

Exploring the Relationship Between Constructivist Learning Environments, Attitudes, Academic Delay of Gratification, and Teaching Efficacy Beliefs in a Social Studies Teaching Course

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Abstract:

This study aimed to investigate relations between perceived constructivist learning environments in a social studies teaching course in consideration of attitudes toward the course, academic delay of gratification, and students' social studies teaching self-efficacy beliefs. A total of 295 preservice elementary school teachers participated in the study. The data were collected over three academic years during a social studies teaching course in the Faculty of Education at a state university in Turkey. Results showed positive and significant correlations between the variables. The study found that perceived constructivist learning environments in a social studies teaching course positively and significantly predicted the preservice elementary school teachers' attitudes toward the social studies teaching course, their academic delay of gratification in the course, and their social studies teaching efficacy beliefs. Attitudes toward the social studies teaching course positively and significantly predicted both the academic delay of gratification in the course and social studies teaching efficacy beliefs. However, the direct effect of academic delay of gratification on social studies teaching efficacy beliefs was not significant. Moreover, some indirect effects of perceived constructivist learning environments were found.

Key words: social studies teaching course, constructivist learning environments, attitudes, academic delay of gratification, social studies teaching self-efficacy

1. Introduction

Social studies is a course taught in elementary and middle schools in which children learn basic citizenship knowledge and develop a variety of skills such as research, critical thinking, empathy,

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and problem solving. They also gain values such as a sense of justice, independence, honesty, freedom, and patriotism so they become responsible and effective citizens in society (Turkish Ministry of National Education [MoNE/MEB], 2018). In their elementary years, although all courses contribute to raising children with civic competence, it is a central aim that social studies educate students to become committed to democracy and its values (National Council for Social Studies [NCSS], 1994). However, the multi- and interdisciplinary nature of social studies, lack of knowledge by teachers about social sciences, and the content and aims of social studies prevent teachers from teaching it effectively (Gallavan, 2001/2002). This makes training qualified teachers in social studies education during their preservice education years critical, so that elementary school students reach the objectives aimed for in this course. Moreover, teaching self-efficacy beliefs built in methods courses is also of great importance during students' preservice and later in-service years (Giles, Byrd, & Bendolph, 2016). In Turkey, the *social studies teaching course* offered in faculties of education helps preservice elementary school teachers learn the social studies curriculum in depth and develop their knowledge and skills related to teaching social studies to elementary students (Turkish Council of Higher Education [CoHE/YÖK], 2007). However, some studies that have assessed elementary school teacher education programs have reported problems both with the overall program and the social studies teaching courses in particular.

Studies showed that preservice elementary school teachers (Kılıç & Acat, 2007; Süral, 2015) and graduated elementary school teachers (Çoban, 2011) did not have positive perceptions about the necessity and/or usefulness of the social studies teaching course. In addition, some studies reported that lecture is the most-used method while problem-based and project-based instruction were the least-used methods in the social studies teaching course in elementary school teacher training programs (Erol Çalışır, 2008). Still others (Akdoğan & Uşun, 2017; Baştürk, 2015) reported that preservice elementary school teachers did not have positive perceptions about the methods used by teacher trainers and the teaching-learning process in their programs. These reports support the arguments of Elkind (2004), who claimed that if teachers are not implementing or adopting constructivist principles in schools, the main reason is the teacher training, not the teachers themselves. Needless to say, in order for social studies education to be effective in elementary schools, the social studies teaching courses in education faculties need to be effective. Examining social studies teaching efficacy beliefs, attitudes, and academic delay of gratification of the preservice elementary school teachers in a social studies teaching course in relation to constructivist learning environments, and developing suggestions based on the findings, might accordingly lead teacher trainers to question and form their social studies

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teaching courses. For this reason, the present study investigated the relations between perceived constructivist learning environments in a social studies teaching course, students' attitudes toward this course, academic delay of gratification in this course, and social studies teaching self-efficacy beliefs.

1.1. Constructivist Learning Theory

According to this theory, learning is an active process positing that when learners encounter a new situation, learning occurs by linking new information to information that they already know. During the learning process, learners form their own meaning by kneading new knowledge with information they have already acquired (Ellis & Fouts, 1996; Loyens & Gijbels, 2008).

Although it is not a pedagogy or a specific teaching method, constructivist theory in education has led to the formation of particular classroom teaching practices (Boghossian, 2006; Harris & Alexander, 1998; Maypole & Davies, 2001). A constructivist learning environment, which is "a general term to describe teaching and learning situations which are explicitly based on constructivist epistemology and are designed to support learners' knowledge construction processes" (Tynjälä, 1999, p. 365), differs in many aspects from traditional classrooms (Grennon Brooks & Brooks, 1993). In traditional classrooms, teachers usually use lecture-based instruction as a teaching method and textbooks as a source of information. Students memorize topics and are expected to repeat the topic content when asked. On the other hand, in constructivist learning environments, teachers mostly use teaching methods such as discovery learning, inquiry learning, problem-based learning, and cooperative learning that help students construct their own knowledge through active participation. Students develop their own understanding, usually working on primary sources under the guidance of the teacher, and gain a deeper understanding of the subject studied; in turn, this active involvement makes learning more meaningful and it becomes possible to transfer knowledge into daily life (Grennon Brooks & Brooks, 1993; Harris & Alexander, 1998; Kim, 2005; Krahenbuhl, 2016; Loyens & Gijbels, 2008; Loyens, Rikers, & Schmidt, 2008; Tynjälä, 1999).

As constructivism has become a popular learning theory in the field of psychology in recent decades, research into the effects of constructivist learning environments on students has also gained momentum. As a result of such an effort, studies have suggested that students' perceptions of constructivism in their classrooms have an impact on their affective and cognitive learning outcomes (Alt, 2015; Krahenbuhl, 2016), as well as psychological outcomes such as subjective well-being (Chen, Fan, & Jury, 2017). As variables in the current study, attitudes,

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academic delay of gratification, and self-efficacy beliefs are defined and their importance and possible relations to constructivist learning environments discussed in the following sections.

1.2. Student Attitudes and Constructivist Learning Environments

Attitude can be defined as “mind-sets toward certain persons, places, and things” (Moore, 2009, p. 336) or “an individual’s inclinations, prejudices, ideas, fears and convictions concerning any topic. It has an evaluative aspect, a disposition and tendency to react positively or negatively to something. It is, in short, the way someone thinks or behaves” (Ghazali, Setia, Muthusamy, & Jusoff, 2009, p. 51). A student having positive attitudes shows more interest and is more willing to participate in courses (Ghazali et al., 2009; Moore, 2009). Moreover, Singh, Granville, and Dika (2002) revealed that the attitude of students is a significant predictor of achievement and academic time. Celik and Yesilyurt (2013) also found significant and positive relations between attitude and self-efficacy. Since the characteristics of a learning environment have a pivotal role in the attitudes of students (Osborne, Simon, & Collins, 2003), the impact of constructivist learning environments on the attitudes of students has become an area of interest for researchers. For example, in a phenomenological qualitative study, Maypole and Davies (2001) found that constructivist learning in a community college caused students to develop positive attitudes toward the course. They also found that these courses were perceived as enjoyable and encouraged students to work harder. In an experimental research study, Tynjälä (1999) found that constructivist instruction promoted students’ attitudes more than traditional classes. Müller and Louw (2004) found positive correlations between constructivist learning environment perceptions and both student motivation to learn and student interest in a university psychology course. Fraser and Kahle (2007) found that constructivist learning environments contributed to student achievement and attitudes more than peer and home environments, suggesting that providing constructivist learning environments could neutralize the negative effects of peers and home environments (Fraser & Kahle, 2007). Altun and Yücel-Toy (2015) conducted an action research in a method course with preservice biology, physics, and chemistry teachers using the constructivist learning approach and found that the constructivist-based method course developed positive attitudes toward the course and increased interest in the topics. In their comprehensive meta-analysis study into the effect of constructivist applications on attitude, Toraman and Demir (2016) asserted that constructivist teaching had a significant and positive impact on student attitudes toward courses. It was also reported that constructivist learning environments changed preservice teachers’ attitudes toward teaching (Ochagavia, 2017). According to Moore (2009), stimulating student interest is another way to develop positive

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attitudes. Research by Müller and Louw (2004) showed that the more constructivist the students perceived their learning environment to be, the higher their interest.

1.3. Academic Delay of Gratification and Constructivist Learning Environments

Delay of gratification is defined as “individuals’ intentions to postpone immediate available rewards in order to obtain larger rewards temporally distant” (Bembenutty, 2004, p.3). Narrowing the delay of gratification to the academic context, Bembenutty and Karabenick (2003) defined academic delay of gratification as “students’ postponement of immediately available opportunities to satisfy impulses in favor of pursuing academic goals that are temporally remote but ostensibly more valuable” (p. 8). Studies have consistently showed a positive correlation between academic delay of gratification and motivation and learning strategies (Bembenutty & Karabenick, 1996, 1998a, 1998b; Zhang, Karabenick, Maruno, & Laueremann, 2011) and academic achievement (Avci, 2008; Bembenutty & Karabenick, 1996, 1998a, 1998b). Research also reported positive relations between academic delay of gratification and an appreciation (liking, interest, etc.) of the value of academic work and expectancy of academic success (Bembenutty, 1999; Bembenutty & Karabenick, 1998b; Karabenick & Bembenutty, 1998). It was also found that liking and value were significant and positive predictors of academic delay of gratification (Bembenutty & Karabenick, 1998b; Karabenick & Bembenutty, 1998). Consistent with these studies, Abd-El-Fattah and Al-Nabhani (2012) found positive correlations between academic delay of gratification and students’ mastery-approach goal orientation.

Teacher self-efficacy is another variable related to academic delay of gratification (Aydın, Ömür, & Argon, 2014; Bembenutty & Chen, 2005). For example, Bembenutty and Chen (2005) found positive correlations between academic delay of gratification and academic self-efficacy, intrinsic interest in the course, academic self-regulation, and teacher self-efficacy. Similarly, Aydın et al. (2014) found a positive correlation between academic delay of gratification and teacher self-efficacy beliefs, suggesting that the higher the academic delay of gratification among preservice teachers, the greater teacher self-efficacy beliefs they possess.

Studies showed that constructivist learning environments promote student motivation (Kim, 2005; Müller & Louw, 2004; Tynjälä, 1999), self-regulation (Loyens et al., 2008), and interest (Müller & Louw, 2004), which are some of the determinants of academic delay of gratification (Bembenutty & Karabenick, 1998a, 2003). Students with higher interest and motivation focus more on their academic studies and delay their immediate gratification; therefore, increasing

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these variables increases academic delay of gratification (Bembenutty & Karabenick, 1998a, 2003).

1.4. Self-Efficacy Belief and Constructivist Learning Environments

Perceived self-efficacy (self-efficacy beliefs), theorized by Bandura (1977), is “one’s beliefs concerning what one is capable of doing” (Hergenhahn & Olson, 2005, p. 350) or “the specific beliefs people have in their ability to complete tasks or achieve goals (personal efficacy), and their expectations that certain behaviors will produce desirable outcomes (outcome expectancy)” (Wang, Tsai, & Wei, 2015, p. 2265). Based on self-efficacy definitions, teacher self-efficacy belief is defined as the teachers’ own beliefs in their capabilities or skills to achieve educational goals (Dellinger, Bobbett, Olivier, & Ellett, 2008; Skaalvik & Skaalvik, 2010). Since teacher self-efficacy beliefs are a teacher’s own evaluation of his/her capabilities or skills, they do not reflect actual capabilities or skills (Evers, Brouwers, & Tomic, 2002). Therefore, people with the same background may perform and get results differently depending on their self-efficacy beliefs (Bandura, 1993). As argued by Tschannen-Moran and Woolfolk Hoy (2001), teacher self-efficacy appears to be a simple idea; however, to what extent a teacher has teacher self-efficacy beliefs makes a great difference when its impacts on educational outcomes are considered.

Compared to teachers with low teaching efficacy beliefs, teachers with high teaching self-efficacy beliefs have a more positive attitude toward the implementation of instructional innovation (Ghaith & Yaghi, 1997), tend to use a greater variety of teaching methods and student-centered/active learning methods (Bray-Clark & Bates, 2003; Gibson & Dembo, 1984; Giles et al., 2016), are more likely to transfer what they have learned to their instruction and to participate in teacher development programs (Bray-Clark & Bates, 2003), and are more likely to have positive attitudes toward teaching (Van Aalderen-Smeets & Walma van der Molen, 2013). They also tend to show more organizational citizenship behavior, namely, altruism, courtesy, conscientiousness, civic virtue, and sportsmanship (Dussault, 2006), to empathize with students (Goroshit & Hen, 2016), to persist in student failure situations (Gibson & Dembo, 1984), to have greater job satisfaction (Skaalvik & Skaalvik, 2010, 2014), and higher work engagement (Skaalvik & Skaalvik, 2014, 2016). Furthermore, they are less likely to suffer from teacher burnout (Evers et al., 2002; Skaalvik & Skaalvik, 2010, 2014, 2016), stress (Helms-Lorenz & Maulana, 2016; Skaalvik & Skaalvik, 2016), motivation to quit the teaching profession (Skaalvik & Skaalvik, 2016), anxiety in teaching (Van Aalderen-Smeets & Walma van der Molen, 2013), and the use of criticism (Gibson & Dembo, 1984).

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Teacher self-efficacy beliefs were also found to be related to attitude. For example, Tunkler, Ercan, Beskirli, and Sahin (2016) found a positive and significant correlation between preservice teachers' self-efficacy beliefs and their attitude toward an Instructional Technologies and Material Development course. Similarly, Wang et al. (2015) found positive and significant correlations between attitudes toward Internet-based instruction and science teaching efficacy beliefs. They also found attitudes to be a positive and significant predictor of science teaching efficacy beliefs.

It was well-established that how the learning environment is perceived by students affects their self-efficacy beliefs (Alt, 2015). For instance, Alt (2014) conducted a study with college students and examined the relationship between constructivist learning environment perceptions and academic self-efficacy. It was found that constructivist learning environment perceptions were a significant and positive predictor of academic self-efficacy, suggesting that the more constructivist they perceived their classrooms to be, the higher academic self-efficacy they had. Similarly, Dorman and Adams (2004) found positive correlations between constructivist learning environment perceptions and academic efficacy beliefs. In their study, Altun and Yücel-Toy (2015) found that the constructivist-based method course helped preservice teachers improve skills such as thinking, research, problem solving, discussion, and self-regulation. Moreover, the constructivist approach provided active and meaningful learning and supported self-efficacy development. In a post-test experimental research study examining the impact of a constructivist-based elementary mathematics methods course on elementary preservice teachers' mathematics teaching efficacy beliefs, Giles et al. (2016) found that the constructivist-based methods course positively affected their mathematics teaching efficacy beliefs. In a quasi-experimental study with preservice elementary teachers, Deehan, Danaia, and McKinnon (2017) found that practices aligned with constructivism in two science courses increased preservice teachers' science teaching efficacy beliefs. They also revealed that preservice teachers' gains in science teaching efficacy beliefs continued for two years without any science courses. Bleicher and Lindgren (2005) examined how a constructivist-oriented methods class affected preservice teachers' conceptual understanding and science teaching efficacy beliefs. They found that such a constructivist-oriented class where preservice teachers engaged in hands-on, minds-on activities and discussion improved their conceptual understanding and efficacy beliefs in science teaching.

1.5. Research Questions

The research questions of the study were determined as follows:

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1. Do perceived constructivist learning environments in a social studies teaching course significantly and positively predict preservice elementary school teachers' attitudes toward this course, their academic delay of gratification in this course, and their efficacy beliefs in social studies teaching?
2. Do preservice elementary school teachers' attitudes toward a social studies teaching course significantly and positively predict their academic delay of gratification in this course and their efficacy beliefs in social studies teaching?
3. Does preservice elementary school teachers' academic delay of gratification in a social studies teaching course significantly and positively predict their efficacy beliefs in social studies teaching?

2. Method

2.1. Research Design

Since the aim of the study was to examine how perceived constructivist learning environments in a social studies teaching course, attitudes toward this course, academic delay of gratification in this course, and self-efficacy beliefs in social studies teaching were related to and how they affected each other, this study used a correlational design (Creswell, 2008).

2.2. Participants and Procedure

A total of 295 preservice elementary school teachers participated in the study with a mean age of 21.40 ($SD = 1.13$). Of the participants, 233 (79%) were female and 62 (21%) were male. The data were collected over three academic years (2014-2015, 2015-2016, and 2016-2017) in a social studies teaching course in the Faculty of Education at a state university in Turkey. The social studies teaching course is a three-credit compulsory course for elementary school teacher majors and is offered in the sixth semester of the program, which lasts four years with two semesters each year (CoHE/YÖK, 2007).

Up to the sixth semester, preservice elementary school teachers receive basic pedagogical courses such as Introduction to Educational Sciences, Psychology of Education, Teaching Principles and Methods, Teaching Technologies and Material Design, Measurement and Evaluation, Classroom Management, and other methods courses such as Physical Education and Play Teaching, Science and Technology Teaching, Primary Reading and Writing Teaching, and Mathematics Teaching. In the sixth semester, the preservice elementary school teachers also take a school experience course (CoHE/YÖK, 2007).

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2.3. Instruments

In the study, four scales were used to collect the data. To measure to what extent social studies teaching courses were perceived as constructivist, the *Scale on Assessing Constructivist Learning Environments* (SACLE) developed by Arkün and Aşkar (2010) was used. The SACLE consists of 28 items and six factors, namely, *student-centered, thought provoking, collaborative, life relevant, concurrent learning and assessing, and different viewpoints*. Participants indicate their opinions on a 7-point Likert scale (7 = strongly agree, 1 = strongly disagree), and higher scores mean that learning environments are more constructivist (Arkün & Aşkar, 2010). In the current study, Cronbach's alpha reliability coefficients were found to range from .62 (Student-Centered subscale) to .84 (Life Relevant subscale).

To measure the participants' attitudes toward the social studies teaching course, the *Attitude Scale about the Lesson of the Teaching of Primary Reading and Writing* developed by Arslan and Aytaç (2010) was used with modifications. To make this scale appropriate for social studies, the term *teaching of primary reading and writing course* in the original scale (Arslan & Aytaç, 2010) was replaced with the term of *social studies teaching course*. For example, the item *I find the teaching of primary reading and writing course fun* (Arslan & Aytaç, 2010, p. 850) was changed to *I find the social studies teaching course fun*. This scale consists of three factors: willingness (12 items), interest (5 items), and necessity (2 items). Participants respond to the items on a 5-point Likert scale (5 = strongly agree, 1 = strongly disagree), and higher scores mean more positive attitudes toward the course (Arslan & Aytaç, 2010). In the current study, Cronbach's alpha reliability coefficients for the subscales were found to be .91 for willingness, .74 for interest, and .58 for necessity.

To measure academic delay of gratification in the social studies teaching course, the *Academic Delay of Gratification Scale* developed by Bembenutty and Karabenick (1996) and adapted into Turkish by Avci (2008) was used. This scale consists of 10 items and uses a four-category response scale (1 = definitely choose A, 2 = probably choose A, 3 = probably choose B, and 4 = definitely choose B). Higher scores on this scale indicate that students prefer academic work/success more than immediate gratification (Avci, 2008; Bembenutty & Karabenick, 1996). In the current study, Cronbach's alpha reliability coefficient was .79.

To measure efficacy beliefs in social studies teaching, the *Science Teaching Efficacy Belief Instrument Form-B* (STEBI-B) developed by Enochs and Riggs (1990) and adapted into Turkish by Bıkmaz (2002) was used with modifications in accordance with the study of Wingfield, Nath,

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Freeman, and Cohen (2000) as reported by Dündar (2015). STEBI-B includes two subscales: personal science teaching efficacy belief (13 items) and science teaching outcome expectancy (10 items). Although STEBI-B was developed for the science domain, it has been utilized for different fields in many studies with various modifications (Bleicher, 2004; Deehan, 2017). Modifications in the current study included replacement of the term *science* with *social studies* and two science-specific items in STEBI-B (Bikmaz, 2002; Enochs & Riggs, 1990) with new items from Wingfield et al. (2000) (see Dündar, 2015 for details). The Turkish version of STEBI-B contains 21 items (13 items in the personal science teaching efficacy belief subscale and 8 items in the science teaching outcome expectancy subscale) (Bikmaz, 2002). Participants respond to the items on a 5-point Likert scale (5 = strongly agree, 1 = strongly disagree); higher scores indicate higher levels of self-efficacy beliefs (Bikmaz, 2002; Enochs & Riggs, 1990). In the current study, Cronbach's alpha reliability coefficients were found to be .74 for personal social studies teaching efficacy belief and .60 for social studies teaching outcome expectancy subscales.

2.4. Data Analysis

In this study, descriptive statistics, correlations, and path analysis were used. While Cronbach's alpha coefficients, descriptive statistics and correlations were performed using SPSS 11.5, path analysis was conducted with AMOS 16.0. To evaluate the goodness-of-fit of the path model, chi-square (χ^2) test, goodness-of-fit index (GFI), incremental fit index (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) were used. To assess whether the model fits the data well, a ratio of χ^2 to *df* less than 2 or 3; GFI, IFI, TLI, CFI values greater than .95; RMSEA less than .06; and SRMR less than .08 were used as the cutoff criteria (Byrne, 2001; Hu & Bentler, 1999; Schreiber, Nora, Stage, Barlow, & King, 2006).

3. Findings

3. 1. Descriptive Statistics and Correlations Between Study Variables

Results in terms of the means, standard deviations, and correlation matrix for the variables (perceived constructivist learning environments in the social studies teaching course, attitudes toward the course, academic delay of gratification in the course, and efficacy belief in social studies teaching) researched in the social studies teaching course are shown in Table 1.

Table 1

Zero-Order Correlations and Descriptive Statistics for Study Variables

Variables	M	SD	1	2	3	4
1. Constructivism in Social Studies Teaching Course	5.26	.79	–			
2. Attitudes Toward Social Studies Teaching Course	3.91	.58	.52	–		
3. Academic Delay of Gratification in Social Studies Teaching Course	2.81	.66	.29	.31	–	
4. Social Studies Teaching Efficacy Belief	3.76	.37	.39	.48	.20	–

Note. All correlations are significant at $p < .01$.

As observed in Table 1, perceived constructivist learning environments in the course were positively and significantly correlated with attitudes ($r = .52, p < .01$), academic delay of gratification ($r = .29, p < .01$), and efficacy beliefs in social studies teaching ($r = .39, p < .01$). In addition, attitudes toward the course were positively and significantly correlated with academic delay of gratification ($r = .31, p < .01$) and efficacy beliefs in social studies teaching ($r = .48, p < .01$). Academic delay of gratification in the course was also positively and significantly correlated with efficacy beliefs in social studies teaching ($r = .20, p < .01$).

3.2. Path Model of Relations Between Study Variables

The path model, constructed based on the literature presented in the Introduction, is given in Figure 1. It reflects relations between perceived constructivist learning environments in the social studies teaching course, attitudes toward this course, academic delay of gratification in this course, and social studies teaching efficacy beliefs. Detailed information, including unstandardized regression weights and significance levels, is presented in Table 2.

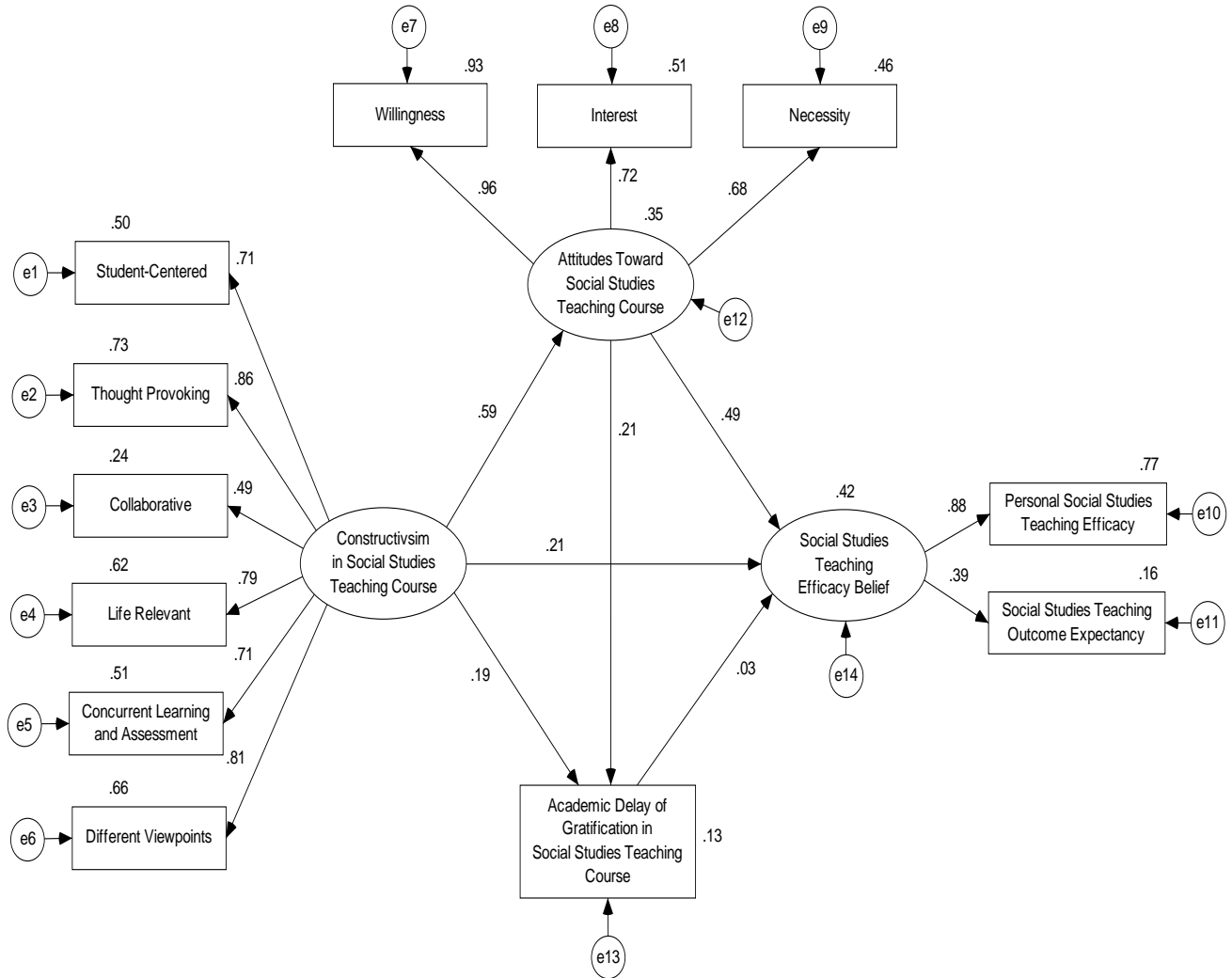


Figure 1. Path Model

The path model presented in Figure 1 resulted in a $\chi^2(49)$ value of 107.26 and $\chi^2 / df = 2.19$. It also yielded GFI = .95, IFI = .96, TLI = .95, CFI = .96, RMSEA = .06, and SRMR = .04, which indicated that the model fitted the data well (Byrne, 2001; Hu & Bentler, 1999; Schreiber et al., 2006).

Table 2

Standardized and unstandardized regression weights of exogenous and endogenous variables in path model

Exogenous Variables	Endogenous Variables	β	<i>B</i>	<i>SE</i>	<i>C.R.</i>	<i>p</i>
Constructivism in Social Studies Teaching Course	→ Attitudes Toward Social Studies Teaching Course	.59	.478	.048	9.993	< .001
Constructivism in Social Studies Teaching Course	→ Academic Delay of Gratification in Social Studies Teaching Course	.19	.171	.066	2.583	.010
Attitudes Toward Social Studies Teaching Course	→ Academic Delay of Gratification in Social Studies Teaching Course	.21	.225	.080	2.804	.005
Academic Delay of Gratification in Social Studies Teaching Course	→ Social Studies Teaching Efficacy Belief	.03	.018	.034	.515	.607
Constructivism in Social Studies Teaching Course	→ Social Studies Teaching Efficacy Belief	.21	.107	.039	2.727	.006
Attitudes Toward Social Studies Teaching Course	→ Social Studies Teaching Efficacy Belief	.49	.304	.050	6.119	< .001

As seen in Figure 1 and Table 2, perceived constructivist learning environments in the social studies teaching course positively and significantly predicted preservice elementary school teachers' attitudes toward the course ($\beta = .59, p < .001$), their academic delay of gratification in this course ($\beta = .19, p < .05$) and their efficacy beliefs in social studies teaching ($\beta = .21, p < .01$). Attitudes toward the social studies teaching course positively and significantly predicted

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academic delay of gratification in this course ($\beta = .21, p < .01$) and efficacy beliefs in social studies teaching ($\beta = .49, p < .001$). However, the direct effect of academic delay of gratification on efficacy beliefs in social studies teaching was not significant ($\beta = .03, p > .05$).

Regarding indirect effects, there seems to be a mediating effect on attitudes toward the course between perceived constructivist learning environments and social studies teaching efficacy beliefs, and also between perceived constructivist learning environments and academic delay of gratification according to guidelines suggested by Baron and Kenny (1986). These possible indirect effects were tested by means of the Sobel test (Baron & Kenny, 1986; Sobel, 1982) using an interactive calculation tool for mediation tests developed by Preacher and Leonardelli (2010-2018). The Sobel test for determining the influence of perceived constructivist learning environments on academic delay of gratification through attitudes toward the course yielded a value of 2.71 ($p < .01$), which indicates that the perceived constructivist learning environments were also positively and indirectly related to academic delay of gratification through attitudes toward the course. The Sobel test for determining influence of perceived constructivist learning environments on teaching efficacy beliefs through attitudes toward the course yielded a value of 5.19 ($p < .001$), which indicates that the perceived constructivist learning environments were also positively and indirectly related to teaching efficacy beliefs through attitudes toward the course.

4. Discussion

The purpose of this study was to determine the relations between perceived constructivist learning environments in a social studies teaching course, attitudes toward this course, academic delay of gratification in this course, and social studies teaching efficacy beliefs of preservice elementary school teachers.

The results of the current study highlight the importance of perceived constructivist learning environments in social studies teaching courses. Findings indicated that perceived constructivist learning environments in a social studies teaching course have a direct effect on attitudes toward this course, academic delay of gratification in this course, and social studies teaching efficacy beliefs. In addition, perceived constructivist learning environments in a social studies teaching course also have an indirect and positive effect on academic delay of gratification in this course and on social studies teaching efficacy beliefs through attitudes toward this course, which indicates that perceived constructivist learning environments positively increase preservice elementary school teachers' attitudes toward the course. In return, it results in higher academic delay of gratification and efficacy beliefs in social studies teaching.

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It has been well established that characteristics of learning environments such as instructional methods used, support, etc. have significant effects on the cognitive and affective outcomes of students (Dorman & Adams, 2004; Osborne et al., 2003). The findings of the current study are not surprising when previous studies are taken into consideration. A study by Önal (2008) found that preservice teachers exposed to constructivist teaching preferred constructivist-based courses more. Similarly, a study by Sander, Stevenson, King, and Coates (2000) with undergraduate students found that the students preferred more group-based learning activities. It was also found that undergraduate students preferred constructivist learning environments where personal relevance, collaboration, negotiation, and autonomy are encouraged (Mensah, 2015). More importantly and related to attitudes, undergraduate students prefer to learn in constructivist learning environments (Önal, 2008; Sander et al., 2000). Therefore, when these environments are provided to students, they develop positive attitudes toward the course and they delay immediate gratification for academic study on the course and develop a higher level of social studies teaching efficacy beliefs. Supporting this finding, an experimental research by Tynjälä (1999) found that constructivist learning environments promoted critical thinking, cooperation, deep learning, meaningful learning, learning by having fun, and intrinsic motivation. A study by DüNDAR (2015) found that deep learning in social studies teaching courses promote preservice teachers' social studies teaching efficacy beliefs. Therefore, constructivist learning environments, by providing deep learning (Loyens et al., 2008; Tynjälä, 1999), could increase preservice elementary school teachers' efficacy beliefs in social studies teaching. Based on constructivist principles (Arkün & Aşkar, 2010; Grennon Brooks & Brooks, 1993; Tenenbaum, Naidu, Jegede, & Austin, 2001; Woolley, Benjamin, & Woolley, 2004), in constructivist social studies teaching courses, preservice teachers would have the opportunity to observe other preservice teachers' teaching, to see other preservice teachers' lesson plans and discuss their lesson plans and real-life examples of social studies teaching, and to see different perspectives on the topics covered, which could all contribute to self-efficacy development (Alt, 2014, 2015; Bandura, 1977; Bray-Clark & Bates, 2003).

The current study showed that attitudes toward social studies teaching course have positive and direct effects on academic delay of gratification in this course and social studies teaching efficacy beliefs. Since students with positive attitudes show more interest and become more willing to participate in courses (Ghazali et al., 2009; Moore, 2009), this finding is not surprising. Because students who are more willing show more interest in the social studies teaching course and consider this course more necessary, it is expected that they are more likely to delay immediate gratification, study and focus on the course, fulfill their responsibilities on time (Bembenutty &

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Karabenick, 1998a), and have a higher level of self-efficacy beliefs (Celik and Yesilyurt, 2013; Tunkler et al., 2016; Wang et al., 2015). In line with the findings of Bembenutty and Chen (2005), the study also found that academic delay of gratification in a social studies teaching course was positively correlated with social studies teaching efficacy beliefs; however, it was not a significant predictor of social studies teaching efficacy beliefs, indicating that preservice elementary school teachers' procrastination of immediate gratification in the interests of their social studies teaching course related-work does not necessarily result in a higher level of social studies teaching beliefs.

To sum up, the findings of the current study illustrate that if teacher trainers want preservice elementary school teachers to develop positive attitudes toward social studies teaching courses, to give priority to academic work, and to promote social studies teaching efficacy, they should design their social studies teaching courses in line with the constructivist approach. Designing social studies teaching courses based on constructivism may also provide other advantages in addition to these benefits. These advantages might include the following:

(1) In teacher training programs, teacher candidates are encouraged to design courses that align with constructivism when they become teachers (Woolley et al., 2004); however, they have few opportunities to observe social studies teaching methods emphasized in their training (Owens, 1997). Therefore, if teacher trainers adopt constructivist principles in their methods courses, preservice teachers will have opportunity to observe methods/approaches that they are encouraged to implement.

(2) As argued by Yilmaz (2011) "... professionalism in teacher education and development demands that teachers have not only a disciplinary knowledge base related to their subject but also a strong command of learning theories and their applications for instructional practices in the classroom" (p. 204). Research (Tynjälä, 1997, 1999) has showed that when students learn in constructivist learning environments, they develop constructivist perceptions about the nature of learning. Applying constructivist principles in social studies teaching courses may increase the possibility of preservice teachers adopting constructivist principles in their own classrooms through helping them internalize the theory and influencing their conceptions about learning (Tynjälä, 1997, 1999).

(3) It increases the possibility of reaching the goals of social studies teaching courses for preservice teachers since constructivist learning environments in social studies teaching courses

cause preservice teachers to be occupied with course responsibilities rather than “many attractive non-academic sources of gratification” (Bembenutty & Chen, 2005, p. 80).

Although the current study successfully revealed the relationship between perceived constructivist learning environments in a social studies teaching course, attitudes toward this course, academic delay of gratification in this course, and social studies teaching efficacy beliefs of preservice elementary school teachers, several limitations need to be considered. First, the study used convenience sampling and was carried out with data from only one faculty of education. Second, some of the scales in the current study had lower Cronbach’s alpha reliability coefficients. Thus, the findings should be interpreted cautiously. Third, although there were direct and indirect effects on dependent variables, relationships between variables could not be considered as cause-and-effect relations since this study used a correlational design. Therefore, experimental research designs are recommended for taking constructivist learning environments and traditional classrooms in social studies teaching courses as the independent variables (causes) and attitudes, academic delay of gratification, and teaching efficacy beliefs as the dependent variables in order to determine actual cause-and-effect relations (Chen et al., 2017; Creswell, 2008).

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