

NEHİR DEVRİM

AN OBSERVATIONAL STUDY OF THE RELATIONSHIP OF TEACHERS'  
INSTRUCTIONAL BEHAVIOR AND STUDENT ENGAGEMENT

A MASTER'S THESIS

BY

NEHİR DEVRİM

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An Observational Study of the Relationship of Teachers'  
Instructional Behavior and Student Engagement

The Graduate School of Education  
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Nehir Devrim

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Student Engagement

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March 2018

I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts in Curriculum and Instruction.

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## ABSTRACT

### AN OBSERVATIONAL STUDY OF THE RELATIONSHIP OF TEACHERS' INSTRUCTIONAL BEHAVIOR AND STUDENT ENGAGEMENT

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March 2018

This study investigated the relationship between teachers' need supportive instructional behaviors (i.e., relatedness support and provision of structure) and different types of student engagement (i.e., behavioral, emotional, cognitive and agentic engagement) from the perspective of self-determination theory. To this end, during a specific lesson teachers' provision of structure, relatedness support and student engagement were assessed by both self-reports and observations. The participants ( $N=191$ ) came from one public and one private high school in Ankara, Turkey in 10 different classes.

Regression analyses revealed that both provision of structure and relatedness support can be both predicted by behavioral, emotional, agentic and overall engagement with

some gender differences. The results show that the joint effects of provision of structure and relatedness support predict more engaged classrooms.

Also, frequency analysis results revealed some degree of difference in students' and observers' perceptions of need supportive teaching. Students overestimated their teacher's provision of structure and relatedness support. Finally, the results revealed some degree of difference in students' and observers' perception of student engagement. Frequency Analysis revealed that the students are more in line with their teacher than observers regarding their own engagement. However, the students also overestimated their own engagement compared to their teachers suggesting that the teachers need to put more effort in commonly agreeing with their students the needed and actual quality of engagement.

Key words: provision of structure, relatedness support, self-determination theory, student engagement, teacher's instructional behavior

## ÖZET

### ÖĞRETMENLERİN EĞİTSEL DAVRANIŞLARI VE ÖĞRENCİ KATILIMI İLİŞKİSİ ARASINDA GÖZLEMSEL BİR ÇALIŞMA

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Bu çalışma, öğretmenlerin ihtiyaç destekleyen eğitsel davranışları (ilişkili olma desteği ve düzenli öğretim) ve öğrenci katılımı (davranışsal, duygusal, bilişsel ve aracı) arasındaki ilişkiyi öz belirleme teorisi perspektifinden araştırmaktadır. Bu amaçla, öğretmenlerin ilişkili olma desteği ve düzenli eğitimi ve öğrenci katılımı belirli bir ders sırasında hem öğrenciler tarafından tamamlanan öz-bildirim ölçekleri hem de öğretmenler tarafından yapılan ders sırası gözlemler ışığında değerlendirilmiştir. Araştırmaya, Ankara Türkiye’de bulunan bir devlet ve bir özel lisede bulunan toplamda 10 farklı sınıfta bulunan (öğrenim görmekte olan) 191 öğrenci katılmıştır.

Regresyon analizleri, hem ilişkili olma desteğinin hem de düzenli eğitimin öğrencinin davranışsal, duygusal, bilişsel, aracı ve genel katılımını cinsiyet farklılıklarıyla öngördüğünü ortaya koymuştur. Sonuçlar, düzenli eğitim beraberinde ilişkili olma desteğinin daha yüksek katılımlı sınıflar öngördüğünü göstermiştir.

Ayrıca, Sıklık Analizleri öğrencinin ve gözlemcinin ihtiyaç destekleyici eğitsel davranışlar algısında bir miktar farklılık ortaya koymuştur. Öğrenciler, öğretmenlerinin düzenli olma ve ilişkili olma desteğini olduğundan yüksek değerlendirmişlerdir.

Son olarak, sonuçlar öğrencinin ve gözlemcinin derse katılım algısında bir miktar farklılık ortaya koymuştur. Sıklık Analizleri, öğrencilerin kendi derse katılımlarını değerlendirirken öğretmenlerine daha benzer sonuçlara vardığını ortaya koymuştur. Bununla birlikte, öğrencilerin kendi derse katılımlarını öğretmenlerden daha yüksek değerlendirmesi öğretmenlerin gerçek ve ihtiyaç duyulan derse katılım konusunda öğrencilerle mutabakata varmak için daha çok çaba göstermesi gerektiğini göstermektedir.

Anahtar Kelimeler: düzenli eğitim, ilişkili olma desteği, öğrenci katılımı, öğretmenlerin eğitsel davranışları, öz-belirleme kuramı



## **ACKNOWLEDGEMENT**

Becoming an English Instructor at Hacettepe University at the age of 22, right after I graduated from university with an English Language and Literature degree, I had no idea about how to become a successful teacher. I wanted my students to be engaged in the lesson, learn a lot and enjoy at the same time. I wanted to be friendly, not too friendly to be considered as their “mates” but also not too formal to be considered as their “guard”. As I had no Education background, how to create the best learning environment became one of the major concerns that I had in my mind. By trial and error, I figured some of my behavior such as taking interest in students’ daily lives encouraged participation, or if I set some rules for the class, the students would feel more comfortable in the classroom. But I needed more drastic approach to understand the dynamics of the classroom because I decided to pursue my career in teaching. This is why I decided to get a Master’s Degree in Curriculum and Instruction.

I had been thinking about relatedness and structure in the classrooms long before I chose to do this research. I had already been wondering to what extent they contributed to engagement and effective learning. As a trained observer, I visited different schools to observe, and ask students and teachers about how they perceive these aspects. Examining these aspects from the perspective of Self-Determination Theory gave me such a valuable insight and better understanding of the classroom environment as well as testing the theories and collecting scientific evidence.

This is an empirical study which I hope can give a better understanding of the relations between relatedness, provision of structure to engagement to the teachers and the educators.

Asst. Prof. Dr. Aikaterini Michou introduced me to Self-Determination Theory. She is among the wisest, the most hard-working, knowledgeable, devoted supervisors one could ever have. It was an honor and a pleasure to be one of her supervisees. I would like to thank Asst. Prof. Dr. Aikaterini Michou very much for her endless guidance, support and patience. I was a trouble from the start but she never gave up on me. I can never repay.

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# **CHAPTER 1: INTRODUCTION**

## **Introduction**

In traditional educational systems, school is the place where most learning takes place. Students spend most of their time in classrooms and many relations are established in the classroom environment. Student engagement in classroom activities is among the most anticipated predictors of learning, improvement of performance and achievement (Furrer & Skinner, 2003). The characteristics of a learning environment can be determinant of supportive or thwarting engagement. Regardless of how progressive or student-centered an education may be, the teacher still plays a crucial role in forming the classroom climate. From many different perspectives, teachers have the central position in the social context of the classroom which consequently leads teachers motivating style to have direct impact on students' engagement (Stroet, Opdenakker & Minnaert, 2013).

The present study investigated the relationship of teachers' motivating style to students' engagement during a specific class session. Moreover, teachers' motivating style and students' engagement were assessed by multiple informants, that is, independent observers, students and teachers in an attempt to depict thoroughly the classroom reality.



## **Background**

### **Need supportive teaching**

Self-Determination Theory is a theory of motivation initially developed by Edward L. Deci and Richard M. Ryan. The concept of needs is strongly emphasized in Self-Determination Theory studies. The definition of needs in Self-Determination Theory is specified as “innate psychological nutrients that are essential for ongoing psychological growth, integrity and well-being (Benita, Roth, & Deci, 2014). There are three fundamental psychological needs in Self-Determination Theory that needs to be fulfilled in order to maintain individuals’ growth, integrity and wellbeing. These are competence (a sense of willingness and self-initiation in one’s behaviors), autonomy (a feeling of effectiveness when carrying out on activity) and relatedness (a sense of connectedness, closeness and intimacy) (Vansteenkiste, Mouratidis, & Lens, 2010). These needs are considered to be universally relevant within all people and all cultures (Deci & Ryan, 2000).

The basic innate psychological needs are also considered important for learning. If these needs are not satisfied, there is no optimal environment for effective learning. It is important for teachers to create a need supportive environment for their students to support their learning and well-being. Need supportive teaching is a style in which the teacher makes the decisions based on what the students actually want or need rather than implementing what she thinks is important for the students (Aelterman, Vansteenkiste, Van den Berghe, De Meyer, & Haerens, 2014). Need supportive teaching includes approaches to support students’ autonomy, competence and relatedness.

Teacher's autonomy support is related to minimizing control, using non-controlling language and nurturing students' inner motivational resources. Nurturing inner motivational sources includes the assumption that people possess inner resources to energize and direct their activities and finding ways to evolve, nurture and develop these resources (Reeve, 2013). For students to feel autonomous, they need to experience volition and act in accordance with their sense of self. Feeling autonomous, however, does not mean being independent from others because autonomous actions can be either individual or group work (Stroet, Opdenakker & Minnaert, 2013). Teachers can support students' autonomy by allowing students to work at their own pace, in their own way, using non-pressuring, informational language, providing explanatory rationales and vitalizing inner motivational resources (Reeve & Tseng 2011).

Competence implies the need to feel as much capable as possible and feel skillful while mastering challenges rather than feeling ineffective or incompetent (Gonzalez & Chiviakowsky, 2016). The feelings of competence can be enhanced by structured environments (Stroet et. al., 2013). Teachers can provide structure by giving clear, understandable instructions, helpful guidance, informational feedback and encouragement (Jang, Reeve & Deci, 2010). They can also provide clear expectations and rules as well as optimal challenging tasks according to students learning background. By clearly communicating expectations and directions and by providing guidance teachers can support effectively desired educational outcomes. The instructional behavior of a well-structured teacher can be under three categories: 1. Teacher presents clear, understandable, explicit directions, 2. Teacher offers a program of action to guide students' ongoing activity, 3. Teacher offers constructive

feedback on how students can gain control over valued outcomes (Skinner & Belmont, 1993). Teachers who offer strong guidance also show strong leadership, scaffolding for students' levels and needs. Constructive feedback also helps students' sense of competence. Compared to chaotic teachers, structured teachers motivate students better and the students' engagement is enhanced (Jang et. al., 2010).

The need for relatedness refers to the need to experience satisfaction regarding interpersonal relationships and feeling connected to others (Ryan, 1995). Relatedness is the need to feel closeness in interpersonal relationships, feeling accepted, belonging and cared for and caring about others (Ryan,1995). The teacher's relatedness support can be distinguished into four different components: Affection, attunement, dedicate resources and dependability (Belmont & Skinner 1993 p.577). If the teachers show involvement in students' lives, they are more likely to experience feelings of belongingness; on the other hand, if the students feel that their behavior is unwelcome, they will not be able to feel related in the class (Stroet et. al., 2013). The teacher can support students need for relatedness by being available for students, dedicating time and resources and taking students' perspective. Moreover, there is empirical evidence suggesting that teachers' social support has effects on students' emotions, motivational belief and achievement (Ahmed, Minnaert, van der Werf & Kuyper, 2010). Students' need for love and respect is one of the components of student-centered instructional teaching by its role of facilitating student engagement and enhancing students' satisfaction with student life (Nie & Lau, 2009). According to Self-Determination Theory, the social context of the students can be need-supportive (satisfying the need for autonomy, competence and relatedness) or need thwarting (controlling, chaotic, unrelated). Need supportive teacher's instructional behavior focuses on satisfying these three fundamental needs

and nurture students' inner motivation rather than doing what teacher thinks is best for the students. Perceptions of highly need supportive environments would support desirable outcomes such as persistence and enjoyment and indirectly support higher quality learning (Sparks, Dimmock, Lonsdale & Jackson, 2015).

### **Student engagement**

Engagement is “the quality of a students’ connection or involvement with the endeavor of schooling and hence the people, activities, goals values, and place that compose it” (Skinner, Kindermann & Furrer, 2009 p. 494). Engagement is a desired component for all educational purposes because it is also considered a predictor of learning and academic achievement (Montenegro, 2017) and because one of its important functions is being malleable to external support apart from making learning possible (Reeve, 2012).

There are four different types of engagement: Behavioral engagement, emotional engagement, cognitive engagement and agentic engagement. Behavioral, emotional and cognitive and agentic engagement are thought to be initiated by teacher as a pathway to greater achievement and greater motivational support (Reeve, 2013).

Behavioral engagement refers to the observable involvement in the activities of the classroom and school. Participation, time on task, compliance to classroom rules are some examples of behavioral engagement (Hospel, Galand & Janosz, 2016).

Emotional Engagement is related to positive feelings and interest in the class activities (Montenegro, 2017). Emotionally engaged students choose tasks at the border of their competences and maintain their positive tone during the task including enthusiasm, optimism, curiosity and interest (Skinner & Belmont, 1993).

Cognitive Engagement refers to the psychological commitment in learning.

Students’ sophisticated deep level in processing information and self-regulation

strategies, cognitive investment and effort are some examples of cognitive engagement (Patrick, Ryan & Kaplan, 2007).

The term agentic engagement is coined by Reeve & Tseng (2011) to describe students' constructive contributions to their own learning (Reeve, 2013). Posing questions and taking initiatives to satisfy their needs are some of the student strategies that show agentic engagement in class activities.

### **Problem**

The sense of relatedness has been described and researched from many different perspectives. The importance of relatedness in education is also underlined in Self-Determination Theory as one of the basic psychological needs to be satisfied in order to foster growth, well-being and health and initiate inner motivation and engagement.

Many studies in the USA (e.g., Ryan & Deci, 2000), Europe (e.g., Hospel & Galand, 2016) or Asia (e.g., Jang et. al., 2010) countries have investigated the relation of students autonomy support to motivation and engagement. In Turkey, some studies have investigated autonomy support and provision of structure and relatedness support to the students' psychological well-being (e.g., Cihangir Çankaya, 2009). However, none of the studies have investigated the role of teacher's relatedness support combined with provision of structure to students' engagement in Turkey. Engagement is considered as an important component in effective learning (Ryan & Deci, 2008) and therefore it is important to investigate thoroughly the contextual factors that promote it. Therefore, it seems imperative to study the extent to which a well-structured teacher who is also perceived as caring, warm and available can contribute positively to all aspects of student engagement, that is, behavioral,

emotional, cognitive and agentic. Particularly in Turkey, studies about the relationship of a need supportive classroom environment to student engagement are missing and considering the great value that is given to high academic performance (Skinner & Belmont, 1993), it seems that pieces of the puzzle of effective Turkish education are missing.

### **Purpose**

According to Self-Determination Theory (Ryan & Deci 2000), provision of structure combined with a caring teacher can have positive results for students' engagement. But to what extent, teachers' behavior perceived as warm and structured is correlated with students' engagement has not been studied yet, therefore this study aimed to investigate the correlation between relatedness support and provision of structure to the student engagement. In doing so, a specific class session was selected to be considered by the participants so as them to focus on a very specific real event (instead of giving their general, cumulative perception about the classroom events) that have experienced the very last hour. The intention was to capture an accurate evaluation of teachers' relatedness support and provision of structure as well as of student engagement.

Moreover, in the present study, teacher's relatedness support and provision of structure during a specific class session were assessed by both students and independent observers, while, students' engagement was assessed by three different informants, that is, independent observers, students and teachers. This way, convergent and divergent in perceptions of the same phenomenon among multiple informants identified.

## **Research questions**

The specific research questions in this study are the following:

1. To what extent did students' '*perceived provision of structure and relatedness support*' predict their engagement during a specific lesson?
2. To what extent students' was *perceived provision of structure and relatedness support* during a specific lesson similar to observers' perception?
3. To what extent were student different types of engagement similarly assessed by the students, observers and the teachers?

## **Significance**

Considering the fact that there are not many studies done in Turkey to understand predictors of student engagement from the perspective of Self-Determination Theory, this study is a significant endeavor in understanding which factors and to what extent student engagement relies on in a classroom environment. To be more specific, this study helps understand whether teacher's provision of structure and relatedness support is related to students' engagement during a specific lesson. The findings of the study could be used by teacher education programs for pre-service teachers and professional development programs for in-service teachers to educate teachers in effective strategies to enhance students' engagement.

Furthermore, the research method of the study is advanced as it involves both surveys of self-reporting and observations and permit an understanding of possible different perceptions of the same classroom event between the members of the classroom (teacher and students) as well as between the members of the classroom and independent observers. Possible discrepancies could be discussed in terms of

eliminating misconceptions and fostering a tuned, synergetic functioning between teachers and students for effective learning.

### **Definition of key terms**

**Need Supportive Teaching:** The style of teaching that satisfies students' basic psychological needs for autonomy, competence and relatedness to foster growth, integrity and well-being (Deci & Ryan, 2000).

**Relatedness Support:** Feeling respected and cared for by the teacher, feeling meaningfully connected to the environment (Deci & Ryan, 2000).

**Provision of Structure:** Giving clear, understandable instructions, strong guidance and constructive feedback (Reeve, 2009).

**Student engagement:** Engagement is "the quality of a students' connection or involvement with the endeavor of schooling and hence the people, activities, goals values, and place that compose it" (Skinner, Kindermann & Furrer, 2009 p. 494).



## **CHAPTER 2: REVIEW OF RELATED LITERATURE**

### **Introduction**

As it was discussed in the previous chapter, there are different classroom dynamics that have impact on student engagement regarding to teacher relatedness support and provision of structure. Some teachers provide students with relatedness support and clear structure while other teachers have more chaotic classes with restraint relatedness support. Student engagement is a multifaceted concept as it has behavioral, emotional, cognitive and agentic dimensions. Depending on teacher relatedness support and provision of structure, different dimensions of the student engagement can be influenced.

The aim of this study was to investigate to what extent students' perception of teacher relatedness support and provision of structure was related to the different dimensions of student engagement during a specific lesson. Moreover, in the present study, student perspective, observers' perspective and the teacher reports were taken into consideration in order to understand student engagement.

In this chapter, previous research findings examining the relationship between relatedness support and provision of structure to student engagement will be reviewed as well as observational study outcomes related to need supportive teaching and student engagement.

### **The relationship of provision of structure and student engagement**

In learning environments, teachers provide students with different levels of structure. Structure can be imposed in non-controlling language to communicate expectations and provide a meaningful rationale when introducing limits. On the other hand, structure can also be imposed in a controlling way. For example, teachers can use pressuring language, punishments and counter negative emotions. Studies indicate that the former non-controlling structure is more likely to yield positive learning outcomes (Sierens, Vansteenkiste, Goossens, Soenens & Dochy, 2009). A need supportive environment involves the communication of clear expectations, encouragement and informational feedback. Non-controlling structuring teachers will set limits to student behavior and consistently follow through (Sierens et. al, 2009). Student engagement is also shaped by how teachers set the tasks (Ames, 1992). When teachers set well-structured tasks, students make judgments about tasks, they are involved in the metacognitive processes of planning, organizing, and organizing strategies, therefore they feel competent when they focus on the task (Ames, 1992) and exhibit active engagement.

Provision of structure enhances the feelings of competence because students feel they acquire more control over their own learning outcomes (Stroet et. Al, 2013). As structure can satisfy the need for competence, structure is relatable to student engagement (Grolnick & Ryan, 1989).

The role of student engagement in achievement and academic success is also established by previous studies. Self Determination Theory holds that by providing provision of structure (amount and the clarity of information, providing guidance, optimal challenges and feedbacks) will contribute to student engagement by fulfilling basic psychological needs (Ryan & Deci, 2008). Indeed, Jang et al. (2010)

videotaped 133 classes during a specific class session and independent raters assessed two aspects of need supportive teaching, teacher's provision of structure and autonomy support in specific. The raters also assessed six aspects of student engagement, their attention, effort, verbal participation, persistence, positive emotion, and voice (frequency of students' influence attempts). The students assessed their own engagement, too. Students' self-reports were distinguished as subjective engagement whereas the raters' reports were objective/behavioral engagement. In this study, despite they acknowledged that student perceptions of teachers' behaviors' and their perceptions of their own engagement were important variables, considering the fact that students' self-reports may depend in personal factors, the researchers chose to focus on the observed (behavioral) engagement. The observed engagement reports showed that students in highly structured classes displayed high levels of attention, effort and persistence. These aspects of participation were seen as high behavioral engagement. The results of the study showed that provision of structure was positively and significantly related to students' observed engagement.

Vansteenkiste et al. (2012) did a research to identify the associations of self-regulated learning, motivation and problem behavior to perceived teacher structure (as expressed by clear expectations). The sample of the study consisted of 1036 students who assessed perceived structure, their own quality of motivation, learning outcomes and problem behavior. The results showed that the students who perceived vague expectations from their teachers, an indicator of low structure, reported engaging less frequently in a variety of self-regulation strategies (cognitive engagement) as well as engaging frequently in aggressive and deviant behavior. The

same study revealed that clear expectations communicated by the teacher were related to low level of test anxiety (Vansteenkiste et. al, 2012).

In Hospel and Galand's study (2016), a sample of 744 French speaking students completed a questionnaire assessing their perceptions of structure and their engagement during their French lessons. The results showed that perceived structure at the classroom level (i.e., the aggregated score of perceived structure in one classroom) was positively correlated with behavioral engagement at the student level (i.e. the individual score of behavioral engagement reported by each student).

Positive emotions were also positively associated with provision of structure. The study results suggested that behavioral, emotional and cognitive engagement were linked to teachers' provision of structure. Another point discussed in this study derived its background from Cognitive Load Theory (CLT). Cognitive Load Theory holds that providing clear guidance also reduces cognitive load related to the learning tasks and allows students to focus their attention on relevant information (Kirschner, Sweller & Clark, 2006). Hospel and Galland (2016) therefore offered that providing structure can help use of cognitive strategies to deal the work at hand and as a result, enhance cognitive and behavioral engagement. When students feel that they are provided with structure, they focus on their tasks better and produce better outcomes.

Dupont, Galand, Nils and Hospel's study (2014) tested to what extent social context provided students with support of autonomy, competence and relatedness is related to students' perceived autonomy, competence and relatedness and through them to students' behavioral, emotional and cognitive engagement. From the sample of 331 students who completed a self-reporting questionnaire, the results showed that autonomy support predicted cognitive engagement through students sense of

autonomy, relatedness support predicted cognitive engagement through students sense of belongingness, while structure predicted all the three dimensions of engagement (i.e., emotional, behavioral and cognitive) through students perceived competence. The study revealed that students who were provided with structure and who perceived themselves to be competent were more likely to employ effort and use deep processing strategies therefore the study suggested that structure and perceived competence are clear contributors to behavioral, emotional and cognitive engagement. It is worthy to add that perceived competence was also related to agentic engagement in a study carried out by Tseng and Reeve (2011). However, the direct relation of agentic engagement to provision of structure has not yet been investigated and this study aimed to address this investigation.

Thus far, it can be concluded that the provision of structure has positive correlations to student engagement in behavioral, emotional, cognitive and, probably, agentic engagement by contributing to need supportive teaching.

### **The relationship of relatedness support and student engagement**

Relatedness support refers to the need for feeling closeness and accepted in interpersonal relationships (Reeve, 1995). As classrooms are social environments, learning and achievement take place through social interactions (Léon & Liew, 2017). Learning and achievement are social processes in which positive relationships display greater school engagement and higher student achievement (Chen, Hughes, Liew, & Kwok, 2010). Teacher-student relationships also have long and short term impacts for students' educational outcomes.

In the attachment theory literature, relatedness or the feeling of closeness to significant others is important (Goodenow, 1993). Secure relationships foster

students' curiosity, self-worth, exploration of their environment and enthusiasm (Bowlby, 1969). Peer and teacher relatedness are linked to students' psychological well-being and adjustment.

Spaulding (1995) created two groups. One of the groups reported to perceive high psychological presence from the teacher whereas the other group reported to have low psychological presence from the teacher. The results showed that the students who experience high psychological presence from the teacher were reported to be more engaged in the school work than the students who experience low psychological presence from the teacher.

Roorda, Koomen, Spilt and Oort (2012) developed a meta-analytic approach to investigate the relationship between the quality of teachers' relationships with students and students' engagement and achievement. Based on the analysis of 99 relevant previous studies taken from Educational Resources Information Center (ERIC), they investigated the teacher relatedness support effect sizes from preschool to high school. The results showed that teacher relatedness support has from medium to strong effect on student achievement but greater effect on student engagement.

Positive relationships have strong positive correlations with student engagement and accordingly, negative relationships have strong association with disaffection. Also, some studies showed engagement as a mediator for achievement.

King's (2015) study examined how students' sense of relatedness towards parents, teachers and peers were related to engagement, disaffection, achievement and well-being. His study showed that relatedness is associated with well-being and parent, teacher and peer relatedness predict changes in engagement and disaffection. But it is also important to distinguish between teacher, parent and peer relatedness because they have different levels of impact on student outcomes.

Based on relatedness literature, there are three patterns of relatedness: positive relationships with teacher and peers is considered as High Relatedness, negative relationships with teachers and peers is considered as Low Relatedness, and high peer relatedness with low teacher connection is considered Peer Oriented Relatedness. Compared to Low Relatedness, High and Peer Oriented Relatedness are associated with self-worth and feelings of contentment (Davidson, Gest, Welsh, 2010). When students feel they are important and a valued member of the school society, they tend to engage in the school activities through sense of belongingness (Léon & Liew, 2017).

Students' participation in the learning activities vary depending on the student engagement. The students can be energized, enthusiastic or withdrawn behaviorally, emotionally, cognitively and agentically. The level of student engagement is important to educational motivation studies because it refers to the quality of connection with people, activities, goals, values and school as well as enabling resilience, academic retention and achievement (Skinner, Kindermann & Furrer, 2008).

Relatedness support also functions as a motivational support for students; when students feel relatedness support, they show effort, persistence and participation as relatedness support promote positive emotions such as interest and enthusiasm (Furrer & Skinner, 2003). Moreover, students who report perceived sense of relatedness become more confident, work harder, cope more effectively and perform better (Anderman, 1999). Given the importance of teacher in the education process, teacher support is thought to have stronger relationship with motivation and engagement (Kiefer, Alley, Ellerbrock, 2015).

To this direction, Gonzales and Chiviakowsky (2016) showed that greater perceived relatedness led to increased affective and motivational states. In this study, 45 students participated in swimming activity. Relatedness support group received swimming instructions in a caring, acknowledging manner, relatedness thwart group received swimming instructions with emphasized disinterest and the third group received swimming instructions without any relatedness support or thwarting. The students in the relatedness support group reported greater motivation and greater positive affect (Gonzalez & Chiviakowsky, 2016). Relatedness support will naturally nurture students' basic psychological needs and stimulate inner motivation. Inner motivation is the expected state for students to engage in the classroom activities behaviorally, emotionally and cognitively (Ryan & Deci, 2000). In Skinner, Kindermann and Furrer's (2008) study, the students who report themselves to be motivated also report themselves to be engaged both behaviorally and emotionally. There is also evidence for the relationship between teacher relatedness and student motivation from two interview studies. In Tamutiene's (2008) study, absentee students were interviewed to investigate their experiences. These students reported themselves to be withdrawn if they are afraid of the teacher, if the teacher yells at them, if the teacher verbally abuses or humiliates them or if they are suffering from any tension or fear from the teacher. These students feel rejected, ignored and unwelcomed, as a result they lose their learning motivation. Motivation and engagement also have positive and consistent association (Stroet et. al., 2013). The other interview study was a two year longitudinal study to describe students' interrelationships with their surroundings with respect to multiple factors such as gender, ethnicity, culture, socio-economic status when they were moving from one context to another (Phelan, Davidson & Cao, 1991). The results showed that when



students received relatedness support, their transitions were smoother and they faced less problems in engaging in school activities.

Previous studies established that relatedness support is one of the key factors that motivate students and thereby engage students in the classroom activities behaviorally, emotionally, cognitively and agentially. There are numerous positive effects of student engagement for educational outcomes. When students engage in the classroom activities, their learning is enhanced as well as their school adjustment. The quality of teacher care is found to be the key factor in academic engagement (Skinner, Furrer, Marchand & Kindermann, 2008). However, despite the fact that researches indicate that teacher involvement promote student engagement; most teachers are not aware of the importance of high quality student-teacher relationships in education (Davis, 2006).

### **The relationship of provision of structure and relatedness support and student engagement**

As it has been extensively presented in the previous section, effective teachers develop relationships with students that are close, caring, safe and trusting (Wentzel, 2012). Such caring classrooms are believed to “support motivational orientations for social and academic outcomes, emotional well-being, positive sense of self and levels of engagement in social and academic activities” (Wentzel, 2012, p. 19).

Effective teachers will also provide students with structure, that is, clear expectations, helpful guidance and informational feedback (Skinner, Pitzer & Brule, 2014).

Although, the teacher-student relationship is not the primary concern of the Attachment Theory, the theory principles imply how healthy relationships produce

positive outcomes in classroom, too (Wentzel, 2012). Emotional connectedness, intrinsic interest in the activities, efficacy to learn are seen when the student has positive sense of self, high curiosity, willingness to explore and trust in others (Raider-Roth, 2005). In line with attachment theory principles, evidence suggests that secure and close relationships with teacher are positively related to motivation toward school and associated with cognitive and social competencies (Wentzel, 2012). Provision of structure is believed to foster competence by reducing cognitive workload and enabling students to focus on the task (Kirschner, Sweller & Clark, 2006).

Both relatedness support and provision of structure are components of Need Supportive Teaching which is found to be beneficial to students' behavioral, emotional, cognitive and agentic engagement (Reeve, Jang, Carrell, Jeon & Barch, 2004). There are different motivational dynamics to classroom engagement. One of these dynamics is perceived control. When students feel competent, that is, they feel confident enough that their task is fit for their capacities, they engage with the task in a way leading more to success, they are intrinsically motivated to take part in the classroom activities (Skinner, Furrer, Marchand & Kindermann, 2008). According to same research, another dynamic of classroom engagement is the teacher. When students feel more teacher involvement, they tend to engage more in the activities but when students feel that the teacher is withdrawn, they become disaffected. Therefore, evidence from this study suggests that components of structure and involvement are both facilitators of engaged behavior in the classroom (Skinner, Furrer, Marchand & Kindermann, 2008). There are significant relations between both provisions of involvement and structure and student engagement in class (Belmont & Skinner, 1993).

A study conducted by Wentzel and her colleagues documented that students interest in class (engagement) and efforts to behave appropriately were increased when they perceived classroom safety, provision of structure, clear expectations, instrumental help, and emotional support (Wentzel, Battle, Russell & Looney, 2010). In the same direction, Federici and Skaalvik (2014) explored how students responded to teachers' emotional support (defined as perceived trust, warmth, respect, care and empathy in their study) and instrumental support (defined as perceived teachers' clarifying, clearing, modeling to contribute understanding in this study) were related to students' motivational and emotional responses. The survey conducted with 309 Norwegian students from 9 and 10 grades showed that a) Emotional support and instructional support were strongly correlated; b) Emotional support and instructional support were strongly related to student motivation.

To investigate students' situational engagement, Thjis and Verkuyten (2009) focused on teacher behavior. The sample was taken from a multi-ethnic school with the participation of 503 students, who reported that, if they were taught by a teacher who scores higher in both involvement and structure, they would be more engaged.

Within the 5 month time frame, Van Ryzin, Gravely and Roseth (2009), investigated the relationship between psychological well-being and autonomy, belongingness and engagement. The sample of 283 students from the United States participated in two-staged longitudinal study. The students took part in stage 1 at the beginning of late November and early December and stage 2 in late April and early May. The students who took stage 1 and 2 were not significantly different. The students reported results showed that combined levels of perceived structure and perceived involvement also showed positive effects on student engagement.

Nie and Lau also (2009) examined the complementary roles of care and behavior control (defined as “regulation of student behavior by rules and expectations to create an orderly environment” p. 186) in classroom management and found that blending of teacher care with behavior control is beneficial to achieve multiple goals of classroom management. This study concluded that teacher involvement and structure are uniquely associated with student engagement and interest.

Evidence suggests that when teachers communicate expectations with emotional warmth and in a caring environment, the students report to be more motivated in that particular teachers’ class. The combination of perceived emotional support and clear expectations from teachers also has a potential to influence students’ beliefs about their own ability (Wentzel & Looney, 2007). However, there is not much research on the relationship of the independent or interactive effects of relatedness support and provision of structure on student engagement.

In the investigation of the above relationship, Stroet et al. (2012) suggest that it is mostly the students’ perceptions about relatedness support and structure that predict their motivation and engagement in the classroom than the actual teacher instructional behavior, although the actual instructional behavior is also important in forming student perception. Therefore, it seems that both observations and self-reports are needed to assess the two aspects of instructional behavior: relatedness support and provision of structure. The student reports are based on their past experiences while trained observers assess the actual student and teacher behavior. A few studies have focused on the combined effects of provision of structure and relatedness support to student engagement. As need Supportive Teaching focuses on stimulating students’ intrinsic motivation by satisfying students’ psychological needs

of autonomy, competence and relatedness the unique association of provision of structure and relatedness support to engagement should be further investigated.

**Observational studies: The perceptions of external observers, students and teachers about need supportive teaching and engagement**

Within the framework of Self-Determination Theory, there are numerous different studies that research student motivation and engagement. Among them, there are many Self Determination Theory studies that rely on student surveys and self-reports. It is natural to rely on observations and self-reports when studying perceptions (Stroet et. al., 2012). However, it must also be noted that when students give self-reports, they report on their unique experiences. Ruzek and Pianta (2015) suggest that, rather than accepting student reports as primary determinant of engagement, the independent observers also rate need supportive teaching and engagement. In order to identify classroom processes on student outcomes, both objective and subjective measure must be taken into consideration (Ruzek & Pianta, 2015).

Student engagement is not only multidimensional, but also dynamic, interactive and content-dependent (Goldin, Epstein, Schorr & Warner, 2011). To investigate the complexities of student engagement related to learning environment, Shernoff and his colleagues developed an observation and sample questionnaire method.

Considering the fact that literature on motivation and engagement suggest that learning environment and classroom climate are key figures for a meaningful learning context, observations and questionnaires found fit for the research (Shernoff et. al., 2016).

Behavioral engagement is relatively easier to observe in the classrooms but measuring cognitive and psychological engagement is harder, therefore observation instruments need to be developed to understand these aspects (Appleton, 2006). Also, relatively new coined aspect, agentic engagement has been identified as a research field and measured by gathering behavioral observation and self-reports (Reeve, 2013).

Reeve and Lee (2014) studied classroom engagement procedures and used the same observation and survey scales as used in this study. Students' behavioral engagement was assessed by themselves and the observers to understand why students become more engaged or disengaged during the semester. The results showed that need supportive teaching enhanced behavioral motivation throughout the semester.

In order to understand the mediating roles of perceived peer relatedness, autonomy support and competence, Ruzek and his friends (2016) collected data by observing the videos recorded and submitted by teachers. Observers were advanced undergraduate and graduate students who received two-day training about classroom observational skills in order to rate the observations. Observers rated the videos and the ratings were averaged across the raters and passed the reliability check. The same study also included student reports from classroom experiences about competence beliefs, relatedness and autonomy. The results showed that autonomy and peer experiences are account for teacher emotional support and students' changing engagement and mastery motivation.

To understand engaging students in learning activities, Jang and her colleagues (2010) also followed a similar procedure. Permissions from the principals and teachers were granted as in other studies. The classes were scheduled to be observed by trained graduate student raters but the teachers did not know which lesson was to

be assessed. This was done to maximize raters' opportunity to observe each teacher's natural instructional style. At the last two minutes of the assessed lesson, the students were asked to fill a questionnaire. Correlational analysis found that students' classroom engagement was positively associated with teachers' autonomy support and provision of structure.

There are also experimental observational studies done in this Self Determination Theory, as well. In Reeve and his friends study (2004), there are two experimental groups. One of the groups is with trained teachers to be autonomy supportive and the control group is with the teachers whose instruction is natural. The raters observe the classes without knowing whether they are rating an experimental group or a control group (Reeve, Jang, Carrell, Jeon & Barch 2004).

Previous studies used observation to understand, examine or investigate the elements of need supportive teaching, engagement and motivation. Given that the classrooms are the places where most learning takes place, it is found appropriate to use observations and observation scales along with other techniques in the classroom environment. Depending on solely student reports may present some limitations to the studies because students report on their unique experiences and perceptions. However, it must be noted that the observers or the raters are always trained about their study subject in the previous studies.

## **CHAPTER 3: METHOD**

### **Introduction**

The aim of the present study was to investigate the relationship between teachers' relatedness support and provision of structure and student engagement during specific class session. Also, the aim of the study was to examine to what extent students and independent observers perceived similarly teacher's relatedness support and provision of structure. Moreover, as students' engagement was reported by teachers, students and independent observers, it was also investigated to what extent these three reports are in accord to each other.

### **Research design**

#### **Correlational research with a cross-sectional design**

Correlational study can be simply defined as the study of the relationship between two variables. The correlational study seeks to find which variables are connected. This study is correlational as the purpose was to investigate the relationship of teacher's relatedness support and provision of structure to the students' engagement. The study had a cross-sectional design which means that data is collected at one time from a sample that was predetermined (Wallen & Fraenkel, 2011). The cross-sectional correlational research was used to investigate the relationship between teachers' provision of structure and relatedness support and student engagement during a specific lesson. The methods for data collection included self-reported surveys as well as observations. Two independent observers filled the observation sheet separately about the teachers' provision of structure, relatedness support and



student engagement. The students reported their perception of provided provision of structure and relatedness support and their own engagement. The teachers also reported their perception of the student engagement during the specific lesson.

### **Context**

This study was conducted within one public and one private high school in Ankara. The schools were selected from the range of schools for which research permission from Ministry of Education had already been obtained. The sample for the study came from English and Turkish classes from grades 9 to 11. The public high school followed the curriculum of Ministry of National Education whereas the private high school offered both the curriculum of Ministry of National Education (MoNE) and International Baccalaureate (IB) Program. However, in the private school, the English classes were organized depending on students' English level whereas in the public school, the English level of the students did not deter the class they were in because the classes were mixed ability type classes. The socio-economic background of the students was not assessed by this study. The public school had 867 students in total in 28 different classes and the private school had 309 students in total in 21 different classes.

### **Participants**

One hundred ninety-one high school students from 10 different classes in Ankara participated anonymously and voluntarily in this study. Of the students, 133 (69.6%) came from the public school and 58 (30.4%) came from the private school, total number of 191 student participate in the study. Of those, 104 students were females (54.5%) and 87 students were males (45.5%). The students were from grade 9 ( $N=62$ ; 32.5%), grade 10 ( $N=15$ ; 7.9%) and grade 11 ( $N=114$ ; 59.7%). Grade 12

students did not participate in the observational study because the data was collected during March-May and Grade 12 mainly was focusing on university entrance exams. The mean age of the students was  $M_{age}=15,7$  ( $SD = 0.56$ ) years. There were also two independent female observers who were trained for one semester as part of a broader study about self-determination theory (SDT) in education. The trainings included reviewing of the literature and discussions on theory. The observers were trained to understand the dynamics of SDT and identify relatedness supportive and structured classes. There were also 10 female Turkish and English teachers ( $M_{age}=35,1$  ( $SD = 5.34$ )).

### **Instrumentation**

The instruments used in this study were translated from English into Turkish from two native Turkish speakers who were fluent in English. The translations were double checked and proofread and back translated by three different informants. The questionnaires were administered in Turkish to the teachers and the students. The survey questions were purposefully mixed before distributed to the students and the teachers.

#### **Instruments for students**

##### *Perceived structured teaching*

The questionnaire to assess students perceived structured teaching was constructed by using Jang, Reeve & Deci's (2010) observation forms to assess the students' perception of structure (see Appendix A, page. 72 for English) (See Appendix B, page 74 for Turkish). Participants responded to six items ( $\alpha = .78$ ) under three subscales. The subscales included two items for perceived teacher expectations (e.g.,

My teacher made clear what we had to do during the class.), two items for scaffolding provided by the teacher (e.g., My teacher gave hints, tips, strategies, reminders to facilitate student engagement.) and two items for the feedback given by the teacher (e.g., My teacher told students what they were doing well.). The students used a 5 point Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (5) to determine to what extent they perceived structure from their teacher during a specific class session.

#### *Perceived relatedness-supportive teaching*

Perceived relatedness-supportive teaching report was constructed according to Reeve and Tseng's (2011) observation sheets. Participants responded to two items in a 5 point Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (5) to determine to what extent they perceived relatedness support from their teacher during a specific class session (e.g., My teacher was responsive when students asked her contribution;  $\alpha = .70$ ). (See Appendix A, page 73)

#### *Perceived engagement*

The Engagement Questionnaire (Reeve & Tseng, 2011) was used to assess four aspects of student engagement (behavioral, emotional, cognitive and agentic engagement) during a specific class session. The participants reported their engagement by responding to seven items ( $\alpha=.72$ ) (See Appendix A, page 73) in a 5 point Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (5). From the seven items, two items assessed behavioral engagement (e.g., "I paid attention.";  $\alpha = .81$ ), two items assessed emotional engagement (e.g., "I felt interested.";  $\alpha = .80$ ), one item assessed cognitive engagement (e.g., "I tried to learn as much as I could.") and two items assessed agentic engagement (e.g., "I express my preferences, opinions or questions.";  $\alpha=.70$ ).

## **Instruments for observers and teachers**

Two independent observers rated relatedness supportive teaching, structured teaching and student engagement using the observer sheets defined below. The teachers only filled student engagement form.

### *Observed structured teaching*

In order to assess structured teaching, the observers filled a sheet consisting of three subscales on a 7-point Likert type scale ranging from Never, Not at All (1), to Frequently Always (7) (Jang et. al., 2010) (See Appendix C, Page 76). These subscales were: (1) clear expectations (e.g., “Provides Explicit Schedule”; interrater reliability;  $\rho = .82$ ), (2) helpful guidance, (e.g., “Gives hints, tips, strategies, moves the lesson along at an orderly pace.”; interrater reliability  $\rho = .65$ ) and, (3) constructive feedback (e.g., provides competence-diagnosing & competence-building analysis, tells students what they need to improve; interrater reliability  $\rho = .72$ ).

### *Observed relatedness-supportive teaching*

In order to assess relatedness-supportive teaching the observers assessed one set of instructional behaviors (Cheon, Reeve, Yu & Jang, 2014), on a 7-point Likert-type scale ranging from Never, Not At All (1), to Frequently, Always (7) (See Appendix C, page 77). The set of the assessed instructional behaviors were the following: Dedicates time and resources and is available for the students (i.e., Spend time with the students; Is responsive when they ask her contribution; Is physically nearby the students; interrater reliability  $\rho = .80$ ).

### *Observed Engagement*

In order to assess students’ engagement teachers filled a sheet consisting of two

subscales on a 5-point Likert type scale ranging from Never, Not at All (1) to Frequently, Always (5) (Reeve & Tseng, 2011) (See Appendix C, page 78). The subscales were (1) two items for behavioral engagement (e.g., The students paid attention;  $\alpha = .78$ ) and, (2) two items for agentic engagement (e.g., The students expressed their preferences, opinions and questions;  $\alpha = .80$ ).

In order to assess students' engagement, the teachers filled a sheet consisting of four subscales on a 5-point Likert type scale ranging from Never, Not at All (1) to Frequently, Always (5) (Reeve & Tseng, 2011) (See Appendix D, page 79 for English) (See Appendix E, page 80 for Turkish) . These subscales were: (1) two items for behavioral engagement (e.g., The students paid attention;  $\alpha = .78$ ) , (2) two items for emotional engagement (i.e., The students enjoyed today's class;  $\alpha = .82$ ) (3) one item for cognitive engagement (i.e., The students tried to learn as much as they could.) and, (4) two items for agentic engagement (e.g., The students expressed their preferences, opinions and questions;  $\alpha = .80$ ).

### **Method of data collection**

For the present study, the permission from the Turkish Ministry of Education (MoNE) was obtained in June 2015 (see Appendix F, page 81). The permission for the present study included a number of schools. The school principals of the approved schools were contracted to ask for permission. One public and one private school agreed to allow the study in their schools and they scheduled observations for grade 9, 10 and 11 randomly for Turkish and English classes. The students and the teachers were informed about the scope and the content of the study. The students and the teachers also consented to take part in the study. Each Turkish or English class was observed two or three times between March and May 2016, however, only

one of these observations was assessed. The survey questions were purposefully mixed before distributed to the students and the teachers. The survey questionnaires were administered to the students and teachers right after the class hour that the observers had assessed. The students and the teacher were informed to answer the questions considering the last class hour in which had participated and observed. The students and the teachers answered the survey questionnaire anonymously and were informed that their answers will be kept confidential.

### **Method of data analysis**

SPSS (Statistical Package for the Social Sciences v. 24) was used to analyze and interpret the quantitative data obtained by the questionnaires. The Preliminary Analysis included descriptive statistic for each variable and bivariate correlations among the variables were also explored. MANOVA was conducted to see the gender differences. In the main analysis, regression analysis were run to see the relationship among provision of structure, relatedness support and student engagement. Lastly, to check the similarities and the differences between teachers', observers and the students' perception of need supportive teaching, frequency analysis was used.

## CHAPTER 4: RESULTS

### Introduction

The purpose of this study was to investigate the teachers' perceived instructional behavior, that are provision of structure and relatedness support in specific, and their relation to students' behavioral, emotional, cognitive, agentic and overall engagement during a specific lesson. The study also aimed to find out how similarly students assessed perceived provision of structure and relatedness support compared to the observers, and how similarly they assessed their own engagement compared to the teachers' and observers. The analysis included two segments. The Preliminary Analysis reported descriptive statistics of studied variables and bivariate correlations examined relationships among the measured variables. MANOVA (Multivariate Analysis of Variances) was performed to detect the gender differences between the participants.

The main analysis examined (a) whether *perceived provision of structure and relatedness support* predicted student' behavioral, emotional, cognitive, agentic and overall engagement with five one-step hierarchical regressions (b) how similarly students assessed *perceived provision of structure and relatedness support* compared to the observers with frequency analyses, (c) how students assessed their own engagement compared to the teachers' and the observers' perceptions with frequency analyses.

### Preliminary analysis

The preliminary analysis of the study consisted of two sections: descriptive statistics and bivariate correlations. Descriptive statistics –means and standard deviations of the studied variables- are presented in Table 1.

Table 1  
Descriptive statistics of the measured variables

	<i>N</i>	<i>M</i>	<i>SD</i>
<b><u>Need Supportive Teaching</u></b>			
1.Relatedness Support	191	4.12	0.96
2.Provision	191	3.75	0.97
<b><u>Engagement</u></b>			
1. Behavioral Engagement	191	3.59	1.00
2. Emotional Engagement	191	3.49	1.23
3. Agentic Engagement	191	3.30	1.21
4. Overall Engagement	191	3,56	1.00

*Note.* *N* = Number of participants for corresponding variable; *M* = Mean; *SD* = Standard Deviation.

The bivariate correlations of the studied variables are presented in Table 2.

Regarding to need supportive teaching, relatedness support and provision of structure were positively and strongly correlated ( $r = .73, p < .01$ ). Relatedness Support was strongly and positively correlated with emotional engagement ( $r = .34, p < .01$ ), agentic engagement ( $r = .35, p < .01$ ) and overall engagement ( $r = .39, p < .01$ ). Relatedness support was also positively correlated with behavioral engagement ( $r = .19, p < .05$ ) and cognitive engagement ( $r = .18, p < .05$ ).



Provision of structure was strongly and positively correlated with emotional engagement ( $r = .39, p < .01$ ), agentic engagement ( $r = .25, p < .01$ ) and overall engagement ( $r = .34, p < .01$ ). There was also significant correlation between provision of structure and cognitive engagement ( $r = .18, p < .05$ ).

Regarding engagement, behavioral engagement was positively and significantly correlated with agentic engagement ( $r = .37, p < .01$ ), cognitive engagement ( $r = .21, p < .01$ ) and overall engagement ( $r = .70, p < .01$ ). Behavioral engagement was also significantly correlated with emotional engagement ( $r = .55, p < .05$ ). Emotional engagement was strongly and positively correlated with agentic engagement ( $r = .42, p < .01$ ), cognitive engagement ( $r = .28, p < .01$ ) and overall engagement ( $r = .68, p < .01$ ). Agentic engagement was strongly and positively correlated with overall engagement ( $r = .66, p < .01$ ), and significantly correlated with cognitive engagement ( $r = .17, p < .05$ ). Cognitive engagement was strongly correlated with overall engagement ( $r = .34, p < .01$ ).

Table 2  
Bivariate correlations of the studied variables

Variables	1	2	3	4	5	6	7	8
1. Gender	-							
<u>Need Supportive Teaching</u>								
2. Relatedness Support	.08	-						
3. Provision of Structure	.04	.73**	-					
<u>Engagement</u>								
4. Behavioral Engagement	-.13	.19*	.11	-				
5. Emotional Engagement	-.11	.34**	.39**	.55*	-			
6. Agentic Engagement	-.06	.35**	.25**	.37**	.42**	-		
7. Cognitive Engagement	-.09	.18*	.18*	.21**	.28**	.17*	-	
8. Overall Engagement	-.14	.39**	.34**	.70**	.68**	.66**	.68**	-

Note. \*  $p < .05$ . \*\*  $p < .01$ . Gender was dummy-coded (0 = male, 1 = female)

Multivariate analysis of variance (MANOVA) was conducted to explore differences between genders however, the results did not show any significant gender differences in the sample (Wilk's  $\Lambda = .961$ ),  $F [6, 182] = 1.227$ ,  $p = .29$ , multivariate  $\eta^2 = .04$ ) regarding perceived provision of structure, relatedness support and engagement.

### **Main analysis**

The first aim of this study was to explore whether perceived provision of structure and relatedness support can predict student engagement during a specific lesson. In order to understand statistically significant relations about dependent and independent variables, regression analysis was conducted. Secondly, this study aimed to explore to what extent students assessed provision of structure and relatedness support differently than independent observers. Lastly, this study aimed to explore to what extent students, observers and teachers assessed student engagement similarly.

### ***Does perceived 'provision of structure and relatedness support' predict student engagement during a specific lesson?***

To explore the relationship between perceived provision of structure and relatedness support to specific types of engagement and overall engagement, five one-step regression models were tested: one for overall engagement, one for behavioral engagement, one for emotional engagement, one for cognitive engagement and, one for cognitive engagement as dependent variables. In all the models, the dependent variables were regressed on gender, provision of structure and relatedness support. Apart from cognitive engagement, all the models were statistically significant: Overall engagement ( $F [3,186] = 13.67$ ,  $p < .01$ , adjusted  $R^2 = .17$ ), behavioral

engagement ( $F [3,186] = 3.60, p < .05, \text{adjusted } R^2 = .04$ ), emotional Engagement ( $F [3,186] = 14.80, p < .01, \text{adjusted } R^2 = .18$ ), cognitive engagement ( $F [3,185] = 3.00, p < .01, \text{adjusted } R^2 = .05$ ), and agentic engagement ( $F [3,186] = 8.26, p < .01, \text{adjusted } R^2 = .10$ ). The results are presented in table 3.

As Table 3 suggests, only relatedness support was a positive predictor of behavioral, emotional, agentic and overall engagement while provision of structure predicted engagement. When the teachers dedicate time and resources to the students and listen to them, the students engage in the lessons behaviorally, emotionally and agenticly. There was not a significant relation between cognitive engagement and relatedness support or provision of structure, indicating that an effort to learn as much as possible (cognitive engagement) requires more than relatedness support and provision of structure.

The negative prediction of behavioral and emotional engagement by gender indicates that being a boy predicted higher concentration (behavioral engagement) and interest (emotional engagement) in a specific course.

Table 3

Regression models for different aspects of engagement

Predictors	Engagement														
	Overall Engagement			Behavioral Engagement			Emotional Engagement			Agentic Engagement			Cognitive Engagement		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
1. Gender	0.33	(0.14)	-.17*	-0.93	(0.15)	-.15*	-0.34	(0.17)	-.14*	-0.20	(0.14)	-.09	-0.62	(0.45)	-.10
2. Structure	0.11	(0.11)	.10	-0.07	(0.11)	-.07	0.25	(0.13)	.19*	0.02	(0.11)	.002	0.33	(0.34)	.11
3. Relatedness	0.35	(0.11)	.33**	0.26	(0.12)	.26**	0.35	(0.13)	.27**	0.42	(0.11)	.33**	0.37	(0.36)	.11

*Note.* \*  $p < .05$ ; \*\*  $p < .01$ . Gender was dummy-coded (0 = males; 1 = females)

As gender revealed a significant a predictor of student engagement, it deemed important to check whether girls' engagement was predicted differently by relatedness support or provision of structure compared to boys' engagement. For this reason, five one-step regression models were tested separately for male and female students in which the overall engagement, the behavioral engagement, the emotional engagement, the agentic engagement and the cognitive engagement were regressed on perceived relatedness support and provision of structured.

The regression models for male students were significant apart from cognitive engagement: Overall engagement ( $F [2,85] = 15.73, p < .01, \text{adjusted } R^2 = .25$ ), behavioral engagement ( $F [2,85] = 5.19, p < .05, \text{adjusted } R^2 = .09$ ), emotional engagement ( $F [2,85] = 14.34, p < .01, \text{adjusted } R^2 = .23$ ), cognitive engagement ( $F [2,85] = 8.19, p < .05, \text{adjusted } R^2 = .14$ ), and agentic engagement ( $F [2,85] = 7.79, p < .01, \text{adjusted } R^2 = .13$ ). The results are presented in Table 4.

The results presented in Table 4 shows that relatedness support is a positive predictor of emotional, agentic and overall engagement for male students. Male students require relatedness support from their teachers to be more engaged in the class whereas provision of structure is not a need for male students to be engaged in the classroom in this study.

Table 4.  
Regression models for males

Predictors	Engagement														
	Overall Engagement			Behavioral Engagement			Emotional Engagement			Agentic Engagement			Cognitive Engagement		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
1. Structure	0.21	(0.14)	.02	-0.97	(0.14)	-.10	0.12	(0.16)	.11	-0.80	(0.16)	-.07	0.26	(0.57)	.06
2. Relatedness	0.37	(0.16)	.33**	0.17	(0.16)	.16	0.37	(0.17)	.29**	0.44	(0.18)	.35**	0.59	(0.64)	.14

The regression models for female students were significant: Overall engagement ( $F [2,103] = 6.70, p < .01, \text{adjusted } R^2 = .10$ ), behavioral engagement ( $F [2,101] = 0.58, p < .05, \text{adjusted } R^2 = .00$ ), emotional engagement ( $F [2,101] = 8.38, p < .01, \text{adjusted } R^2 = .12$ ), cognitive engagement ( $F [2,100] = 1.87, p < .05, \text{adjusted } R^2 = .01$ ), and agentic engagement ( $F [2,101] = 5.13, p < .01, \text{adjusted } R^2 = .07$ ) The results are presented in Table 5.

The results presented in Table 5 showed that relatedness support was a predictor of all types of female engagement apart from behavioral engagement. The results also showed that female students are cognitively engaged when there is provision of structure. The results indicate that female students need both provision of structure and relatedness support to be engaged in the lesson. Also, in order to activate female students' cognitive processes, more structure may be required.



Table 5.  
Regression models for females

Predictors	Engagement														
	Overall Engagement			Behavioral Engagement			Emotional Engagement			Agentic Engagement			Cognitive Engagement		
	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$	<i>B</i>	<i>SE</i>	$\beta$
1. Structure	0.25	(0.13)	.25**	0.02	(0.16)	.02	0.47	(0.19)	.33**	0.20	(0.20)	.14*	0.34	(0.17)	.29**
2. Relatedness	0.29	(0.12)	.32**	0.32	(0.15)	.32**	0.27	(0.17)	.21**	0.36	(0.19)	.28**	0.14	(0.15)	.13*

## **Comparison of perceptions of students and observers regarding provision of structure and relatedness support**

The study aimed to explore to what extent students' perceptions of provision of structure and relatedness support was similar to the observers' during a specific lesson. To achieve this aim, new variables were constructed by subtracting the means of observers' ratings of provision of structure and relatedness support from the means of students' ratings of provision of structure and relatedness support. The new variables were put to Frequency Analysis.

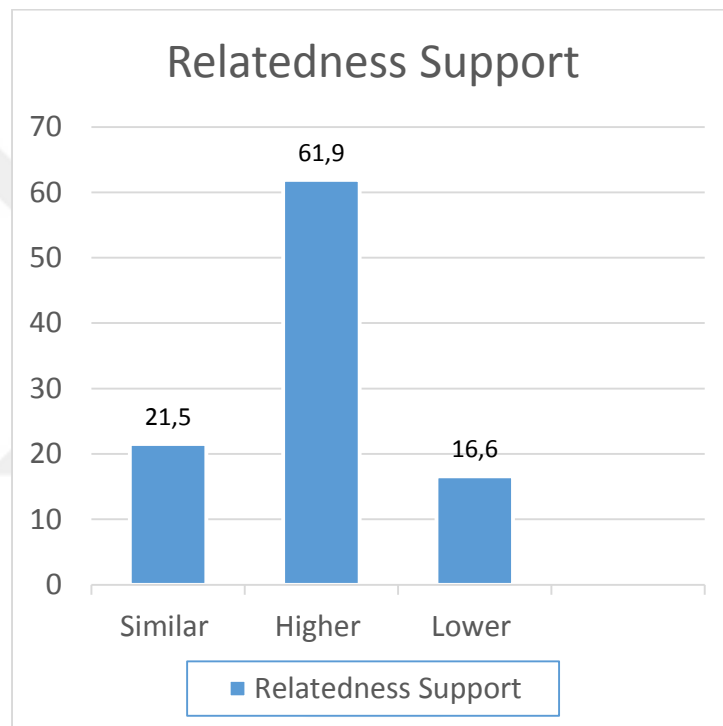
### *Relatedness support*

As for relatedness support, the perceptions of students which were in the band between -0.40 and +0.40 were decided to be considered as in the same band with the observers. For the values which were higher +0.40 were considered to show that the students had higher perceptions of relatedness support compared to the observers whereas values below than -0.40 were considered to show that students had lower perceptions of relatedness support compared to the observers. 21,5 % of the students perceived relatedness support similar to that of the observers however, 61,9 % of the students evaluated their teacher's relatedness support higher than the observers whereas 16,6 % of the students found their teacher's relatedness support lower than the observers during the specific lesson.

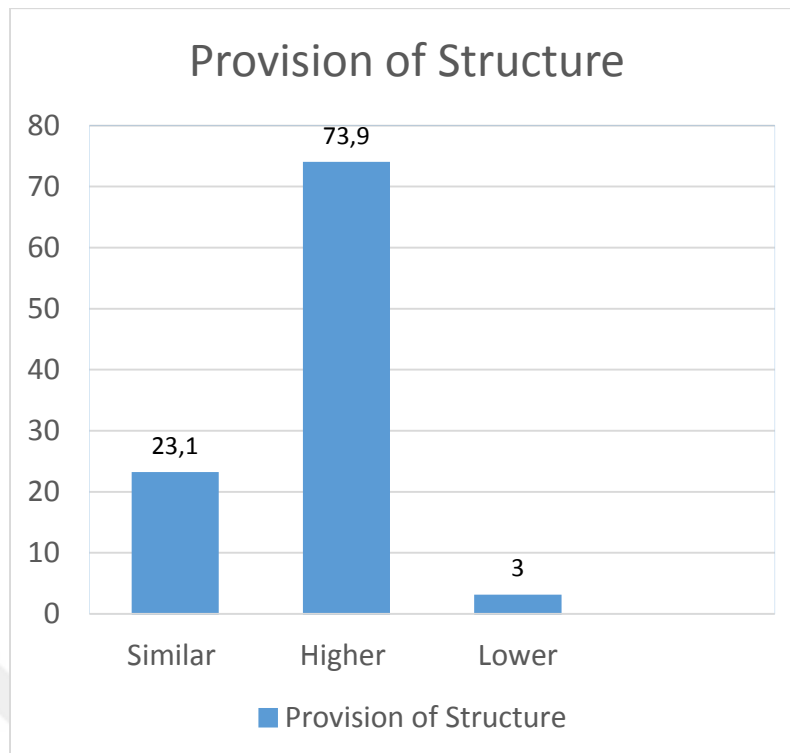
### *Provision of structure*

As for provision of structure, the perceptions of the students which were in the band between -0.77 and +0.74 were decided to be considered as in the same band with the observers. For the values which were higher than +0.74 were considered to have higher perceptions of provision of structure compared to the observers whereas the values below -0.77 were considered to perceive low provision of structure compared

to the observers. 23.1% of the students perceived provision of structure similar to the observers. 73.9 % of the students evaluated their teachers to have higher provision of structure compared to the observers whereas only 3% of the students evaluated their teachers' provision of structure lower than the observers during the specific lesson. To conclude, the students overestimated their teachers' relatedness support and provision of structure (see Figure 1 and Figure 2).



*Figure 1.* Comparison of students' perception and observers' perception regarding relatedness support



*Figure 2.* Comparison of students' perception and observers' perception regarding provision of structure.

### **Comparison of perceptions of students, teachers and observers regarding student engagement**

Another aim of this study was to investigate how similarly students, teachers and observers assess specific types of student engagement (e.g., emotional) during a specific lesson. To achieve this aim, new variables were constructed by a) subtracting means of observer ratings from the means of student ratings and b) subtracting the means of teacher ratings from the means of student ratings. The new variables were put to Frequency Analysis.

#### *Behavioral engagement*

As for behavioral engagement, perceptions of students which were in band between +0.50 and -0.50 were decided to be considered as in the same band with the observers. For the values which are above +0.50, students reported to perceive their

behavioral engagement higher compared to the observers and the for values which are under -0.50, students reported to perceive their own behavioral engagement lower compared to the observers during a specific lesson. The frequency analysis showed that 33.5% of the students assessed their own behavioral engagement similar to that of the observers during the specific lesson. 60.7% of the students assessed their own behavioral engagement higher than the observers. Only 5.8% of the students reported their own behavioral engagement lower than the observers' evaluation during the specific lesson. When comparing students' evaluations to the teachers' evaluation regarding behavioral engagement, perceptions of students which were in band between +0.50 and -0.50 were decided to be considered as in the same band with the teachers. For the values which were above +0.50, students reported more behavioral engagement than the teachers' perceptions whereas for the values which were under -0.50, students reported less behavioral engagement than the teachers' perception. The frequency analysis showed that 52.4% of the students assessed their own behavioral engagement similar to that of the teachers' perception whereas, 25.1% of the students reported their behavioral engagement higher than the teachers' perception and 22.5% of the students reported their own behavioral engagement lower than the teachers' perception during a specific lesson.

#### *Agentic engagement*

As for agentic engagement, perceptions of students which were in band between +.50 and -0.50 were decided to be considered as in the same band with the observers and for the values which are above +0.50, students reported higher perception of their own agentic engagement compared to the observers and the for values which are under -0.50, students reported lower perception of their own agentic engagement compared to the observers during a specific lesson. 40.8% of the students reported to

perceive their own agentic engagement similar to the observers' perception. 12.5% of the students reported to perceive their own agentic engagement lower than the observers' perception, and 46.7% of the students reported to have higher perception of their own agentic engagement compared to the observers. When comparing students' evaluations to the teachers' evaluations regarding agentic engagement, perceptions of students which were in band between +0.50 and -0.50 were decided to be considered as in the same band with the teachers. For the values which were above +0.50, students reported higher perceptions of agentic engagement than the teachers' perceptions whereas for the values which were under -0.50, students reported lower perceptions of agentic engagement than the teachers' perceptions. Frequency Analysis showed that 40.9 % of the students reported to perceive their own agentic engagement similar to the teachers' perception whereas 29.3% of the students reported their own perception of agentic engagement lower than the teachers, and 29.7% of the students reported to perceive their own agentic engagement higher than the teachers' evaluation during a specific lesson.

#### *Emotional engagement*

When comparing students' evaluations to teachers' evaluations regarding emotional engagement, perceptions of students which were in band between +0.50 and -0.50 were decided to be considered as in the same band with the teachers. For the values which were above +0.50, students reported higher perceptions of their own emotional engagement than the teachers' perceptions whereas for the values which were under -0.50, students reported lower perceptions of emotional engagement than the teachers' perceptions. Frequency Analysis showed that 27.2% of the students reported to perceive their own emotional engagement similar to the teachers' perception whereas 16.4% of the students reported to perceive their own emotional engagement lower

than the teachers, and 56% of the students reported to perceive their own emotional engagement higher than the teacher's evaluation during a specific hour.

Assessment of students' emotional engagement by the observer was excluded from the Frequency Analysis considering the fact that it was difficult for the observers to understand students' interests during a specific lesson.

#### *Cognitive engagement*

When comparing students' evaluations to the teachers' evaluations regarding cognitive engagement, perceptions of students which were in band between +0.50 and -0.50 were decided to be considered as in the same band with the teachers. For the values which were above +1.0, students reported higher perceptions of cognitive engagement than the teachers' perceptions whereas for the values which were under -1.0, students reported lower perceptions of cognitive engagement than the teachers' perceptions. Frequency Analysis showed that 76% of the students reported to perceive their own cognitive engagement similar to the teachers' perception whereas 11.4% of the students reported their own perception of cognitive engagement lower than the teachers, and 12.6% of the students reported to perceive their own cognitive engagement higher than the teachers' evaluation during a specific lesson.

Assessment of students' cognitive engagement by the observer was also excluded from the Frequency Analysis considering the fact that it was difficult for observers to understand students' cognitive processes such as their effort to learn as much as possible during a specific lesson.

#### *Overall engagement*

Overall engagement for observers was calculated by aggregating observers' behavioral and agentic engagement scores. Perceptions of between +0.75 and -0.75 were decided to be considered as in the same band with the observers. For the values

which are above +0.75, students reported higher perception of their own overall engagement compared to the observers and the values under -0.75 were taken as students' lower perception of their own overall engagement. 35.5% of the students reported to perceive their own overall engagement similar to the observer's perception. 53.5% of the students reported to have higher perception of overall engagement than the observers' perception and, 9 % of the students reported to have lower perception of their overall engagement compared to the observer's perception. When comparing students' perception to teachers' perception regarding overall engagement, perceptions of students' which were in band between +0.74 and -0.74 were decided to be considered as in the same band with teachers. For the values which are above +0.74, students reported higher perceptions of overall engagement and, for the values which are under -0.74, students reported lower perception of overall engagement. 42.8 % of the students reported to perceive their own overall engagement similar to the teacher's perception. 44 % of the students reported to have higher perception of overall engagement than the teachers and, 21 % of the students reported to perceive their own overall engagement lower compared to the teacher's perception. All student results and their comparison to teachers and observers are presented in Table 6.



Table 6. Comparative table of students' perception of engagement

<b>Behavioral Engagement</b>	<b>Observers</b>	<b>Teachers</b>
Similar	33.5%	52.4%
Higher	60.7%	25.1%
Lower	5.8%	22.4%
<b>Agentic Engagement</b>	<b>Observers</b>	<b>Teachers</b>
Similar	40.8%	40.9%
Higher	46.7%	29.7%
Lower	12.5%	29.3%
<b>Emotional Engagement</b>	<b>Observers</b>	<b>Teachers</b>
Similar	-	27.2%
Higher	-	56.0%
Lower	-	16.4%
<b>Cognitive Engagement</b>	<b>Observers</b>	<b>Teachers</b>
Similar	-	76.0%
Higher	-	12.6%
Lower	-	11.4%
<b>Overall Engagement</b>	<b>Observer</b>	<b>Teacher</b>
Similar	35.5%	42.8%
Higher	53.5%	44.0%
Lower	9.0%	21.0%

## **CHAPTER 5: DISCUSSION**

### **Introduction**

The purpose of this study was to investigate students' perception about teachers' instructional behavior, that are provision of structure and relatedness support in specific, and their relation to students' behavioral, emotional, cognitive, agentic and overall engagement during a specific lesson. The study also aimed to compare students' perception to others (i.e., observers and teachers) perception about provision of structure and relatedness support as well as about engagement. More specifically, the study investigated similarities and differences between students and observers assessed provision of structure and relatedness support, and how similarly students assessed their own engagement compared to the teachers' and observers. This chapter focused on the major findings of the study after presenting an overview of its method. Considering the major findings, educational implications for practice and further research was proposed, while the limitations of the present study were discussed.

### **Overview of the study**

This study aimed to explore the relationship of provision of structure and relatedness support, two important practices, according to Self-determination Theory (SDT), for the satisfaction of students' psychological needs, and student engagement.

To achieve the specific aims of the study the following research questions were posed:

1. To what extent did students' '*perceived provision of structure and relatedness support*' predict their engagement during a specific lesson?

2. To what extent was students' *'perceived provision of structure and relatedness support'* during a specific lesson similar to observers' perception?
3. To what extent were different kinds of student engagement similarly assessed by the students, observers and the teachers?

Exploring the relationship between student engagement, provision of structure and relatedness support was one of aims of the present study but this study also aimed to explore how the aspects of engagement, provision of structure and relatedness support perceived by different informants. To this end, a cross-sectional observational study design was selected and, observations and self-reports were used as a method of data collection in specific class sessions. There were two independent observers who were specifically trained for the purpose of this study. The study was conducted in one public and one private school in Ankara with the participation of 191 students in 10 different classes with 10 teachers (Turkish or English). The lessons were observed two or three times but only one of the observed lessons was assessed by the students, teachers and the observers at the end of the lesson. The students and the teachers were informed about the purpose and the scope of this study and consented for their participation.

In preliminary analysis, descriptive statistics for each variable were run to explore the basic characteristics of the collected data. Also, bivariate correlations were run to explore the correlations among the variables. A MANOVA was conducted to check the gender differences. The main analysis included five one-step regression analysis to explore statistically significant relationships between provision of structure, relatedness support and different types of engagement (e.g., behavioral, emotional, cognitive, agentic and overall). Five one-step regression analyses were also used to

explore the different patterns of relationships between females and males. Frequency Analysis were used to explore to what extent the perceptions of students about relatedness support and provision of structure were assessed in a similar way by the observers and to explore to what extent the different kinds of student engagement was similarly assessed by the teachers, students and observers.

### **Major findings and discussions**

Major findings related to the research questions are discussed below:

Research Question #1: *To what extent did students' 'perceived provision of structure and relatedness support' predict their engagement during a specific lesson?*

The findings of this study showed that only relatedness support was a positive predictor of behavioral, emotional, agentic and overall engagement while provision of structure did not predict only emotional engagement. There was also not a significant relationship between cognitive engagement and relatedness support or provision of structure. In accordance with the previous studies which found that students need to feel close to their teachers and make meaningful connections with their surroundings to feel engaged (Furrer & Skinner, 1993; Spaulding, 1995; Roorda et. al., 2012; King, 2015; Leon & Liew, 2017), this study showed that when students perceive relatedness support from their teachers, they display and report greater behavioral, emotional, agentic and overall engagement. Provision of structure seems to play also an important role for students' interest and enjoyment (i.e., emotional support).

Exploring different patterns of relationships between male and female students, the study found being a male predicted higher concentration and interest in a specific lesson.

Previous studies examining gender differences found significant differences between males and females. For example, females are better than males at evaluating the feelings and intentions of a character in a story (Bosacki & Astington, 1999) or, males are better at tasks that require systemizing such as using directional cues (Kimura, 1999). In Auyeung and her colleague's study, female students scored better than empathy quotient while male students had a significantly better score at systemizing quotient therefore, while female students are better at social skills, male students have a preference for 'systems' (Auyeung et. al., 2009). Taking this into consideration, it is argued that the difference between genders in this study in terms of the predictive value of provision of structure may be due to the fact that male students have already higher systemizing skills and therefore they may need more relatedness support rather than structure to compensate their lower social skills and be engaged in the class. On the other hand, female students, -who are high in social skills-, probably need, next to relatedness support, structure as well from their teachers to compensate their low systemizing skills and be engaged in the class. According to the Self-Determination Theory, autonomy, competence and relatedness support creates the optimal environments which help students achieve optimal learning outcomes. Indeed, in a few previous studies researchers have found, contrary to the results of the present study, that structure is likely to yield more positive outcomes in education independently of gender. For example, Sierens and her colleagues (2009), investigated the joint role of provision of structure and autonomy support on student learning strategies found that structure had a positive relationship with learning strategies and interaction between autonomy support and structure significantly contributed to learning. Therefore, autonomy support and provision of structure must go hand in hand in the classroom. Similarly, Hospel and

Galand (2015) found that in order to enhance the student engagement in the classrooms, the role of structure was requisite along with the complementary role of autonomy support.

However, these previous studies test the joint effects of autonomy support and provision of structure, while the role of relatedness support was neglected. Only in Dupont et al. (2014) the relatedness support had been included as a predictor of student engagement next to autonomy support and provision of structure. In Dupont et al. (2009), somehow differently to the results of the present study, structure was related not only to emotional engagement, but to behavioral and cognitive engagement as well, while relatedness was associated only with cognitive engagement. These slightly different patterns of relationship between provision of structure, relatedness support and engagement can be attributed to the fact that Dupont et al. (2009) controlled also for autonomy support, an aspect that was not considered in the present study, while they did not control for gender differences. However, despite the slightly different patterns of relationships between Dupont et al. (2009) and the present study, both studies indicate that along with provision of structure, a practice well-known and used by many teachers, relatedness support is decisive for student engagement. It seems important for students to feel that their teacher is responsive when they ask for her contribution, physically nearby the students and spends time with them so as to try hard and persist (behavioral engagement), be interested in the class activities (emotional engagement) and to feel free to pose questions and express preferences (agentic engagement).

Research Question #2: *To what extent was students' 'perceived provision of structure and relatedness support' similar to observers' perception during a specific lesson?*

The comparison between students', and observers' rating regarding provision of structure and relatedness support showed that students overestimated both provision of structure and relatedness support they perceived from their teachers after a specific lesson.

The majority of students reported to perceive their teacher structured to a higher extent compared to the trained observers. The majority of the students also reported higher relatedness support from their teachers compared to observers' rating.

Although the nature of the cross-sectional study design aimed to rate teacher's instructional behavior in a specific class, it needs to be considered that the students might have found it hard to assess their teacher's behavior only in the given lesson.

The observers were trained to identify specific behaviors of a structured teacher that were present during the observed lesson. The students, on the other hand, may had general ideas about provision of structure and relatedness support coming from their long experience interacting with their teacher than from that specific lesson.

Relational Teaching Approach (RTA) suggests that teaching is a process of relational development (Graham, West, Shaller, 1992). Therefore, it can be assumed that the teachers and the students go through a process of communication beyond the limits of a single lesson. While the observers only looked for concrete signs of relatedness support in the given lesson, the students might find it hard to differentiate teacher's provision of structure and relatedness support in general.

In conclusion, the results suggest that the students perceive their teacher more structured and relatedness supportive than the observers. The underlying reasons for the overestimation of structure and relatedness support must be further examined.

Research Question #3: *To what extent was different types of student engagement similarly assessed by the students, observers and the teachers?*

Comparison between students, observers and teachers regarding different types of engagement showed that teachers have more similar perception to the students regarding behavioral, agentic and overall engagement than the observers. The students evaluated themselves higher than both the teacher and the observer regarding behavioral, emotional, agentic and overall engagement. Although students evaluated themselves higher in behavioral, emotional, agentic and overall engagement, students' being more in tune with their teacher than the observer suggests that there are classroom dynamics set in the class based on teachers' instructional behavior. However, overestimation of the students regarding engagement also suggests that there are still different criteria between them and the teachers in assessing their engagement in the classroom. The distance between students' and teachers' assessment of engagement can be smaller compared to the existing distance from the observers' assessment but it is there showing that teachers maybe ask more for students' engagement. This can have a positive aspect as they could feel that they need to be monitoring their instructional behavior for improvement to encourage more student engagement. At the same time, however, teachers' stricter evaluation of student engagement could provoke more pressure toward the students so as to be more engaged. It could be probably desired students and teachers to discuss extensively their expectations and criteria for engagement so as to have a common understanding about the needed effort. On the other hand, cognitive engagement was assessed similarly by the teachers and the students, which is a very desired finding considering that when teachers know whether their students



tried to learn as much as they could or not, they can align their instruction more effectively to promote student engagement.

In conclusion, student engagement was assessed differently by three different informants. The students assessed themselves higher in behavioral, agentic and overall engagement both from the teachers and the observers. The students also assessed themselves emotionally more engaged than the teachers. The overestimation of students' own perception of engagement suggests that the teachers need to be more attentive in regulating their own instructional behavior to accurately understand classroom environment. Assessing cognitive engagement similarly to the students, the teachers may seek for directing cognitive engagement to a more effective teaching-learning experience. The observers underestimated all types of engagement compared to both teachers and the students suggesting that the classroom atmosphere and student-teacher relationship grew out to be something unique.

### **Implications for practice**

The findings of the study revealed that student engagement in a specific class session was predicted by provision of structure and relatedness support. When teachers spend time with their students, respond to the students' questions, are physically nearby students, give clear instructions, helpful guidance and scaffolding and constructive feedback, the students engage in the lessons. Also, when students feel somehow related to their teacher, they report their own behavioral, emotional, agentic and overall engagement to be enhanced. Therefore, it is important for teachers to consider their relationship and provision of structure with the students because engagement in learning is a desired outcome for students. It can be concluded that (a) positive teacher – student relationships provide positive learning

outcomes for students and (b), structure provides students with clarity so as to engage students in the classroom activities.

The findings also showed the importance of teacher awareness in their own instructional behavior. In schools, learning takes place not only within the framework of curricula but also in spontaneous and exploratory ways led by the teachers and the students. Considering that fact that need-supportive teaching enhances student engagement, the teachers must be aware of their own instructional behavior and how to be need-supportive teachers. Therefore, teacher education should highlight more the importance of need-supportive teaching. The policy-makers and authorities should include need-supportive teaching in curricula considering the broad framework of education. Also, policy makers, authorities and schools can organize professional development seminars, workshops and training days regarding need-supportive teaching where professionals can learn and discuss about need-supportive teaching in detail. There are professional development programs in different countries (e.g., *Continuous Professional Development (CPD)* (Aelterman, Vansteenkiste, Van den Berghe, De Meyer, & Haerens, 2014) that help teachers foster need-supportive teaching. Such training programs can be adapted to Turkish Educational system and curricula to implement need-supportive teaching.

### **Implications for further research**

The present study was conducted in one public and one private school in Ankara. To get a broader picture of the Turkish education system and the position of provision of structure and relatedness support regarding engagement, similar studies can be conducted in different types of schools in different cities in Turkey. Moreover, only 191 students from 10 classes and 10 teachers participated in this study. To get a

broader picture of the status of need-supportive teaching in Turkey, a larger-scaled study can be conducted. Also, this study did not assess autonomy support and its relation to student engagement. Further research can include the joint effects of autonomy support, provision of structure and relatedness support to student engagement as well as the correlation among these variables.

The study found different perceptions of provision of structure depending on the gender. This study did not aim to explore the gender difference in perception of provision of structure and relatedness support. Hence, a gender focused research can be conducted.

Only two items were assessed to measure relatedness support. The scope of relatedness support can be extended more to fully understand the dynamics of student engagement regarding relatedness-supportive teaching.

### **Limitations**

This study aimed to explore how teachers' instructional behavior affects student engagement within the framework of Self Determination Theory. As a cross-sectional correlational study design, this study only sought for correlations between variables but did not seek for cause and effect relationship. Also, as a cross-sectional observational design, the classes were observed two or three times and one of the observed classes was assessed randomly. Although being in the classroom environment and observing the students at least in two different sessions was a very effective way to understand the dynamics of the classroom concerning student engagement and teachers' instructional behavior, we need to take into consideration that the students and the teacher might have behaved differently than when they were not being observed. Moreover, the students were instructed to assess only one class

that was being observed, but it might have been harder for students to objectively assess only the specific hour.

Although the two independent observers were trained by the same supervisor to look for the basics of Self Determination Theory in the classroom environment, they had different opinions about the teachers' provision of structure. In specific, the divergence was about teachers' helpful guidance and scaffolding (interraters' reliability  $\rho = .65$ ,  $p < .05$ ). This might be due to the fact that the observers were trained for a period of time about the theories about SDT but they did not have any practical experience.

The sample of this study was selected from one public and one private high school in Turkey. Although this study aimed to explore the teachers' instructional behavior in Turkish education system, the results might not be valid for Turkey in general. Moreover, as different cultures may perceive relatedness support and provision of structure differently, the results may not be adaptable to other countries.

To assess Relatedness Support, the observers only answered three items in the observation sheet. In order to get a deeper understanding of relatedness support, extended versions of the questions can be asked to all informants.

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## APPENDICES

### APPENDIX A: Student Questionnaires (English)

School: \_\_\_\_\_ Class: \_\_\_\_\_ Gender: M/F Date of Birth: \_\_\_\_\_ Date: \_\_\_\_\_

Dear student,

This questionnaire is prepared as a part of a study investigating students' motivation during a specific class hour. Your answers will **NOT** be used to **grade** or **criticize** you. There are **NO** correct answers for the expressions below. This is why; we kindly ask you to read all the questions carefully and chose the best option that suits your perspective.

Please use the scale below to answer the questions:

- 1: I strongly disagree
- 2: I disagree
- 3: Neutral
- 4: I agree
- 5: I strongly agree

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>During this class my teacher...</i>					
1. Provides interesting learning activities	1	2	3	4	5
2. Piqued students' curiosity	1	2	3	4	5
3. Explained the value/necessity of the activities	1	2	3	4	5
4. Provided choices	1	2	3	4	5
5. Provided opportunities to students to express their preferences/opinion	1	2	3	4	5
6. Allowed students to work at their own pace	1	2	3	4	5
7. Allowed students to work at their own way	1	2	3	4	5
8. Provided explicit schedule and guidelines for the activities	1	2	3	4	5
9. It made clear what the students had to do in the activities	1	2	3	4	5
10. Moved the lesson along at an orderly pace	1	2	3	4	5
11. Gave hints, tips, strategies, reminders for the activities to facilitate student engagement	1	2	3	4	5
12. Told students what they were doing well	1	2	3	4	5
13. Told students what they need to do to improve	1	2	3	4	5

### APPENDIX A (cont'd): Student Questionnaires (English)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>During this class my teacher...</i>					
1. Was responsive when students asked his contribution	1	2	3	4	5
2. Was physically nearby the students	1	2	3	4	5

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>During this class ...</i>					
1. I paid attention.	1	2	3	4	5
2. I worked very hard.	1	2	3	4	5
3. I enjoyed today's class.	1	2	3	4	5
4. I tried to learn as much as I could.	1	2	3	4	5
5. I express my preferences, opinions or questions.	1	2	3	4	5
6. I felt interested in today's class.	1	2	3	4	5
7. I asked questions during class.	1	2	3	4	5



## APPENDIX B: Student Questionnaires (Turkish)

Okul: \_\_\_\_\_ Sınıf: \_\_\_\_\_ Cinsiyet: K/E Doğum Tarihi: \_\_\_\_\_ Tarih: \_\_\_\_\_

### Değerli öğrenci,

Bu ölçek ders sırasındaki motivasyonunuzu belirlemek için yapılan bilimsel bir araştırmanın yürütülmesi amacıyla hazırlanmıştır. Ölçekte yer alan sorulara verdiğiniz yanıtlar, kesinlikle **size not vermek** ya da sizi **eleştirmek** amacıyla **kullanılmayacaktır**. Bu soruların herkes için geçerli **doğru yanıtları bulunmamaktadır**. Bu nedenle lütfen aşağıda verilen tüm soruları dikkatle okuyarak cevabınızı, ifadenin karşısındaki seçeneklerden sizin için en uygun olanı işaretleyerek belirtiniz.

Soruları yanıtlamak için aşağıdaki ölçütleri kullanınız. Soruda geçen ifadeye **tamamen katılıyorsanız (5)**'i; ifadeye **kesinlikle katılmıyorsanız (1)**'i işaretleyin. Eğer ifadenin size göre doğruluğu bunlardan farklı ise sizin için en uygun düzeyi gösteren (1)'le (5) arasındaki rakamı işaretleyin.

	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
<i>Bu ders sırasında, öğretmenim...</i>					
1. İlgi çekici aktiviteler kullandı.	1	2	3	4	5
2. Merak uyandırdı.	1	2	3	4	5
3. Aktivitelerin önemini/gerekliğini anlattı.	1	2	3	4	5
4. Seçenekler sundu.	1	2	3	4	5
5. Tercihlerimizi/fikirlerimizi ifade etmemize imkân sağladı.	1	2	3	4	5
6. Kendi tempomuzda çalışmamıza izin verdi.	1	2	3	4	5
7. Kendi bildiğimiz şekilde çalışmamıza izin verdi.	1	2	3	4	5
8. Aktiviteler için açık plan ve talimatlar sağladı.	1	2	3	4	5
9. Aktivitelerde ne yapmamız gerektiğini açıkladı.	1	2	3	4	5
10. Dersin düzgün bir hızda ilerlemesini sağladı.	1	2	3	4	5
11. Katılımımızı artıran aktiviteler için ipucu verdi, hatırlatmalar yaptı.	1	2	3	4	5
12. Hangi konularda iyi olduğumuzu söyledi.	1	2	3	4	5
13. Kendimizi geliştirmek için ne yapmamız gerektiğini söyledi.	1	2	3	4	5

## APPENDIX B (cont'd): Student Questionnaires (Turkish)

	Kesinlikle katılmıyoru m	Katılmıyoru m	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
<i>Bu ders sırasında öğretmenim ...</i>					
1. Yardım istediğimizde karşılık verdi.	1	2	3	4	5
2. Fizisel olarak yanımızdaydı.	1	2	3	4	5

	Kesinlikle katılmıyoru m	Katılmıyoru m	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
<i>Bu ders sırasında ...</i>					
3. Derse dikkatimi verdim.	1	2	3	4	5
4. Çok çabaladım.	1	2	3	4	5
5. Dersten zevk aldım.	1	2	3	4	5
6. Öğrenebildiğim kadar çok şey öğrenmeye çalıştım.	1	2	3	4	5
7. Tercihlerimi, fikirlerimi veya sorularımı dile getirdim.	1	2	3	4	5
8. Bugün ders ilgimi çekti.	1	2	3	4	5
9. Soru sordum.	1	2	3	4	5

## APPENDIX C: Observation Rating Sheets

<b>STRUCTURED TEACHING</b>	<i>Never, Not at All</i>		<i>Occasionally Sometimes yes, Sometimes no</i>			<i>Frequently, Always</i>	
	1	2	3	4	5	6	7
<b>Clear Expectations</b>							
<ul style="list-style-type: none"> <li>• “What to Do” Is Clear</li> <li>• Expectations, Standards Are Clear</li> <li>• Provides Explicit Schedule, Directions</li> <li>• States a Clear Goal or Learning Objective</li> <li>• Offers a Clear Plan of Action</li> <li>• Shows Strong Leadership</li> <li>• Is Consistent, Is Predictable</li> </ul>							
<b>Helpful Guidance, Scaffolding</b>							
<ul style="list-style-type: none"> <li>• Mentors, Coaches Students</li> <li>• Provides Help, Assistance, Guidance</li> <li>• Gives Hints, Tips, Strategies, Reminders</li> <li>• Moves the Lesson along at an Orderly Pace</li> </ul>							
<b>Constructive Feedback</b>							
<ul style="list-style-type: none"> <li>• Provides Competence-Diagnosing &amp; Competence-Building Analysis</li> <li>• Comments on the Quality of Students’ Work</li> <li>• Tells Students What They Are Doing Well</li> <li>• Tells Students What They Need to Do to Improve</li> <li>• Provides Suggestions for Next Time</li> </ul>							

**APPENDIX C (cont'd): Observation Rating Sheets**

**RELATEDNESS-SUPPORTIVE TEACHING**

*Never*                      *Occasionally*                      *Frequently,*  
*Not at All*                      *Sometimes yes, Sometimes no*                      *Always*

**Dedicates time and resources and is available**

- Spend time with the students
- Is responsive when they ask his contribution
- Is physically nearby the student

1            2            3            4            5            6            7

### APPENDIX C (cont'd): Observation Rating Sheets

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<b>The students ...</b>					
1. ... paid attention (behavioral)	1	2	3	4	5
2. ... tried very hard (behavioral)	1	2	3	4	5
3. ... expressed their preferences, opinions or questions (agentic)	1	2	3	4	5
4. ... asked questions during class (agentic)	1	2	3	4	5



## APPENDIX D: Teacher Questionnaires (English)

Dear teacher,

This questionnaire is prepared as a part of a study investigating students' motivation a specific class hour. Use the following criteria to answer questions. If you fully agree with the expression in question mark 5, mark 1 if you totally disagree with the statement. If the statement is different for you, mark the number 1- 5 that best suits you.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<i>During this class the students ...</i>					
1. ...paid attention (behavioral)	1	2	3	4	5
2. ...worked very hard (behavioral)	1	2	3	4	5
3. ...enjoyed today's class (emotional)	1	2	3	4	5
4. ...tried to learn as much as I could (cognitive)	1	2	3	4	5
5. ...express my preferences, opinions or questions (agentic)	1	2	3	4	5
6. ...felt interested in today' class (emotional)	1	2	3	4	5
7. ...asked questions during class (agentic)	1	2	3	4	5

## APPENDIX E: Teacher Questionnaires (Turkish)

Okul: \_\_\_\_\_ Sınıf: \_\_\_\_\_ Cinsiyet: K/E Yaş: \_\_\_\_\_ Tarih: \_\_\_\_\_

Saygıdeğer öğretmen,

Bu ölçek ders sırasındaki öğrenci motivasyonunu belirlemek için yapılan bilimsel bir araştırmanın yürütülmesi amacıyla hazırlanmıştır. Soruları yanıtlamak için aşağıdaki ölçütleri kullanınız. Soruda geçen ifadeye **tamamen katılıyorsanız (5)**'i; ifadeye **kesinlikle katılmıyorsanız (1)**'i işaretleyin. Eğer ifadenin size göre doğruluğu bunlardan farklı ise sizin için en uygun düzeyi gösteren (1)'le (5) arasındaki rakamı işaretleyin.

	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
<i>Bu ders sırasında, öğrenciler...</i>					
1. ...dikkat kesildiler.	1	2	3	4	5
2. ...çok çabaladılar.	1	2	3	4	5
3. ...zevk aldılar	1	2	3	4	5
4. ...öğrenebildikleri kadar çok şey öğrenmeye çalıştılar	1	2	3	4	5
5. ...tercihlerini, fikirlerini ve ya sorularını dile getirdiler	1	2	3	4	5
6. ...ilgi gösterdiler	1	2	3	4	5
7. ...soru sordular	1	2	3	4	5

## APPENDIX F: Permission from Ministry of National Education



T.C.  
ANKARA VALİLİĞİ  
Milli Eğitim Müdürlüğü

178/010592

Sayı : 14588481-605.99-E.6660991  
Konu: Araştırma İzni

29.06.2015

BİLKENT ÜNİVERSİTESİNE  
(Eğitim Bilimleri Enstitüsü)

İlgi: a) MEB Yenilik ve Eğitim Teknolojileri Genel Müdürlüğünün 2012/13 nolu Genelgesi.  
b) 29/05/2015 tarihli ve 8549 sayılı yazınız.

Üniversiteniz Eğitim Bilimleri Enstitüsü öğretim görevlisi Aikaterini Michou' nun "**Lise Sınıflarında Öğretmenin Öğretim Şekli: Öğretim Şeklinin Öğrenci Motivasyonu ve Öğrenmeyle İlişkisinin Sistematik bir Yaklaşımla Değerlendirilmesi**" başlıklı araştırma kapsamında görüşme yapma talebi Müdürlüğümüzce uygun görülmüş ve uygulamanın yapılacağı İlçe Milli Eğitim Müdürlüğüne bilgi verilmiştir.

Araştırma formunun (22 sayfa) araştırmacı tarafından uygulama yapılacak sayıda çoğaltılması ve çalışmanın bitiminde bir örneğinin (cd ortamında) Müdürlüğümüz Strateji Geliştirme (1) Şubesine gönderilmesini arz ederim.

Bilgilerinize arz ederim.

Ali GÜNGÖR  
Müdür a.  
Şube Müdürü

Güvenli Elektronik  
Aslı İle Aynıdır.  
29.6.2015

Şaşar Şube

Konya yolu Başkent Öğretmen Evi arkası Beşevler ANKARA  
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Ayrıntılı bilgi için  
Tel: (0 312) 221 02 17/135

1.7.15  
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