulation to learn better (Ilishkina et al. 2022).

To conclude, listed motivation regulation strategies are considered as the strategies that are positively influencing the learner's motivation during performing academic tasks (Wolters, 2003). Even though it is not possible to identify all the strategies that are used by learners (Wolters, 2003), some key strategies which are commonly used and researched were listed to emphasize the importance of the strategies on motivation in this Master's thesis. Moreover, it should be highlighted that both emotion and motivation regulation are highly connected to each other similar to the tight connection between emotions and motivation in general. As can be seen in this section, Wolters (2003) refers to emotion control as one of the motivation regulation strategies. Therefore, these two phenomena are complementing each other to a certain extent, as can be seen in the research.

2.3.3 Research on emotion and motivation regulation in language learning

The research specifically concerning emotion regulation can be found in very diverse in different areas such as health (Chung, Kweon, Kang, Hong & Hong, 2018), business (Fang He, Siren, Singh, Solomon & von Krogh, 2018), and education (e.g. Cheng, Friesen & Adekola, 2019; Webster & Hadwin, 2015). However, there has been only limited interest in emotion regulation, especially language learning. Oxford, (2011, 2017) suggests affective strategies and describes them as helping language learners directly to promote positive emotions, attitudes,

and beliefs and initiate and maintain the motivation for the emotion regulation strategies of language learners. This description refers generally to emotion self-regulation strategies which can be categorized basically as emotion regulation strategies.

As it was aforementioned there is a little scant on the research about this specific topic. However, research by Bielak & Mystkowska-Wiertalak (2020), aims to reveal emotion regulation strategies in the language learning context. This specific research follows the vignette methodology to investigate Polish university students', whose majors are in English, and emotion regulation strategies (Bielak & Myskowska-Wiertalak, 2020). The data of the study has been collected through scenario-based questionnaires and semi-structured interviews. The results of the study show that the given scenarios were realistic and participants experienced various negative and positive emotions, even sometimes at the same time (Bielak & Myskowska-Wiertalak, 2020). Moreover, the findings show that the choice of emotion regulation strategy in language learning depends on the specific situations, participants' characteristics, and the learning context (Bielak & Myskowska-Wiertalak, 2020). Lastly, this research proves that learners use Gross's (2015) emotion regulation strategies families to make meaning to cope with emotions.

Moreover, the motivation regulation strategies are also little researched especially in the language learning context. The research can be found reflecting the language learners' motivation and their relationship with self-regulation in an online learning context (e.g. Zheng, et al. 2018), and examining the motivation of foreign language learners and burnout (e.g. Yu, et al. 2022). Zheng and their colleagues (2018) aim to present a structural relationship model which integrates the motivation of English language learners with their self-regulation in the online setting. In order to get results, the study uses two different questionnaires based on online language learning and online self-regulated learning, and the participants are Chinese university students (Zheng et al. 2018). The findings of the study show that learners with a more positive

future image of their language learning and intrinsic interest in especially English culture are more likely to be better at self-regulation in online learning environments (Zheng et al. 2018). On the other hand, learners who learn English just to avoid negative academic results show a probability to be less motivated to apply self-regulation in their online learning (Zheng et al. 2018).

In addition to these, Yu and their colleagues (2022) study explores academic burnout as part of academic motivation in the context of English as a Foreign Language. Since there is little known about the association between motivation and burnout among English as Foreign Language learners, this study aims to explore and fill the gap (Yu et al. 2022). To reach this target, undergraduate students from China were recruited and the results of descriptive analysis reflect that participants reporting of high levels of burnout in the language learning context (Yu et al. 2022).

To conclude, there is limited research on especially emotion and motivation regulation in the context of second language learning, and the existing research and studies discover the different aspects or perspectives of the regulation while not completely focusing on the specific regulation strategies.

2.4 Research on emotional and motivational aspects of dyslexia and language learning

The literature about dyslexia and its direct impact on emotions and motivation especially in language learning can be found very limited. Due to the limited literature, I decided to explain this chapter by specific psychosocial problems that can occur in learning disabilities context. The research shows that important psychosocial factors and problems cause specific emotions that can end up in situations linked to motivational behaviors (Greenham, 1999). Singer (2005)

exemplifies these psychosocial problems as inattentiveness, fear of failure, low motivation for schoolwork, dropping out of school, low self-esteem, loneliness, depression, anxiety (Greenham, 1999), and poor peer relations Hellendoorn & Ruijssenaars, 2000; Kavale & Forness, 1996 as cited in (Singer, 2005) . There is also a growing body of research showing that learners with learning disabilities also incline to display emotional and social difficulties. Therefore, even though reading and spelling are the primary problems for learners with dyslexia, much research in the field shows that their specific academic problems are widely connected to psychosocial problems (Singer, 2005). Limited research on the relationship between learning disabilities and psychosocial dysfunction hypothesizes from the reciprocal view that the result of school failure, teachers, parents, and peers' states disapproval toward the learner (especially when they are a child), who then starts feeling helpless or inferior (Greenham, 1999). These feelings lead to continuous academic failure and a pattern of subsequent negative feelings and pressure that can finally lead to emotional and social problems (Bruck, 1986).

Moreover, another approach compares heterogeneous groups of children with learning disabilities to normal or low-achieving children on various emotional and social factors. The research refers to emotional factors in two main categories which are internalizing problems and externalizing problems. The internalizing problems are depression, anxiety, faulty attributions for success and failure, low feelings of self-worth, and perceived competence (Greenham, 1999). The externalizing problems are substance use and abuse, and aggressive-disruptive, delinquent-antisocial, and hyperactive-inattentive behaviors (Greenham, 1999).

Additionally, the research by Nicolson & Fawcett (2011) and their highlights in the study can be mentioned as a contribution. The research points out that continuous academic difficulties can impact the language learning abilities of learners with dyslexia (Nicolson & Fawcett, 2011). Therefore, academic difficulties can be persistent and keep occurring both in childhood and adulthood time.

In conclusion, due to the limited research on the topic, the impact of dyslexia, or learning disabilities in general, can be explained through the previous research on academic problems that children with learning disabilities face. The research shows that these academic problems are highly linked to psychosocial problems.

To visualize the theoretical framework, I prepared a flowchart (see Figure 1) that highlights the main chapters and the sub-chapters of the theoretical framework connected with arrows. I presented mainly focused regulation strategies lastly in the right side of the flowchart within the yellow round shapes.

Figure 1

Visual figure of theoretical framework
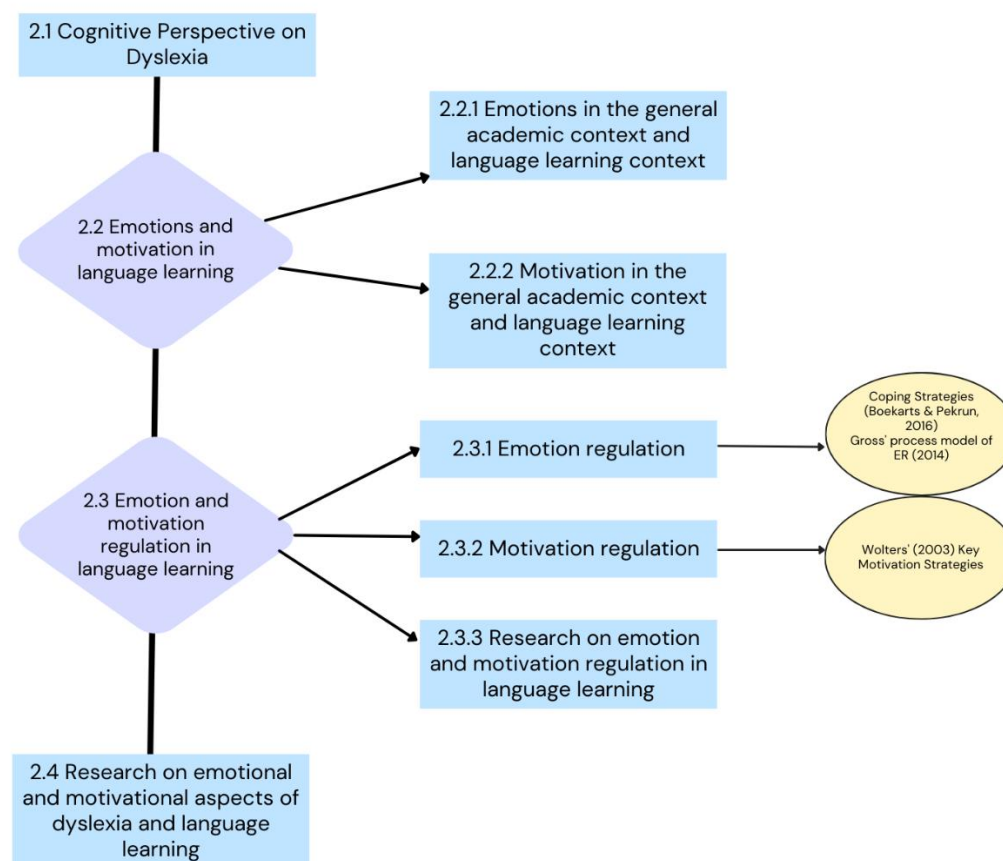
3 Aim and Research Questions

The aim of this study is to discover the emotional and motivational challenges of learners with dyslexia in language learning. In addition to the challenges, exploring the emotion and motivation strategies that learners with dyslexia generally use when faced the challenges is another aim. The study aims to achieve this exploration through a developmental aspect by linking the participants' school-age experience to young-adulthood experience. To meet the specified research aims, the following research questions (RQ) are addressed;

RQ1: What kind of academic problems and related emotional and motivational issues do learners with dyslexia face during language learning?

RQ2: What are the most common emotion and motivation regulation strategies used by learners with dyslexia in language learning?

RQ3: What kind of differences or similarities are there between the strategies between childhood and adulthood?

4 Research Methods

4.1 Participants

Initially, a total of 11 people with dyslexia showed interest in this study. However, only 8 of them gave their consent to participate in the interview. The participants were mainly recruited from the closed Facebook groups that are for supporting adults with dyslexia and sharing their experiences. The age and country of the participants showed variety, and the majority of them were diagnosed with dyslexia when they were adults. General information

about participants' age and where they are from are summarized in the following tables (See

Table 2 and Table 3)

Table 2

Description of the participants' age

Age Range	Number of Participants
20-29	1
30-39	1
40-49	3
50-59	3
60+	1

Table 3

Description of the countries where participants are from

Country	Number of Participants
Australia	1
Iceland	1
Peru	1
Thailand	1
The Netherlands	1
USA	3

4.2 In-depth Retrospective Semi-Structured Interview

In qualitative research, interviewing gives access to the context of people's behavior

therefore; it provides researchers with a way to understand those specific behaviors (Seidman,

1991). Hence, interviews are a powerful way to get more insight into educational matters with the help of understanding the experience of the individuals (Seidman, 1991). Seidman (1991) summarizes the root of in-depth interviewing by stating that it is an interest to understand the experience itself and its meaning of it. Moreover, semi-structured interviews refer to the interview types where researchers can have some predefined questions but then explore further with the participant's responses; this can help the researcher to have powerful data since it provides strong insights into the participants' perceptions, opinions, and experiences (Peters & Halocomb, 2015). The main idea in semi-structured interviews is to investigate the research area by gathering similar information from each participant (Holloway & Wheeler, 2010; Kallio et al., 2016), and by guiding participants on what to talk about (Gill et al., 2008; Kallio et al., 2016).

In addition to these, the retrospective interview is a type of qualitative research method that involves asking participants to recall and reflect on past experiences, events, or behaviors (Flick, 2007). In a retrospective interview, the researcher asks participants to describe in detail what happened, how they felt, and what they were thinking during a particular event or period of time (Flick, 2007).

The interview that is conducted in this study aimed to ask participants about both childhood and adulthood experiences through in-depth semi-structured retrospective interviews. The script of the interview had two main parts; (1) Childhood experience, (2) Adulthood experience. The participants were asked to reflect the elementary school to high school time for the first part of the interview, and university time for the second part of the interview. Both of the parts followed the same structure as the order of the questions (See Appendix A).

Activating prior knowledge can be used as a strategy that would develop intellectual skills, and it allows individuals to metacognitively think about the explanations and interpretations (Hartman, 2002). To activate the prior knowledge, I started the interview with

general questions: "*Can you talk about the experience you had during school time? When were you diagnosed with dyslexia? Were your teachers aware of your difficulties related to dyslexia?"* Next, I continued by asking about specific situations, and emotions. The questions followed each other by asking about motivation, willingness, study methods, and support. The interview script was created only in English and the interviews were transcribed in English.

4.3 Data collection procedures

The interviews were conducted between December 2022 and February 2023. Out of 8 interviews, 7 of them were conducted and recorded in Teams. Only one interview was conducted face-to-face, and I used my personal device to record the interview to transcribe it later. Participants received the consent form and invitation to the interviews via e-mail. Interviews that were conducted in Teams were transcribed by Teams and edited after the meetings. One exceptional interview was transcribed by using the transcription function of Microsoft Word. The total time for all interviews was around 9 hours, and the average time of each interview was approximately an hour. All recordings of the interview were saved in an appropriate format for future analysis.

4.4 Validity, Reliability and Ethical Considerations

In order to accelerate the reliability and validity of a study, it is important to use methods that guarantee the accuracy of the data, particularly in a qualitative study (Franklin et al. 2010). I applied several steps to ensure the reliability and validity of the current study. Initially, I verified the accuracy of the Teams auto-transcription by carefully reviewing the transcripts and cross-checking with the video recordings. I manually edited the parts that were unclear or required correction. To ensure the reliability and validity of the study, the transcriptions were

read multiple times. Next, the data was color-coded and initial coding schemes were created. The data was coded multiple times to ensure stability, and after re-coding several times, similar schemes emerged. This process of repeated coding and the consistency of results indicates the high reliability and validity of the current study.

After the participants showed interest in participating in the research, each of them was informed generally about what the study is about and how long the interview would take approximately. When they accepted participation in the study, they were sent the meeting link with the consent form. Each participant sent the filled consent form before the conduct of the interviews. The consent form included the title and the purpose of the study, and the confidentiality. Since the majority of the interviews were conducted online, consent about recording the video as well as the voice is asked (See Appendix B). The filled consent forms and the recording of the meetings are being stored in an external hard drive for the next 2 years as the participants were also informed so. Therefore, the current study was conducted according to the Finnish Advisory Board on Research Integrity (TENK, 2019).

4.5 Data analysis

In order to analyze the answers from the interviews, I edited the automatically transcribed meetings that took place in Teams and edited the text according to the meeting recordings. The results of the in-depth semi-structured retrospective interviews were analyzed through the content analysis method. This type of analysis can apply convergence and divergence to the research and the similarities and differences can involve different levels of analyzing reflections of the researcher (Braun & Clarke, 2006). Moreover, the content analysis gives an opportunity for the researcher to use predeterminant codes or create codes during the analysis (Hsieh & Shannon, 2005). Firstly, I color-coded all the transcripts in order to create

the coding schemes easier. Then I proceed with the coding process. Miles and Huberman (1994) define codes as labels or tags for assigning units of meaning. I have created 4 coding schemes in total which are for (1) Emotions and emotion regulation strategies, (2) Motivation and motivation regulation strategies, (3) Challenges/obstacles, (4) Differences between childhood and adulthood to be in line with the aim and the research questions of this master's thesis. While creating the coding schemes, I used firstly the emergent coding technique. This coding technique refers to the coding process where the researcher starts analyzing and coding without predetermination (Saldaña, 2016).

For the coding schemes about emotions and emotion regulation strategies, and motivation and motivation regulation strategies, I created two different schemes for both childhood and adulthood parts' answers. However, I created a final table combining both experiences using an inductive approach. Therefore, initially, I looked for the indications of the problems related to emotional and motivational issues. Then I forward with the regulation strategies. Thus, this way, in my final tables, I had the categories for firstly the problems, secondly emotions and motivation, and finally the regulation strategies. The inductive approach can be briefly defined as looking for patterns that are based on the information being studied or the "facts" (Boyatzis, 1998). The emergent inductive coding can be seen in the following tables (Table 4 and Table 5).

Table 4

Example of using inductive coding for the emotions

Main category	Sub-category	Example
Negative emotional responses	Anxiety	I had a lot of anxiety. Anxiety during the tests and stuff I would get panicky. (Participant 1)
	Embarrassment	Now it was just embarrassing. And then say it out loud. Foreign language out loud and the class. Oh my God. (Participant 6)

	Inadequateness	Just being just like, oh, you're not good enough or anything. It's just not feeling good enough, not feeling that you're worthy of being there, (Participant 3)
	Frustration	Needed to remember everything. You get frustrated. (Participant 7)
	Anger	I know in college it happened a little more as I get angry about. I was angry at myself. (Participant 1)
Positive emotional responses	Fun	I like languages they were fun. (Participant 7)
	Calm	Yeah, I was extremely calm, not confident. (Participant 8)

Table 5

Example of using inductive coding for the emotion regulation strategies

Main category	Sub-category	Example
Emotion- focused coping strategies	Distraction	Like hobbies that probably distracted me a little bit. I'm not sure if I use distraction as a coping mechanism for feeling like a failure, but I think I was also having wide range of interests since I was very young." (Participant 2)
	Relaxation	I listened to music. I'm a big music fan. I would do my art. (Participant 1)
	Self-talk	I could do it. You know, I was like. I know I can do this. I really focused on the small wins. (Participant 6)
Problem- focused coping strategies	Working hard	I studied, I studied harder, I studied harder and I just had to go through it. I had to go through it. (Participant 7)
	Seeking help	I still like, have to collaborate, collaborate with other people how to digest an information. (Participant 2)
	Situation selection	I'd happily stand out in the rain and the freezing cold and I'll be the last one to walk into class [to avoid getting into the classroom]. (Participant 4)
	Situation modification	Try to find the smartest route [to learn and practice] and that's like what really helped me in in that sense in my regulation. (Participant 3)

The more detailed sub-categories and their frequencies among the participants are given in the following Results section.

5 Results

5.1. RQ1: What kind of academic problems and related emotional and motivational issues do learners with dyslexia face during language learning?

5.1.1. Academic problems during childhood

When the collected data was analyzed, the following features were noted. The academic problems, especially during childhood, were perceived as highly difficult to experience by the majority of participants. The academic problems that can be found from analyzed data can be gathered around 6 sub-categories namely grammar and its related tasks, expectation, being bullied, tests or multiple-choice exams, time limit, and failing. The following table reflects the categories and their frequencies (Table 6).

Table 6

Description of categories for the academic problems in childhood

Main Category	Sub-Category	Frequency
Task related problems	Grammar and its related tasks	8
	Tests/ multiple choice exams	3
	Time limit during quizzes	2
	Failing	3
Psychosocial problems	Being bullied/ not fitting in	3
	The expectation	3

8 out of 8 participants reported that during language learning, *grammar, and its related tasks* were very challenging for them. Overall, the grammar issues dealt with reading, spelling, and making sense of the rules in grammar. Hence, the first problem of all the participants mentioned, especially in childhood, was problems closely related to reading, spelling, or grammar in general. Making sense of grammar rules that require memorizing specific words was one of the reasons why they reported having difficulties in grammar, moreover, another reason was reported as not liking the language that is being learned. In addition to these, reading as a grammar-related problem is reported to be an important problem in childhood. Taking more time while reading, being a slower reader than the other peers, or having difficulties while reading specific words described as a problem and led to very strong emotions later on. Lastly, spelling was mentioned often by the majority of the participants during their early times in school. Therefore, learning to write or practice writing letters was very challenging for many participants as they described it with very strong words.

In the following extract, the reflection of participants' difficulties with grammar and related tasks in the order of making sense of grammar, reading, and spelling can be seen with their own words.

> "In my own language in Dutch, we don't have gender generated words, so it's like we have what do you call them? The articles I think so. But it's not like in German and in French you have like its word female or male? I had so much trouble with that because I just couldn't remember it. I couldn't make sense of it, and definitely because you follow those courses next to each other, and sometimes they're opposite, like in the different language and that was, like really hard for me to make sense of that." (Participant 3)

"Specifically, the reading like I was unable to read certain words and when I

had to stop and sound out a word and then see if I understood what it was. By

that time, I had forgotten what I had read before that, and so you know I it

was like a constantly like going back to reread." (Participant 5)

"Spelling. Spelling bees. It was hell." (Participant 2)

The expectation of other people and the expectation they put on themselves, and the pressure caused because of that reason was mentioned as another sub-category as another problem in childhood time. 3 out of 8 participants reported that the expectation of them was pretty high because the people around them were accepted as smart by other people. Therefore, the pressure of wanting to be seen smart as their family members was highly important. Some of them also reported the expectation that they put for themselves was high. They wanted to be confident and trust their academic skills. The following extract reflects the evidence of the pressure of expectation on participants:

"I felt like the expectation was very heavy on me because my parents are

teachers and everybody was expected to do well and everybody in my family

is quite smart, you know in school, book smart. I think from very, very young.

Since, you know, we start reading and writing and start facing with exams

and like a competitive student life, it got off really rough. I was never that

confident about it." (Participant 2)

Another found sub-category was *being bullied and feeling like not fitting in* reported. 3 out of 8 participants reported that they were either bullied because of being different than the others or feeling left out. Especially if the help from teachers was coming in front of the other peers, this caused participants to feel cast out and led to an uncomfortable feeling. Participant 4 and Participant 7 stated that they were bullied and cast out as can be seen in the following:

"I was bullied really badly. And because I was different, this guy, just for some reason, took a real dislike to me." (Participant 4).

"You always feel like an outsider. It wasn't safe" (Participant 7)

Other academic problems that should be taken into consideration revolve around the *tests, multiple choice exams, and the time limit during the quizzes.* Even though these problems were more commonly reported in adulthood experience, a small number of participants mentioned especially the tests and time limit as a problem in childhood experience as well. 2 out of 8 participants stated that they had a big problem with the tests and multiple-choice exams during childhood, similarly, 2 out of 8 participants reported that the time limit especially during quizzes caused them to have a difficult time during that time because they mostly highlighted that they needed to deal with the difficulty of reading and time managing at the same time. The following example can be shown as evidence of their problems related to this:

"It was always the tests. I didn't understand how I can, how I could misread it, how I could? Fail that one, but usually it was. Like I say, it was multiple choice questions." (Participant 7)

Finally, *the repetitive pattern of failing* was another highly mentioned academic problem in language learning in participants' school experience. 3 out of 8 participants reported that failing was very demotivating and seemed like a crucial problem during their school time. Failing the courses or specifically exams were commonly highlighted as can be seen in the following extract:

"I think I failed that more than I failed math classes. I couldn't I just I could not grasp. A foreign language in any way, shape or form." (Participant 6)

Finally, as general results, I find it important to report that many of the participants reported that school, in general, was challenging when asked about their childhood experiences.

5.1.2. Academic problems during adulthood

Many of the participants reported that they did not take any additional language courses during higher education because they did not have to take them. However, the rest of them highlighted that they did their degrees in English, which in their case English is their second language, and faced some academic problems that are mainly same to their childhood experience such as reading, writing assignments, and grammar. However, some new ones were also highlighted which are reported and presented below (see table 7).

Table 7

Description of categories for the academic problems in adulthood

Main Category	Sub-category	Frequency
Task related problems	Grammar and its related tasks	5
	Failing	4
	Time/ exam pressure	2
Psychosocial problems	External criticism	2

One of the new problems that are reported by participants can be described as *external criticism*. I categorized this problem differently than the expectations that were reported in the childhood experience, however, the problem caused similar pressure on the participants. 2 out of 8 participants reported that they were feeling external criticism by feeling judged constantly. The next extract reflects this problem:

"I just needed it to stop. I just needed the judgment to stop. It was always the external. You didn't get validation. You got criticized by what? Or basically

marked on a piece of paper from school is not about how well you know the subject. Are you smart enough? you have somebody who's telling you you're not good enough. You're not good enough. You're not good enough. Throughout your year, and it's not even just, it's not even your parents. It is people. You need to learn the ABC's and if you can do it, you get the gratification you get: Yay, you, brilliant. But if not. You will get the cold shoulder." (Participant 7)

Time limit and test/exam pressure were another mentioned problem as 2 out of 8 participants reported. This problem occurred differently in adulthood experience than the previous one because the context of the time pressure seemed to change in higher education. In this period, they reported that the time for given assignments was short and since they were slower to complete reading and writing-related tasks, it was giving noticeable pressure on them. The next extract shows the evidence of time limit as an academic problem the participants highlighted.

"We have to read a lot. A lot of papers like in between lectures having a lecture at the end of the day and then the next morning we would have a lecture from like same lecture and then we needed to read three papers in like an evening. I struggle a lot with that." (Participant 3)

Lastly, the majority of the participants had a difficult time to maintaining their higher education because of the academic problems they faced due to their dyslexia. The majority of them reported that they went to higher education straight after graduation from high school, however; they also changed their major, or university or took a break during their studies. Moreover, some of them found it difficult to finish their studies due to the necessity of writing a thesis.

5.1.3. Emotions

Particular emotional reactions were experienced after the aforementioned problems both in childhood and adulthood time. Both positive and negative emotional responses were observed in the data. However, the negative emotional responses were more frequent than the positive emotional responses, as can be seen in the following table (Table 8).

Table 8

Description of categories for emotions

Main category	Sub-category	Frequency
Negative emotional responses	Anxiety	7
	Embarrassment	2
	Inadequateness	5
	Frustration	4
	Anger	4
	Exhaustion	2
	Hopelessness	1
	Disappointment	1
	Stress	1
Positive emotional responses	Fun	1
	Calm	1

To begin with, the most common negative emotional responses were anxiety, frustration, anger, inadequateness, embarrassment, and exhaustion. In addition to these, hopelessness, stress, and disappointment were reported. Moreover, some positive emotional reactions were rarely mentioned, and it is worth reporting as a result here.

Firstly, as the negative emotional responses, after facing an academic problem, 7 out of 8 participants reported they felt *anxiety.* The academic problems or even the possibility of facing academic problems caused participants to feel high anxiety, even at some level this anxiety showed physical symptoms. Especially during tests or when teachers asked a question during lessons, the anxiety level gradually increased. For instance:

"I had a lot of anxiety. Anxiety during the tests and stuff I would get panicky."
(Participant 1)

"I'm remembering now in elementary school I would go to the nurse, the
nurse a lot because I had an upset stomach, which was the anxiety, I'm sure,
but it got me out of class, you know, took the attention off of me and took
away that pressure of possibly having to answer a question I couldn't answer"
(Participant 5)

Moreover, *embarrassment/ feeling ashamed* was reported by participants after facing an academic problem. 2 out of 8 participants reported that they would feel ashamed or embarrassed if they could not read a passage from the book when the teacher asked or when they could not answer the question when asked. These situations led them to feel embarrassed, especially in front of their peers. The next extract shows the feeling of embarrassment and how participants described them.

"Now it was just embarrassing. And then say it out loud. Foreign language
out loud and the class. Oh my God." (Participant 6)

The academic problems also led to a lot of *frustration* as 4 out of 8 participants reported. Not being able to complete a reading or spelling task or being corrected by another person for their mistakes caused them to feel frustration. For instance:

"The teacher worked on my Spanish [paper]. So, if you say, OK, you have to
put it in this funny thing in in the right way. So, I feel frustrated." (Participant
8)

"I'm at a point where I should be able to do this and I get frustrated because
I couldn't." (Participant 1)

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Following the frustration, *anger* was a common feeling that caused participants experienced after facing the problems. 4 out of 8 participants reported that they often felt angry at the fact that they needed to work harder and practice more than their peers. This emotion was mostly experienced towards the self. Therefore, many participants reported anger feeling to themselves because of the problems related to their dyslexia. Examples of this can be seen as follows:

> "I was angry at myself. I'm at a point where I should be able to do this and I
> get frustrated because I couldn't." (Participant 1)

The frustration, and anger to self also is followed by *inadequateness* as an emotion. 5 out of 8 participants often reported that they felt not worthy or not smart enough because of the difficulties they experienced due to their dyslexia. They reported that they did not feel smart enough because even though they put in a lot of effort, they kept failing. Therefore, they felt like they were not worth being taught in the classroom with the rest of their peers because they were not smart enough to be there. The next extract reflects these feelings.

> "I just knew I wasn't never that good at it. But I did make myself feel stupid.
> I think it's that I feel like I have a lot of knowledge, but I feel like I can't. then
> I'm just like, oh, I'm so stupid that I can't do this." (Participant 3)

> "I didn't feel like I was smart. I didn't feel like I was, you know. Umm, like
> very inadequate. Very like, not good enough, not on par with my peers and
> therefore feeling stupid at times, you know? And that doesn't feel good."
> (Participant 5)

2 out of 8 participants reported that they felt *exhaustion* because the emotions they experienced were highly intense. They often experienced more than one negative emotion when they faced an academic problem, and this situation eventually caused them to feel mentally and

physically tired in general. Therefore, some of the participants also reported exhaustion as can be seen in the following example:

"All those bad (feelings). It was exhausting and hard." (Participant 6)

"Other times, I just was exhausted. Physically and emotionally drained."
(Participant 4)

Hopelessness, disappointment, and stress were also mentioned. Each of these emotions was mentioned only by one participant for each. They reported that they were feeling mostly hopeless. After all, they never believed they will be seen as a smart person, disappointed in themselves because they put so much effort to succeed in language lessons, and lastly stressed because of all of the pressure that they faced. These can be exemplified by the following extracts.

"I wanted to be sick all the time when I was young, so I wouldn't go to school and yeah, yeah. I felt very hopeless." (Participant 2)

"Just disappointment in myself, just being just like, oh, you're not good enough or anything. It's just not feeling good enough, not feeling that you're worthy of being there, even though knowing that you're." (Participant 3)

"You need to remember this. This is what you need to remember. And because it was always hard to take the tests. I needed to remember everything. It was anxiety and stress." (Participant 7)

On the other hand, some participants stated positive emotional responses, even though it was not highly frequent. The most common response in this category was feeling fun as 1 out of 8 participants reported. They stated that learning languages were *fun*, and they enjoyed learning new languages. Another participant reported that they felt *good and calm* while learning languages because they were always advanced and doing good in language classes.

5.1.4. Motivation

I analyzed the interview questions related to willingness to study and willingness to learn new languages in order to have accurate findings on the motivational issues of learners with dyslexia in language learning. Found categories and how frequent they were can be seen in the following table (Table 9).

Table 9

Description of categories for motivation

Main category	Sub-category	Frequency
Motivation	High willingness to learn languages	6
	Low willingness to learn languages	2
Positive impact on motivation	Intrinsic motives	6
	Extrinsic motives	2
Negative impact on motivation	Grammar and its related tasks	4
	Failing	3
	Specific classroom settings	2

The first important thing to mention about the participants' willingness to study new languages was that 6 out of 8 participants reported they had a *high willingness to learn languages*. This briefly can be explained as more than half of the participants were highly interested in learning languages because of various reasons that I also categorized as motivation motives. The high willingness to learn languages can be seen in the examples follows with the participant's own words.

> "I'm still like a massive language learner at the moment. I do have interest in learning languages, yes. I still have the love for the learn language learning still." (Participant 2)

On the other hand, as for the *low willingness* category, 2 out of 8 participants reported that they had no interest or willingness to learn languages. The reason why they did not have high interest was mostly because they believed that they were not good language learners. They already had a lot of difficulties or challenges during learning their native language, and this made them believe that they cannot learn any new languages. The next extract reflects this category.

"You know, I guess I feel like if I can't master my native language, what makes me think I can learn something completely different?" (Participant 5)

As I analyzed the motives for the aforementioned willingness, there was a pattern for both intrinsic and extrinsic motives to learn new languages as a positive impact on motivation to learn languages.

The intrinsic motives are presented as the participants' high interest in the culture, history, shows, books, etc. This intrinsic motive to explore a new culture or learn history better kept 6 out of 8 participants motivated to learn and study languages as can be also seen in the examples given below.

"I Just like watching a lot of movies and series and I didn't like reading in English that much, but I wanted to understand because I couldn't. I wasn't fast enough to read the subtitles, so I was like, oh, if I learn English, I can understand these movies or I can understand this series so much more than it was easier to listen and then just understand what they were saying than reading the subtitles, because then I couldn't watch the movie because I was just working my way through the subtitles so much." (Participant 3)

For the *extrinsic motives*, the influence of musicians and artists was mentioned by 2 out of 8 participants. I categorized this as an extrinsic motive because the participants strongly

highlighted that it was the influence of some other person (like an artist or a musician) that motivated them to learn languages. The next extract shows the extrinsic motive for the motivation to learn languages.

"I'm interested in learning another language because you know a lot of the artists that I like and stuff aren't in the United States so that's a big influence on that" (Participant 1)

There were also patterns of negative motivational impact on the willingness that led participants to be less motivated to study languages. The negative impacts can be listed as specific task-related difficulties, failing the tests, and specific classroom settings. Firstly, 4 out of 8 participants reported that the difficulties they experienced in *grammar and its related tasks* had a big negative impact on their motivation. Ending up making mistakes on reading or spelling tasks caused them to avoid learning languages eventually. For example:

"Spelling, writing, reading affected my motivation negatively." (Participant 2)

Secondly, *failing the tests* was reported by 3 out of 8 participants as having a negative impact on their motivation to learn languages. After failing a lot of language courses, they did not want to continue learning the languages or their willingness decreased noticeably.

Finally, *specific classroom settings,* especially in childhood experience, affected the participants' motivation negatively. 2 out of 8 participants reported that especially failing to complete a task in front of their peers caused them to be less motivated to even go to the language lessons. For instance:

"I would say in the classroom specifically affected my motivation negatively, when asked, you know, to answer a question and I couldn't do it. You know,

it made me feel very I don't know, it just made me feel really bad about myself.

Like I just, you know, I knew I wasn't capable and it really put me on the spot

in front of my peers, you know, like it's singled me out." (Participant 5)

5.2. RQ2 What are the most common emotion and motivation regulation strategies used by learners with dyslexia in language learning?

5.2.1. Emotion Regulation Strategies

From the analyzed data, many of the emotion regulation strategies were presented as coping strategies. The participants first reported their problems related to their dyslexia, then the emotions that were led by the problems, and finally their regulation strategies. As mentioned earlier, the majority of the strategies can be grouped as coping strategies as can be seen in the table presented below (Table 10).

Table 10

Description of the emotion regulation strategies

Main category	Sub-category	Frequency
Emotion- focused coping strategies	Distraction	5
	Relaxation	3
	Self-talk	3
Problem- focused coping strategies	Working hard	4
	Seeking help	6
	Situation selection	3
	Situation modification	4

Emotion-focused coping strategies are mainly distraction, relaxation, and self-talk. Therefore, to begin with, *distraction* was the most common coping strategy with 5 out of 8 frequencies. After facing a problem, participants reported that they found enjoyable things that would distract them from their negative emotions. They reported that they might do basically

what they are good at, listen to music, do art, or do some hobbies to cope with the negative emotions. The next extract shows an example of distraction.

"Like hobbies that probably distracted me a little bit. I'm not sure if I use distraction as a coping mechanism for feeling like a failure, but I think I was also having wide range of interests since I was very young." (Participant 2)

Relaxation was reported by 3 out of 8 participants as a coping strategy. The participants stated that when they faced a problem and experienced a negative emotion, they would try to do things simply to relax themselves in order to cope with those feelings. For example:

"I go walking and try to relax myself." (Participant 1)

Self-talk was another common result when emotion regulation strategies were looked for in the data. 3 out of 8 participants reported that as an emotion-coping strategy, they would talk to themselves so that they can regulate the negative emotions they were experiencing at that moment. For example:

"I do zoom out and being like, OK, hey, what are you actually saying that to yourself now? It's OK, you don't have to be perfect at everything. And you're good at like the thing that you do and it's OK to take more time to read this or to learn the language or stuff like that." (Participant 3)

On the other hand, problem-focused coping strategies were working hard, seeking help, situation selection, and situation modification. 4 out of 8 participants reported that they were mostly frustrated because they needed to work harder than the rest of their peers. However, as a method of coping with those negative emotions, they stated that they kept *working and practicing harder*. When facing the risk of failure because of the difficulties related to their dyslexia, half of the participants highlighted that they kept studying harder so that they could

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prevent failing and experiencing negative emotions. This can be seen with the example in the next extract.

"I studied, I studied harder, I studied harder and I just had to go through it. I had to go through it." (Participant 7)

Another strategy was *seeking help.* 6 out of 8 participants reported that they asked for help from family members, teachers, or friends. The help that they were particularly looking for showed a variety of sources. In some, the participants wanted to talk to friends or teachers to cope with the problems and emotions but sometimes they used the help of technology to make studying languages easier for themselves. Moreover, especially in higher education, joining the study groups after the lectures was reported as a useful strategy. The next extract shows examples of these situations.

"I would often borrow a handwritten notes or friends. I said attend more study groups than normal. I would be I would try and discuss stuff with other students face to face. And I'd even if I knew the lectures were approached more approachable, I would actually go to them and talk to him about it. If they had the time." (Participant 4)

Situation selection was mentioned by 3 out of 8 participants as a strategy to regulate their emotions. In some cases, the participants reported they would try to avoid taking language courses if they can or they would choose a relatively easier course. The following example reflects how it was used and stated during the interviews.

"I'd happily stand out in the rain and the freezing cold and I'll be the last one to walk into class [to avoid getting into the classroom]." (Participant 4)

Lastly, *situation modification* was reported by 4 out of 8 participants in different ways such as looking for new ways to learn or easier ways to learn was a coping strategy for their emotions. Therefore, they reported that they need to look at the situation from different angles and find the best way to learn. For instance:

"Try to find the smartest route [to learn and practice] and that's like what

really helped me in in that sense in my regulation." (Participant 3)

5.2.2. Motivation Regulation Strategies

As the motivation regulation strategies, the most frequently mentioned strategies were interest enhancement, self-handicapping, and proximal goal setting. Interest enhancement was the most frequently reported motivation regulation strategy as the following table also presents (Table 11).

Table 11

Description of the motivation regulation strategies

Main category	Sub-category	Frequency
Motivation regulation strategies	Interest enhancement	4
	Self-handicapping	3
	Proximal goal setting	2

Interest enhancement was reported by 4 out of 8 participants as the most frequent motivation regulation strategy. Participants generally reported that they found the most interesting ways to keep studying languages in order to keep their motivation as high as possible. These are exemplified by trying to imitate a language or an accent, using gamification as a way of studying. The next extract shows an example of interest enhancement as a motivation regulation strategy that is used by learners with dyslexia in language learning.

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> "I gamified everything. You make flash cards online and you can do bunch
>
> of games with them. Writing them over to memorize." (Participant 3)

Secondly, *self-handicapping* was presented as a strategy in this context with 3 out of 8 frequencies. The data showed that participants made themselves believe that they cannot learn any new languages in any context. The repetitive pattern of thinking and saying that they would not be able to master another language was a common strategy that could be observed as the example shows:

> "It was insurmountable, insurmountable, impossible to me that way. But no,
>
> I can't. I can't do it [learning new languages]." (Participant 6)

Finally, *proximal goal setting* was a strategy that was used by 2 out of 8 participants to regulate their motivation. They reported dividing the tasks into smaller sections, taking breaks, and mostly focusing on the small wins after completing those smaller sections of the task. For example:

> "Just getting and clearing my head out a little bit, a little bit, and then going
>
> back to it and looking at it again." (Participant 1)

I also find it significant to mention that often, participants reported that they would avoid or not take new language courses if they did not have to take them mandatorily.

5.3. RQ3: What kind of differences or similarities are there between the strategies between childhood and adulthood?

The answers to the questions directly asking about the identification of differences in the study methods at the end of the interview were analyzed to get results for this research question. Hence, the results suggested that the participants stated that there was generally a

difference in the way that they regulate their emotions and motivation. The differences also were pointed out by the participants themselves. The most visible difference in the context of regulation was in their motivation. When they were asked about the differences between strategies, mainly the first thing to be told was how driven they were to learn in general when in higher education and the main reason for high motivation to learn in higher education was the fact that they were not forced to learn specific topics, they learned because they chose to learn. The next extract reflects on the *change in the motivation* of the participants.

> "Younger, didn't feel like a choice. [Later] I wanted to, that was something I felt really passionate about." (Participant 6)

> "I went back to college when I wanted to. Thought it was my decision to go back." (Participant 1)

Moreover, one of the most noted differences was that participants *learned how to regulate their emotions and motivation in time*. When compared to childhood experience, it is highlighted that in adulthood experience, they were more aware of their emotions, and learning tactics, therefore they could regulate their learning as well as their emotions and motivation easier and better. For instance:

> "In general, just better self-regulation. Just much knowing much better. Hey, what works for me? What doesn't. I learn very well when there's a when something is in a story. So, storytelling, when I hear stuff and read, I do like seeing the words as well. But like mostly hearing them while reading. That works really well, and I didn't really necessarily know that in high school and in earlier education, it was just a bit of a mess. Regulating it better to the extent that and I was more motivated." (Participant 3)

As can be seen in the extract above, there are differences in the way the participants studied and their emotional states when they were asked to compare both childhood and adulthood experiences. It can be shortly summarized that as the strategies, the results showed that through time, they learned what is the best and most interesting way for them to learn. Therefore, with the awareness of their situation, they could develop better interest enhancement strategies. In addition to these, it was also possible to see that better regulation strategies helped develop more positive emotions. In the next extract, positive emotional responses can be seen.

> "I felt more comfortable doing it. I was more fun. It took an interest in stuff more. So, made me much happier to be there." (Participant 1)

> "I feel like I am like starting to develop this interest that I didn't have. Start develop confidence to learn about this." (Participant 2)

In short, the results showed that there are differences in the strategies that are being followed in childhood and adulthood, and these differences are mainly focusing on the participants' awareness of their learning strategies. Following, the better regulation strategies helped them to have more positive emotional responses, as the given examples reflected.

6 Discussion

The aim of this study was to explore the emotion and motivation regulation strategies that learners with dyslexia apply when facing academic problems, particularly in the language learning process. In order to explore this aspect, the study also examined and aimed to reveal the academic problems that learners with dyslexia face and what emotions these academic problems lead to. Moreover, the developmental aspect of dyslexia has been taken into consideration and both childhood and adulthood experiences of the participants were asked to reveal the differences between childhood and adulthood learning experiences. Therefore, to

collect the data for the study; retrospective interviews were conducted with 8 learners with dyslexia. In this section, the existing literature on the topic will be compared to the findings of this study.

6.1. Academic problems and emotional and motivational states they lead to

The findings of the study show that learners with dyslexia experienced problems because of their dyslexia throughout their lives starting from very early ages in childhood and continuing with adulthood. Therefore, the symptoms and impact of dyslexia are a lifetime situation as Snowling (2000, 2004) suggested and proved in the earlier period of dyslexia research.

As the results of academic problems in childhood were observed, task-related problems were the most frequently reported issues, with grammar and its related tasks being the most common sub-category. The most common and obvious problems that occurred were spelling, reading, or making sense of grammar as in general grammar-related tasks among the children with dyslexia. This can explain why reading and spelling are considered the biggest problems of children with dyslexia while learning languages. Therefore, these results are consistent with previous research on academic challenges that children with learning disabilities face (e.g., Singer, 2005; Snowling 2000, 2004, 2013). Additionally, psychosocial problems such as being bullied and not fitting in were also reported during childhood. These findings are in line with previous research on the academic challenges faced by children with learning disabilities (e.g., Greenham, 1999; Singer, 2005; Snowling, 2013). It can be briefly said that the previous research that focuses on the academic and psychosocial problems that children with learning disabilities show consistency with the results of this study in the children with dyslexia context as well.

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The results indicate that task-related problems continued to be a concern for individuals with dyslexia in adulthood, with grammar such as tasks related to reading and spelling, and failing to be the most frequently reported sub-categories. Additionally, external criticism was identified as a psychosocial problem that impacted academic performance. These findings are in line with previous studies that highlight the persistence of academic difficulties for individuals with dyslexia into adulthood (e.g., Nicolson & Fawcett, 2011).

Following the academic problems in language learning, the findings show that individuals with dyslexia reported experiencing a range of negative emotions related to their academic experiences, especially after facing the problems, such as anxiety, inadequateness, and frustration. These negative emotions were observed to be very intense and strong after facing a problem during the academic process among learners with dyslexia. Results also showed that the negative emotions impacted their performance and motivation such as experiencing frustration led participants to end up with low willingness to study or learn languages. These findings are consistent with prior research conducted by Zeidner (1998, 2014), who demonstrated that emotions can impede learners' academic performance, as well as with Kormos and Csizer's (2010) findings that difficulties in reading and writing can result in negative emotions among learners, ultimately affecting the motivation of those with dyslexia to learn a language. In contrast, positive emotional responses such as fun and calm were less commonly reported.

These findings suggest that dyslexia can have a negative impact on emotional well-being, which can in turn affect academic performance (Kormos & Csizer, 2010). With regard to motivation, participants reported both high and low levels of willingness to learn languages. Despite their difficulties, individuals with dyslexia demonstrated higher levels of motivation compared to low levels, indicating a strong interest and drive to learn languages. Intrinsic

motives were identified as having a positive impact on motivation, whereas grammar-related tasks and failing had a negative impact.

Unexpectedly, external criticism was identified as a psychosocial problem in adulthood, shedding light on the influence of external factors on academic experiences. Additionally, the relatively low occurrence of positive emotional responses indicates a potential area for further exploration in future studies. These findings emphasize the importance of addressing academic problems and difficulties, understanding emotional and motivational experiences in language learning contexts. Educators and practitioners can use these insights to design interventions and support mechanisms that cater to the specific needs of individuals facing these challenges due to their dyslexia.

6.2. Regulating emotions and motivation: Strategies employed by learners with dyslexia in language learning

The findings of this study show that learners with dyslexia use a range of emotion and motivation regulation strategies to cope with the challenges of language learning. The most frequently reported emotion regulation strategies were distraction, relaxation, and self-talk, while the most commonly used motivation regulation strategies were interest enhancement, self-handicapping, and proximal goal setting.

In terms of emotion-focused coping strategies, learners with dyslexia tended to rely on distraction and relaxation to reduce negative emotions such as anxiety and frustration. Self-talk, which involves using positive statements to encourage oneself, was also reported as a useful strategy for managing emotions. This explains why learners with dyslexia who face academic problems can experience negative emotions and this leads to a situation that requires emotion regulation (Kormos & Csizer, 2010). The obtained findings of this study show that coping

strategies as suggested in previous literature (Boekarts & Röder 1999; Boekarts & Pekrun, 2016) such as distraction and relaxation in a general academic context are in line with the context of learners with dyslexia as well.

Similarly, problem-focused coping strategies such as seeking help and working hard that was coined by Boekarts & Röder (1999) were more commonly used for emotion regulation. This suggests that learners with dyslexia are proactive in finding solutions to the challenges they face in language learning. Furthermore, the use of situation selection and modification strategies demonstrates that learners with dyslexia are willing to adapt their learning environment to better suit their needs in order to cope with their negative emotions (Gross, 2014). The findings indicating the use of situation selection and modification, which belong to Gross' emotion regulation strategies families, in language learning are particularly noteworthy. These findings are consistent with a previous study by Bielak & Myskowska-Wiertalak (2020) on emotion regulation strategies used by language learners and also align with the context of learners with dyslexia as the findings of the current study suggest.

In terms of motivation regulation strategies, learners with dyslexia in this study reported using three of the strategies that were in line with Wolters' (2003) key motivation strategies, namely, interest enhancement, self-handicapping, and proximal goal setting, to stay motivated during language learning. Interest enhancement was the most frequently used strategy, suggesting that learners with dyslexia particularly tried to make the tasks more interesting in order to figure out what is the best and easiest way for them to study languages. Interestingly, learners with dyslexia also reported using self-handicapping as a motivation regulation strategy. This involves intentionally creating obstacles or excuses for oneself to explain poor performance. While this strategy may temporarily alleviate the pressure to perform well, it could ultimately undermine motivation and lead to a self-fulfilling prophecy of failure (Rhodewalt & Vohs, 2005, Kormos & Csizer, 2010). Therefore, the findings of the study

suggest that language learners with dyslexia tend to use mostly interest enhancement, self-handicapping, and proximal goal setting as motivation regulation strategies during their learning.

Overall, these findings highlight the significance of providing learners with dyslexia with various coping and motivation regulation strategies to encourage them to learn languages. Educators can support learners with dyslexia by providing personalized feedback and support, offering a wide range of learning activities that cater to different learning styles, and encouraging learners to set proximal goals that are meaningful to them.

6.3. Comparing strategies for better regulation: childhood vs. adulthood

Based on the findings of the current study, it can be said that there are participants' motivations and regulation strategies used by learners with dyslexia between childhood and adulthood. Participants reported an important difference in their motivation levels between these two periods, with higher motivation being observed in adulthood due to their ability to choose their own topics of interest. This indicates that the autonomy to choose what to learn plays a significant role in the motivation of learners with dyslexia. The findings of this study are consistent with previous research, which suggests that intrinsic motives have a significant impact on increasing learners' motivation, as noted by Wolters (2003). It is widely recognized that motivation is a critical independent variable in second language learning, as suggested by Dörnyei (2005, 2015). Moreover, previous research has highlighted the crucial role of self-determination theory (Dörnyei, 2005; Ryan & Deci, 2017) in promoting sustained learning and enhancing motivation, with a particular focus on the influence of intrinsic and extrinsic motives. Therefore, interest as an intrinsic motive to learn languages shows a positive impact on the motivation of language learners with dyslexia.

Another difference highlighted by the participants was the increase in their awareness of their learning strategies and the ability to regulate their emotions and motivation more effectively in adulthood. The regulation of emotions is crucial in a learning context, as emphasized by Boekarts and Pekrun (2016). Furthermore, Thompson (1994) posits that emotions are initially monitored and regulated by others in the early stages of life, but as individuals develop, they become capable of self-regulation. The present study aligns with Thompson's developmental theory of emotion regulation, particularly in terms of the observed changes in emotional awareness and regulation abilities. This explains that experience and time may play a role in developing better regulation strategies. Additionally, the participants mentioned that they learned how to regulate their emotions and motivation over time, which is a positive outcome for their academic success.

In terms of similarities, participants reported using similar coping strategies for regulating their emotions in childhood and adulthood, such as distraction, relaxation, and self-talk which was coined by Boekarts & Röder (1999). Similarly, problem-focused coping strategies such as seeking help, and working hard (Boekarts & Röder, 1999; Boekarts & Pekrun, 2016), situation selection, and situation modification (Gross, 2014) were used in both childhood and adulthood.

In summary, the results suggest that while some regulation strategies remain consistent across childhood and adulthood, there are notable differences in the regulation strategies used by learners with dyslexia in terms of their motivation and awareness of their learning strategies. The findings suggest that experience and autonomy in choosing learning topics play a significant role in the motivation of language learners with dyslexia. These results can have important implications for developing effective interventions and support strategies for learners with dyslexia in different stages of their learning journey.

In addition to the identified strategies used by learners with dyslexia to regulate their emotions and motivation during language learning, and the comparison between the childhood and adulthood experience, it is important to acknowledge the presence of a concerning pattern regarding the lack of support reported by participants. In line with the findings of Dolaiso (2017), who explored strategies for supporting learners with dyslexia in the English Language Teaching (ELT) classroom, it is evident that students with dyslexia can greatly benefit from targeted support in language learning. Dolaiso (2017) emphasizes the importance of interactive activities, explicit instruction of spelling rules, and the use of assistive technology as effective means of providing support to language learners with dyslexia. Similarly, Franklin (2018) suggests valuable suggestions and strategies for parents of children with language-based learning disabilities, highlighting the significance of support beyond the classroom setting.

While the present study focused on the emotion and motivation regulation strategies employed by learners with dyslexia, it is necessary to recognize the important role of adequate support in facilitating their language learning journey. Despite the valuable insights gained from this study, it is noteworthy that a significant pattern emerged, pointing to a lack of support experienced by the participants. This lack of support, as revealed through their narratives, encompassed various aspects, such as limited access to specialized resources, minimal or absent emotional support, and a general lack of understanding of their specific learning needs.

The significance of addressing this issue becomes even more apparent when considering the broader context of children who struggle with reading. As highlighted by Stein (2023), it is essential to recognize that the majority of children who leave school unable to read are not exclusively children with dyslexia, but rather those who face multiple disadvantages, including low general ability, lack of family support, poor teaching, and other social factors.

These findings underscore the urgent need for comprehensive support systems that encompass various stakeholders, including educators, and parents. By implementing evidence-

based strategies, as outlined by Dolaiso (2017) and Franklin (2018), and addressing the systemic barriers that impede the provision of support, we can strive towards a more inclusive and empowering learning environment for learners with dyslexia.

7 Conclusion, Limitations, and Future research

This study aimed to investigate the academic challenges, emotional and motivational states, and regulation strategies among learners with dyslexia in the context of language learning. Employing a qualitative analysis approach, the study utilized a retrospective semi-structured analysis to explore the developmental aspects of these phenomena. Firstly, I examined the academic difficulties encountered by learners with dyslexia during language learning, shedding light on the emotions and motivation associated with these challenges. Secondly, I identified the most prevalent strategies employed by individuals with dyslexia to regulate their emotions and motivation specifically in the context of language learning. Finally, I compared and contrasted these regulation strategies between the childhood and adulthood phases, providing insights into potential developmental changes. By employing this comprehensive approach, the study contributes to a deeper understanding of the experiences and emotional and motivational regulatory processes of individuals with dyslexia in their language learning journeys.

In general, the findings of this study reveal that the dominant majority of participants, both in childhood and adulthood, encountered task-related problems hindering their dyslexia. These challenges, particularly related to grammar and its related tasks, contributed to a range of negative experiences, including inadequateness, anxiety, and frustration. Consequently, participants reported lower motivation levels, despite their initial high interest in language learning, necessitating the implementation of emotion and motivation regulation strategies to

sustain their engagement in the language learning process. Regarding emotion regulation, the most frequently employed strategies encompassed various coping strategies, such as seeking help, distraction, and working hard. These strategies were utilized to manage and regulate the negative emotions experienced during language learning. On the other hand, in terms of motivation regulation, participants commonly employed strategies such as interest enhancement, and self-handicapping. Interestingly, the results also indicate that many learners with dyslexia developed better skills in regulating their emotions and motivation over time. Notably, these improvements were predominantly self-driven, with participants acquiring self-regulation strategies with minimal or limited external support.

Despite the limitations, this study serves as a crucial stepping stone in shedding light on the academic challenges faced by learners with dyslexia, their emotional experiences, and the strategies they employ to regulate their emotions and motivation during language learning. It provides valuable insights into the unique experiences of learners with dyslexia and highlights the need for further research and support to enhance their learning outcomes and overall well-being.

Future research should aim to further investigate the effectiveness of different emotion and motivation regulation strategies employed by learners with dyslexia in language learning contexts. This could involve examining the specific effect of different strategies, such as self-talk, relaxation techniques, or goal-setting, on the emotional experiences and motivation levels of learners with dyslexia. Additionally, exploring the potential benefits and limitations of integrating technology as a support element for learners with dyslexia in language learning is a promising area of investigation. Research could focus on evaluating the effectiveness of assistive technologies, adaptive learning platforms, or computer-assisted language learning tools in enhancing emotion regulation, motivation, and overall language learning outcomes for learners with dyslexia. Furthermore, investigating the implications of raising awareness about

alternative learning approaches beyond traditional methods can be beneficial. This research could explore the effects of promoting and implementing alternative learning strategies that align with the specific strengths and needs of learners with dyslexia. Understanding the potential benefits and challenges associated with these approaches could contribute to the development of more inclusive and effective language learning environments for learners with dyslexia. Additionally, as the emotional and motivational processes are often regulated from outside, by teachers and peers, it is important to consider the role of support in these areas. Strengthening emotion and motivation-related support for individuals with dyslexia could enhance their learning experiences. Further investigation into the nature and impact of such support would be valuable.

In conclusion, the present study has provided valuable insights into the task-related challenges faced by learners with dyslexia, reinforcing the negative emotional experiences and diminished motivation that accompany these difficulties. The identification of common emotion and motivation regulation strategies provided valuable insights into the coping strategies employed by learners with dyslexia during language learning. Moreover, the self-driven nature of their emotion and motivation regulation development emphasized the importance of promoting a supportive environment that fosters the emotional well-being and motivation of learners with dyslexia throughout their language learning journey.

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Appendices

1. Appendix A. The Interview Script.

2. Appendix B. Consent Form.

Appendix A. The interview Script

Childhood:

1. Can you talk about the experience you had during school time?
2. When were you diagnosed with dyslexia?
3. Were your teachers aware of your difficulties related to dyslexia?
4. Before going to lessons, how did you feel about yourself?
5. Before going to lessons, how did you feel about the lessons?
6. What kind of challenges did you face during language classes due to your dyslexia? Describe as many examples as you can remember.
    a. What kinds of emotions did these challenges arise in you? What did you feel in the situation or after the situation?
    b. How did these challenges affect your later language classes?
    c. What did you do to help you feel better during and after the challenges?
    d. What did someone else do to help you feel better during and after the challenges?
7. Can you describe your motivation to learn languages back then? How willing were you to study languages?
    a. What affected your motivation in learning languages negatively?
    b. What affected your motivation positively?
        i. Was it something you did yourself or what someone else did?
8. Did anyone help you with reading and writing when you had difficulties? If yes, who?
    a. How did they help you?
    b. Was the help useful?
    c. What kind of support do you think you would have needed back then?
9. How did you make it easier for yourself to study language lessons? Can you describe any methods you used for studying?
10. How did knowing you are dyslexic change the way you study second languages?

How did knowing you are dyslexic change the way you thought about yourself as a language learner?

Adulthood:

Now, please reflect on your studies when you were on your higher education when answering these following questions:

1. What kinds of challenges did you experience in your studies that may be related to your dyslexia, in higher education?

2. What kinds of emotions did arise when you faced these challenges?

3. How did these challenges make you feel about yourself?

4. How did these challenges make you feel about learning new languages?

5. What did you do to manage and cope with those challenges at those moments? What did someone else do to help you with the challenges?

6. What kinds of differences did you identify in how you manage the challenges in higher education compared to when you were younger?

7. How would you describe your motivation to study languages in higher education?

    a. How did your dyslexia affect your motivation to study languages?

    b. How did your dyslexia affect your willingness to take new courses?

8. How did you feel about learning languages when you were in higher education?

    a. How did you feel about taking new language courses?

9. Can you describe the most important differences you identify of you during school time and you in higher education studies, as a learner and a student in general? Or in language learning.

    a. what kind of changes has occurred in your ways to study compared to when you were younger and when you were studying in university?

10. Do you have anything you would like to add or explain more about related to the questions I have asked?

Appendix B. Consent Form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title of the study: Dyslexia and dyslexia related emotion and motivation regulation in language learning

Principal investigator: Canan Rana Huseyinkahyaoglu

Purpose of the study
We invite you to take part in the research conducted by Canan Rana Huseyinkahyaoglu.
The study focuses on dyslexia related emotional and motivational regulation in the language learning.

The study will be conducted through qualitative, semi-structured in-depth interviews lasting about 40 minutes each.

Description of the research procedures
If you agree to participate in this study, you will be asked to do the following things:

- Take part in the interview, from which the audio will be recorded for transcription.

- If take a part in online interview, the video will also be recorded along with the audio for transcription.

Confidentiality
All the information gathered in this study will be handled confidentially and will not be made available to anyone outside the research team. After data collection, the data will be pseudonymized and archived safely for later use. Data gathered in this study will be stored for 2 years, after which the data will be destroyed. The results of this study will not reveal any information about individuals.

Participation in this study is voluntary. You have the right to refuse or withdraw from the research at any time without any consequences.

I have read and understood the information about the research.

☐ Yes ☐ No

I am willing to take part in this research.

☐ Yes ☐ No

I allow pictures taken of me to be used to present the research.

☐ Yes ☐ No

If the interview is online:

I allow video taken of me to be used to present the research.

       ☐   ☐

       Yes No

Name of the participant _____

Place and date _____

_____

Signature of participant