

Associations between self-esteem, general self-efficacy, and approaches to studying in occupational therapy students: A cross-sectional study

Authors:

Tore Bonsaksen¹, Talieh Sadeghi², and Mikkel Magnus Thørrisen³

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¹ Oslo and Akershus University College of Applied Sciences, Faculty of Health Sciences, Department of Occupational Therapy, Prosthetics and Orthotics, Oslo, Norway, and VID Specialized University, Faculty of Health Studies, Sandnes, Norway. E-mail tore.bonsaksen@hioa.no

² Oslo and Akershus University College of Applied Sciences, Centre for the Study of Professions, Oslo, Norway. E-mail talieh.sadeghi@hioa.no

³ Oslo and Akershus University College of Applied Sciences, Faculty of Health Sciences, Department of Occupational Therapy, Prosthetics and Orthotics, Oslo, Norway. E-mail mikkel-magnus.thorrisen@hioa.no

Corresponding author:

Tore Bonsaksen, Oslo and Akershus University College of Applied Sciences, Postbox 4 St. Olavs Plass, 0130 Oslo, Norway. Telephone: +47 67 23 66 11, email tore.bonsaksen@hioa.no

ABSTRACT

The aim of this study was to explore associations between self-esteem, general self-efficacy, and the deep, strategic, and surface approaches to studying. Norwegian occupational therapy students ($n = 125$) completed questionnaires measuring study approaches, self-esteem, and general self-efficacy. Regression analyses were used to explore the direct relationships between self-esteem, general self-efficacy and the approaches to studying, after controlling for age, gender, prior higher education, and time spent on independent studying. General self-efficacy displayed positive associations with deep and strategic approaches to studying and a negative relationship with a surface approach to studying. Self-esteem was not significantly associated with approaches to studying.

KEYWORDS

Approaches to studying, higher education, learning, self-beliefs

Introduction

A student's general orientation towards learning in everyday academic situations is generally coined their approach to studying (Richardson, 2013). Entwistle and Ramsden's (1983) theoretical framework, which is extensively used in higher education research, suggests that students may adopt a deep, surface, or strategic approach to studying. Although students will tend to have a preference towards one or two of these approaches, the approaches are not mutually exclusive – students will most often develop a combination of attitudes and behaviors related to each of them (Entwistle, 2007). The deep approach is used when the student engages with the study materials with the aim of understanding concepts and their interrelationships, and from that process arrive at some personal meaning. The surface approach, on the other hand, is used when the student aims towards passing exams by trying to remember factual content and ensuring that they have gone through the pre-planned syllabus. This approach often results in rote learning and a lack of real purpose with the material, as a clear contrast to the attempts to make personal sense of the study content and materials seen in students with a deep approach. The strategic approach may rely on elements of the deep approach as well as the surface approach (Tait, Entwistle, & McCune, 1998), but it is oriented and organized towards achievement: the student wants the best possible grade, and engages with the studies accordingly.

Approaches to studying are important because they predict academic outcomes among the students. Specifically, deep and strategic approaches have quite consistently been found to be associated with better learning outcomes among students, whereas surface approaches have been associated with poorer academic results (Brodersen, 2007; Diseth & Martinsen, 2003; May, Chung, Elliot, & Fisher, 2012; Richardson, Abraham, & Bond, 2012; Salamonson et al., 2013; Subasinghe & Wanniachchi, 2009; Ward, 2011). Given the associations found between a productive (i.e., deep and/or strategic) study approach and academic outcomes among

students, an emphasis on factors that may contribute to such a productive study approach is important.

Antecedents to study approach have roughly been studied from two distinct perspectives: contextual and environmental factors on the one hand, and individual/student characteristics on the other. Associations between aspects of the learning environment and students' approaches to studying have been provided in a range of research from a diversity of fields and disciplines, including occupational therapy (Baeten, Kyndt, Struyven, & Dochy, 2010; Kreber, 2003; Lizzio, Wilson, & Simons, 2002; Richardson, 2010; Sadlo & Richardson, 2003; Trigwell, Prosser, & Waterhouse, 1999). A recently published study found that higher scores on all the subscales of a course experience questionnaire (i.e., appropriate assessment and workload, clarity of goals and standards, emphasis on independence, generic skills, and good teaching) was positively correlated with deep and strategic approaches to studying, and negatively correlated with a surface approach (Sun & Richardson, 2016).

A learning environment that fits with and promotes deep learning strategies is vital. However, there is also a widely accepted view that individual student characteristics may indeed influence the adopted approach to studying (Baeten et al., 2010). In fact, several studies have provided evidence of higher student age being associated with a more productive approach to studying (Beccaria, Kek, Huijser, Rose, & Kimmins, 2014; Richardson, 2005; Salamonson et al., 2013; Wickramasinghe & Samarasekera, 2011; Zeegers, 2001). Other studies have suggested that having more higher education experience may lead to better academic performance among occupational therapy students (Bonsaksen, 2016; Shanahan, 2004), and it is possible that the higher age-better outcome association is mediated by the more productive study approaches adopted by the more experienced students. Gender has been ambiguously associated with study approaches: male students have been found to have higher levels of surface approach to studying (Mattick, Dennis, & Bligh, 2004), whereas a

longitudinal study found no gender effects on the way students changed their approaches to studying across time (Ballantine, Duff, & Larres, 2008). The evidence concerning the magnitude and direction of gender effects are therefore mixed, as stated in both reviews (Baeten et al., 2010) and meta-analytic studies (Severiens & Dam, 1998).

There have been differing views on the relative importance of cognitive-affective factors. Some authors, like Entwistle (1988), have emphasized the impact of motivational factors, while other authors, such as Schmeck (1988), have argued that self-concept is a primary cognitive structure that is pivotal in understanding how individuals organize their experiences. Judge, Locke, and Durham (1997) proposed *core self-evaluations* as a higher order construct, i.e., a broad dispositional trait indicated by more specific traits, including self-esteem and generalized self-efficacy. Self-esteem is believed to be the most fundamental component of core self-evaluations, representing the overall value an individual places on oneself. According to Schmeck (1988), self-esteem constitutes an important affective evaluator that may affect the degree of consistency in behavior. Moreover, self-esteem has been proposed as a determinant of individual preferences, including preferences for learning strategies (McCarthy & Schmeck, 1988), based on the belief that individuals with high self-esteem are prone to involve their self-concept in their information processing, e.g., by adopting a deep and elaborative approach to studying. In a study of 135 undergraduate students in the United Kingdom, Abouserie (1995) explored self-esteem as a determinant of students' study approaches and found a positive association with deep processing and a negative association with superficial or surface learning. In other words, students with high self-esteem tended to adopt a deep approach to studying, while students with low self-esteem used a surface approach to studying. On the other hand, Mone, Baker, and Jeffries (1995) argued that self-esteem has not been found to predict the construction of personal goals nor

academic performance accomplishments. Beyond that, research is scarce on the relationship between self-esteem and approaches to studying.

Even though both self-esteem and self-efficacy may be categorized as core self-evaluations, they appear to be somewhat distinct constructs. Bandura defined self-efficacy as the level of confidence individuals have in their ability to execute behavior in order to achieve specific outcomes (Bandura, 1977, 1997). Generalized self-efficacy, referring to an individual's estimate of his or her ability to cope, perform and be successful (Judge & Bono, 2001) is more abstract than self-efficacy for performing a specific behavior or activity, but less abstract than self-esteem. Studies have found a positive relationship between measures of self-esteem and measures of self-efficacy (Bonsaksen, Fagermoen, & Lerdal, 2015), and the degree of perceived self-relevance may be key in determining the magnitude of the association between self-efficacy and self-esteem. High levels of self-efficacy for performing tasks within self-relevant domains (i.e., domains within which the individual has invested much self-worth) increase the likelihood of a strong positive correlation between self-efficacy and self-esteem (Bandura, 1997).

Studies have found that self-efficacy is positively associated with academic performance (Bong, 2001; Lane, Lane, & Kyprianou, 2004; Richardson, 2007). Moreover, self-efficacy has been linked to students' approaches to studying. Prat-Sala and Redford (2010) found, in a longitudinal study with a sample of 163 first-year undergraduate psychology students in the United Kingdom, that students with high academic self-efficacy were more prone to adopt a deep or strategic approach to studying, compared to students with low academic self-efficacy. Moreover, students with low academic self-efficacy displayed a decrease in deep approach and an increase in surface approach over time, while such a development was not found among students with high academic self-efficacy (Prat-Sala & Redford, 2010).

At present, research is scarce on the association between self-esteem and approaches to studying. The research literature contains several studies exploring the relationship between self-efficacy and academic performance, but is rather limited with regard to the relationship between self-efficacy and approaches to studying. Moreover, the majority of studies that have employed measures of self-efficacy have focused on domain- or task specific self-efficacy rather than general self-efficacy. We have not discovered any studies of relationships between self-esteem, self-efficacy, and approaches to studying in samples of occupational therapy students.

Study aim

The aim of the present study was to explore the associations between self-esteem, general self-efficacy, and the deep, strategic, and surface approaches to studying among Norwegian occupational therapy students.

Methods

Study design

In this cross-sectional design study, data related to approaches to studying, self-esteem, general self-efficacy, and sociodemographic and educational factors were collected using questionnaires.

Sample and data collection

The sample was recruited early in 2015. All students in the three cohorts enrolled in the undergraduate occupational therapy program in Oslo were given verbal and written information about the study and invited to participate. Out of a total number of 245 eligible students at the time of the data collection, 160 (65.3 %) gave their consent to participate. Those who consented completed the questionnaires and returned them in a sealed envelope.

Persons with missing responses on the self-esteem scale, or with missing responses on categorical variables, were excluded from the sample. Up to 20 % of data missing on the study approach scales and on the general self-efficacy scale was considered acceptable, and missing item scores were replaced with the mean value of the person's valid scores. Following this procedure, 35 persons were excluded, leaving a total sample of 125 participants for this study.

Measures

Data for age and gender were collected. Prior formal education was dichotomized with two categories: having prior education from university or college (1) versus not having any prior education from university or college (2). Time spent on independent study was recorded as the average number of hours spent on relevant self-study during a normal week. All the relevant measures (described below) had been translated into Norwegian and validated before being used in this study.

The *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965) was used to assess participants' global self-esteem. The original RSES consists of ten statements with responses ranked from 1 (strongly agree) to 4 (strongly disagree). Our study used a Norwegian abbreviated 4-item version (RSES-4), selected by linear regression analysis and showing high correlation ($r = 0.95$) with the full 10-item version (Ystgaard, 1993). The sum score on the RSES-4 ranges from 4 to 16, with higher score representing higher self-esteem. Cronbach's α (internal consistency of items) was 0.68 for this study, slightly below the 0.70 level usually considered adequate (Streiner & Norman, 2008). However, the mean inter-item correlation was 0.35, and this was considered satisfactory given that the scale consisted of only four items.

The *General Self-Efficacy Scale* (GSE; Schwarzer & Jerusalem, 1995) measures optimistic self-beliefs related to coping with challenges and demands in life. It consists of 10

items that are rated on a scale from 1 (not at all true) to 4 (exactly true). The sum score is calculated for each individual. Score range is 10-40, higher scores indicating higher self-efficacy. High correlations with self-appraisal, self-acceptance, and optimism indicate theoretical accuracy of the self-efficacy concept (Posadzki, Stockl, Musonda, & Tsouroufli, 2010) and factor analysis of the GSE has consistently produced a one-factor solution (Leganger, Kraft, & Roysamb, 2000). Internal consistency of the GSE scale in the present sample was 0.86, which is considered very good (Streiner & Norman, 2008).

The *Approaches and Study Skills Inventory for Students* (ASSIST; Tait et al., 1998) was used to assess the students' study approaches. The instrument has three sections, including conceptions of studying (section A), approaches to studying (section B), and preferences for course and teaching (section C). In this study, only the 52-item questionnaire (section B) was used. Factor analysis has confirmed that the ASSIST items can be meaningfully organized as three main factors, namely the *deep*, *strategic*, and *surface* approaches (Byrne, Flood, & Willis, 2004; Entwistle, Tait, & McCune, 2000; Reid, Duvall, & Evans, 2005). Each of the main factors consists of several subscales, but in this study only the three main dimensions were used. The English version of the ASSIST main scales has been shown to possess good internal consistency (Cronbach's α ranging 0.61-0.88) in samples of students from different academic and professional areas (Ballantine et al., 2008; Brodersen, 2007; Brown, Wakeling, Naiker, & White, 2014; Byrne et al., 2004; Reid et al., 2005). The students in this study completed the Norwegian version of the instrument (Diseth, 2001). With the Norwegian version of the ASSIST, the same three latent factors have been found, and satisfactory measures of internal consistency has been established for each of them (Cronbach's α ranging 0.70-0.81). In the present study sample, the internal consistencies were 0.79, 0.80, and 0.77 for the deep, strategic, and surface approaches, respectively.

Statistical analyses

Descriptive analyses were performed on all variables, using mean, standard deviation, frequency and percentage as appropriate. Group comparisons were performed with χ^2 -tests and independent *t*-tests for categorical and continuous variables, respectively. Pearson's coefficient *r* was used for bivariate correlation analysis. The subsequent hierarchical linear regression analyses investigated independent predictors of the deep, strategic, and surface approaches to learning. The models also assessed the amount of variance in the three approaches accounted for by each block in the model, structured as 1) background (age and gender) and educational variables (prior higher education and time spent on self-study), and 2) self-beliefs (self-esteem and general self-efficacy). Effect sizes (*ES*) were reported as standardized β coefficients and Cohen's *d*, and *ES* larger than 0.40 were considered meaningful (Cohen, 1992). The level of significance was set at $p < 0.05$ and all tests were two-tailed. Data were analyzed using IBM SPSS Statistics for Windows, Version 23.0 (IBM Corporation, 2015).

Ethics

Approval from the Norwegian Data Protection Official for Research (project number 40314) was obtained as required, and informed written consent was received from all participants.

Results

Sample characteristics

The sample is described in Table 1. In the total sample consisting of 125 occupational therapy students, the mean age was 23.9 years ($SD = 8.5$ years) and 99 (79.2 %) were female. Men in the sample had higher scores on self-esteem and general self-efficacy than women, both differences reaching statistical significance and with a moderate to large effect size. Women had significantly higher scores than men, with a moderate effect size, on the strategic

approach to studying scale. Apart from the above mentioned gender differences, none reached the level of statistical significance.

[INSERT TABLE 1 ABOUT HERE]

Bivariate associations with deep, strategic, and surface approaches to studying

Several of the variables showed bivariate relationships with the study approach scales, as shown in Table 2. More study behaviors related to a deep approach were significantly associated with higher age, having higher education before starting their current course of study, spending more time on independent studying, and having a higher level of general self-efficacy. More study behaviors related to a strategic approach were significantly associated with female gender, spending more time on self-studying, and having higher self-esteem as well as higher general self-efficacy. More study behaviors related to a surface approach were significantly associated with lower age, female gender, having no higher education before starting occupational therapy education, and lower scores on self-esteem and on general self-efficacy.

[TABLE 2 ABOUT HERE]

Controlled associations with deep, strategic, and surface approaches to studying

The results from the multivariate hierarchical regression analyses are shown in Table 3. Higher scores on the deep approach to studying showed statistically significant associations with higher age, spending more time on relevant self-study, and higher general self-efficacy

among the students. The full regression model accounted for 20.0 % of the variance in deep approach scores in the sample. Higher scores on the strategic approach to studying showed statistically significant associations with female gender, more time spent on relevant self-study, and higher scores on general self-efficacy. The full model accounted for 27.2 % of the strategic approach variance. Higher scores on the surface approach to studying were significantly associated with lower age, having no higher education experience prior to starting occupational therapy education, and lower scores on general self-efficacy. All of the included variables explained 31.4 % of the variance in surface approach scores.

[TABLE 3 ABOUT HERE]

Discussion

In this study, we examined a sample of undergraduate occupational therapy students in Norway in order to assess the associations between self-esteem, generalized self-efficacy, and the deep, strategic, and surface approaches to studying, when controlled for age, gender, prior higher education and time spent on self-study. The results revealed that while self-esteem did not display statistically significant associations with any of the study approaches, higher scores on general self-efficacy were significantly related to more deep and strategic approaches to studying, and to less surface approach to studying. These significant relationships were maintained even when the control variables were held constant.

Previous research has established the connection between various types of self-efficacy measures and study approaches (Cassidy & Eachus, 2000; Duff, 2004; Harris, 2004; Maguire, Reynolds, & Delahunt, 2013; Prat-Sala & Redford, 2010). For example, Prat-Sala and Redford (2010) found that students with high scores on a domain-specific self-efficacy scale (reading and writing) tended to adopt deep and strategic approaches to studying, while

students who scored low on self-efficacy were more likely to adopt a surface approach to studying. In accordance with this line of research, the results of the present study suggest that higher scores on generalized self-efficacy are positively related to more deep and strategic approaches to studying, while lower scores are related to more surface approach to studying.

It has been argued that self-efficacy is affected by our emotional responses of anxiety and fear (Bandura, 1977; Bandura & Adams, 1977). The rationale here is that fear and anxiety leads to a decrease of perceived competence in performing a given task. Fear of failure is commonly considered a central aspect of the surface approach to studying (Baeten et al., 2010). Thus, this fear of failure contributes to explain the negative association between self-efficacy and the surface approach to studying found in the present study.

Despite differing views on the relative importance of motivational factors on one hand, and self-concept factors (e.g. self-esteem and generalized self-efficacy) on the other, it is widely acknowledged that these two cognitive-affective factors are closely related. Regarding motivational factors, it is common to distinguish between intrinsic and extrinsic motivation (Deci, 1971). These motivational types should not be viewed as dichotomous constructs, however, but rather as anchoring endpoints on a continuum. Studies have found that intrinsic motivation is positively related to the productive approaches to studying, whereas extrinsic motivation is associated with the surface approach to studying. Moreover, self-efficacy has also been empirically closely related to intrinsic motivation (Walker, Green, & Mansell, 2006). Hence, it might be assumed that individuals possessing higher levels of self-efficacy are also more likely to demonstrate intrinsic motivation for the study curriculum, which in turn reflects higher endorsement of the productive approaches to studying – perhaps of the deep approach in particular. However, this suggested mediating role of intrinsic motivation remains an empirical question for further research.

From the perspective of regulatory focus theory (Higgins, 1997) one might connect the findings of the present study with the two distinct motivational systems, or regulatory foci, as conceptualized in this theory. Whereas the promotion system focuses on development based on wishes and aspirations, the prevention focus is based on security needs and fear of failure (Brockner & Higgins, 2001; Higgins, 1997, 1998). Empirically, the promotion focus system has demonstrated a capacity to predict persistent and effortful study behaviors (Elliot, McGregor, & Gable, 1999). Further, performance-avoidance goals, which are closely related to a prevention focus and to lower levels of self-efficacy, have been found to positively predict the surface approach to studying (Elliot et al., 1999). The regulatory focus theory may thus provide a possible explanatory framework for understanding the findings of the present study. That is, students with high levels of self-efficacy are more inclined to assume a promotion focus in line with central aspects of the productive approaches to studying. Conversely, students with lower levels of self-efficacy may adopt a surface approach to studying, as they would be more inclined to have a prevention focus.

Unlike general self-efficacy, self-esteem was not found to be significantly associated with approaches to studying. This finding was somewhat surprising, given that self-esteem has been proposed as a determinant of learning strategies (McCarthy & Schmeck, 1988). Research on the role of self-esteem is, however, rather scarce and mixed. The findings of this study contradicts those of Abouserie (1995), who found self-esteem to be positively associated with productive study approaches (deep and strategic) and negatively related to a surface approach to studying. Our findings may be more in line with research stating that self-esteem does not predict academic performance accomplishments (Mone et al., 1995).

According to Ajzen and Fishbein (1980), variables should be measured at the same level of abstraction or specificity in order to obtain the strongest possible relationships between them. Although both self-esteem and general self-efficacy can be conceptualized as

components within core self-evaluations as a broader dispositional trait (Judge et al., 1997), one may argue that they are distinct constructs and, more importantly, operate on different levels of abstraction. Self-esteem represents an overall evaluation of self-worth (Judge et al., 1997), and is thus far less concrete than general self-efficacy, which is concerned with ability, performance and outcomes (Bandura, 1977, 1997; Judge & Bono, 2001). As such, it is plausibly conceivable that general self-efficacy, compared to self-esteem, is more tightly linked to everyday behaviors and specific cognitive-affective preferences, such as approaches to studying. As self-esteem may be characterized as a superordinate or fundamental self-perception, it is not so surprising that the self-esteem measure was unable to predict the students' everyday study behaviors. Other studies that have explored the relationship between self-efficacy and study approaches have typically employed domain- or task specific measures of self-efficacy rather than a generalized measure of efficacy beliefs. For instance, Prat-Sala and Redford (2010), as well as Maguire and colleagues (2013), attempted to predict study approaches by means of academic self-efficacy, i.e., efficacy beliefs specifically linked to academic reading and writing. Not surprisingly, such studies tend to reveal larger effect sizes compared to those detected in our study. This indicates that stronger effects may be expected when the employed measures are less abstract and more specifically targeted to the relevant concepts being studied.

Implications

Further research is needed to clarify the relationships between self-esteem, self-efficacy, and approaches to studying. However, and in line with previous research, this study implies that higher levels of self-efficacy are associated with using deep and strategic approaches to studying. Hence, focusing on efficacy beliefs, for instance by means of self-efficacy enhancement components integrated in the broader educational program, may be of benefit to occupational therapy students.

Methodological issues

The present study has certain methodological limitations. First, its cross-sectional correlational design renders it difficult to infer causal relationships between the study variables. For instance, we assume that general self-efficacy is related to approaches to studying. In turn, approaches to studying are believed to have an impact on academic performance. However, it may well be that high academic performance produces high self-efficacy, and ultimately shapes students' learning preferences. As a further result of the cross-sectional design, the present study was unable to report about students' development over time.

Second, the study obtained a relatively high response rate, but is nonetheless based on a sample of students recruited from one particular field of study (occupational therapy), one particular study program, and one particular university. Therefore, caution should be exercised if findings from this study are to be generalized to students within other fields, study programs, educational institutions, and cultural contexts more in general. More specifically, the results may not generalize to education contexts where the entry-level occupational therapy degree is the master's degree, as is the case in the USA.

Finally, the employed measures of study approaches, self-esteem, and general self-efficacy were self-reported. Self-reported data are vulnerable to several sources of error and bias, including social desirability, i.e., respondents' tendency to provide perceived socially acceptable answers (Bowling, 2009). On the other hand, self-reported data are serviceable when measuring information that "resides within" the respondents, such as personal preferences for approaches to studying as well as perceptions of self-esteem and self-efficacy. Moreover, the present study employed validated measures of the study variables.

Conclusion

Productive approaches to studying are linked to better academic outcomes. In the sample of Norwegian occupational therapy students, higher levels of general self-efficacy were associated with deep and strategic approaches to studying while lower levels were related to a surface approach to studying. The results implicate that self-efficacy enhancement components should be considered integrated with the educational program. Self-esteem was not significantly associated with approaches to studying.

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Conflict of interest

The authors report no conflicts of interest.

Statement of originality

The manuscript has not been published elsewhere and it has not been submitted simultaneously for publication elsewhere.

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Table 1.

Characteristics of the study participants (N=125)

Variables	Men (<i>n</i> =26, 20.8 %)	Women (<i>n</i> =99, 79.2 %)	<i>ES</i>	<i>p</i>
	Mean (<i>SD</i>)	Mean (<i>SD</i>)		
<i>Background variables</i>				
Age (years)	23.2 (2.1)	24.1 (4.9)	0.24	0.21
Prior higher education	15 (57.7)	69 (69.7)		0.25
Time spent on independent study	7.6 (4.6)	9.9 (5.7)	0.44	0.06
<i>Self-belief variables</i>				
Self-esteem	13.6 (1.6)	12.0 (1.8)	0.94	<0.001
General self-efficacy	30.3 (4.4)	27.7 (5.1)	0.55	0.02
<i>Approaches to studying</i>				
Deep	57.1 (9.7)	57.2 (8.2)	0.01	0.95
Strategic	67.5 (8.8)	71.9 (9.8)	0.47	0.04
Surface	45.1 (6.4)	48.7 (9.3)	0.45	0.07

Note. Time spent on independent study is average hours during a normal week. Effect sizes are Cohen's *d*.

Table 2.

Bivariate correlations between the study variables (N=125)

Variables	Approaches to studying		
	Deep	Strategic	Surface
Age	0.29**	0.13	-0.34**
Gender	0.01	0.18*	0.17*
Prior higher education	-0.18*	-0.09	0.25**
Time spent on independent study	0.28**	0.39**	-0.15
Self-esteem	0.02	0.19*	-0.35**
General self-efficacy	0.20*	0.33**	-0.38**

Note. Table content is Pearson's r . Gender: Lower score is male, higher score is female.

Prior higher education: Lower scores indicate having higher education before enrolment into occupational therapy education, whereas higher scores indicate no prior higher education. For all other variables, higher scores indicate higher levels.

* $p < 0.05$

** $p < 0.01$

Table 3.

Multivariate hierarchical regression analysis with the deep, strategic, and surface approaches to studying as dependent variables (N=125)

Variables	Approaches to studying		
	Deep	Strategic	Surface
<i>Model 1</i>			
Age	0.23**	0.04	-0.28**
Gender	-0.08	0.21*	0.10
Prior higher education	-0.12	-0.07	0.20*
Time spent on independent study	0.26**	0.30**	-0.07
Explained variance (%)	16.6 % **	18.0 % **	21.2 % **
<i>Model 2</i>			
Self-esteem	-0.18	0.06	-0.18
General self-efficacy	0.22*	0.28**	-0.22*
R² change (%)	3.4 %	9.2 % **	10.1 % **
Explained variance (%)	20.0 % **	27.2 % **	31.4 % **
Durbin-Watson	1.88	1.97	1.98

Note. Table content is standardized β coefficients. Gender: Lower score is male, higher score is female. Prior higher education: Lower scores indicate having higher education before enrolment into occupational therapy education, whereas higher scores indicate no prior higher education. For all other variables, higher scores indicate higher levels.

* $p < 0.05$

** $p < 0.01$