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Influence of multidimensional cognitions on academic performance

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POVZETEK – Pričujoča raziskava želi dokazati, da veliko različnih stvari, med drugim samozavest posameznika, način učenja, podajanje snovi, ocenjevanje znanja, tesnobo, izogibanje učenju zaradi morebitnih neuspehov ter dvoumen nadzor vplivajo na končni uspeh in vrednotenja znanja študentov. Raziskava je bila izvedena z metodo ankete, v kateri so študenti v vprašalnikih individualno in brez nadzora poročali o različnih preučevanih spremenljivkah pri svojih ocenah na fakulteti. Ciljna skupina raziskovanja je štela 200 študentov. Izbira preučevanega vzorca je delovala na principu metode dostopnosti. Raziskava je pokazala, da samozavest, osredotočenost na usvajanje znanja in visoko vrednotenje šolanja vplivajo pozitivno na učno udejstvovanje študentov, po drugi strani pa tesnoba, izogibanje učenju zaradi morebitnih neuspehov ter dvoumen nadzor vplivajo negativno. Študenti, ki so glede na vprašalnike pokazali višji nivo karakteristik kognitivnih adaptacij in prilagoditev, so tudi tisti, ki so imeli boljši učni uspeh in študijsko udejstvovanje, študenti z nižjim nivojem istih kognicij pa slabši uspeh in študijsko udejstvovanje.

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ABSTRACT – The present study aims to demonstrate that the effects of self-esteem, ways of learning, the evaluation of the school, anxiety, failure avoidance and insecure control all have either a positive or negative impact on grades in general and on students' final grade assessment, which is evaluated at the end of the academic year. The study was conducted using the survey method in which students provided self-report information on the variables under study in their classes at the faculty. The target group of the research included 200 students. The sample was selected according to the convenience method. Research has demonstrated that self-esteem, focused learning, and academic assessment positively influence student academic performance, while anxiety, failure avoidance, and insecure control negatively influence student academic performance. Students who have shown higher level in these characteristics (adaptive cognitions) in the survey are the students who have better academic performance and students with lower level in these characteristics have shown weaker academic performance on academic success.

1 Introduction

Motivation can be conceptualized as the energy and drive to learn and work effectively and achieve the required potential in school, while engagement is the behavior that follows from this energy and drive. Motivation is referred to as multi-dimensional: it measures impulsive and deliberate action; it has to do with intrinsic and extrinsic factors and observes causes of behavior.

Motivation is one of the key psychological concepts in education. Many researchers have demonstrated that motivation is linked to various educational outcomes, such as curiosity, persistence, learning and performance (Ryan and Deci, 2000). Therefore, the question why some students are motivated to achieve results in education while others

are unmotivated is an important one. Thus, it is necessary for educators and parents to determine factors that result in achievement and high motivation in order to be better equipped in facilitating academic success of students and to avoid factors that lead to low motivation.

There are a number of factors that influence academic performance, but one of the most influential is motivation. Motivation is also referred to as academic engagement and is a "cognitive, emotional, and behavioral indicator of students' investment in and commitment to education" (Trucker et al., 2002). It is clear that students who are not motivated to succeed will not work hard. In fact, some scholars have suggested that motivation alone affects academic achievement, and all other factors affect achievement only through their effects on motivation (Trucker et al., 2002).

A lot of research argues that students who have intrinsic motivation drives use cognitive strategies and self-regulatory processes more than students who rely on extrinsic motivation drives (Anderman et al., 1997). We have also seen a deep learning approach associated with higher degrees of involvement and intrinsic interest in learning when outcomes occur continuously as a result of intrinsic factors (ability and effort), whereas we assume that outcomes are a result of extrinsic factors (such as positive effects toward surface learning acquisition) (Deci and Ryan, 1985).

The latest theoretical contribution to our understanding of motivation and engagement pertains to motivation drives. Motivation drive refers to the student's focus on the task at hand (focus on learning), or on how they complete the task (focus on performance). In this discussion, the focus of students on learning is particularly important. Focus on learning refers to the student's tendency to feel successful and to obtain satisfaction in what they are determined to complete (Dweck, 1986).

Students who are focused on learning are motivated to master skills rather than become better than others. They see tasks more as a skill and failure is considered a diagnostic remark that can lead to later improvement (Middleton and Midgley, 1997). Due to this effort and drive, students focused on learning do not feel threatened by failure because failure reflects more their effort rather than their ability. As a result, they respond to obstacles and pressure with more effort and proactive strategies rather than self-harm, such as self-handicapping or withdrawal and disengagement (Martin et al., 2003).

Focus on learning is positively related to the practice of mastery strategies and negatively related to avoidance strategies. It is important to note that students who are focused on learning are flexible in the face of obstacles because they see weak performance or failure as a reflection of their efforts and strategies and therefore respond with more efforts and better strategies. Thus, focus on learning seems to be a critical element of student motivation.

Mastery-oriented students are optimistic and have a stronger sense of self-efficacy (Martin, 2001). This brings into consideration the issue of self-efficacy. Students with high self-efficacy tend to develop and try alternative actions when they are initially unsuccessful, perform better in class due to higher effort and persistence, and handle problematic situations more cognitively and emotionally efficiently (Bandura, 1997).

Students with low self-efficacy tend to focus on their weaknesses and perceive situations as more difficult than they actually are (Bandura, 1997). We can say with some

confidence that self-efficacy is important to a student for their motivation. Students who have a strong sense of self-efficacy are energetic in completing their tasks (i.e. they are motivated and engaged). Evidence supports this claim: self-efficacy and self-confidence have been linked to outcomes such as self-regulation, effort, persistence and achievement (Pintrich et al., 1996). Self-efficacy is, therefore, important for the motivation and engagement building model that we are developing.

Another way of conceptualizing self-efficacy is the expectation aspect: students who feel that they are able to master school tasks also have positive expectations of success. The largest portion of students' self-efficacy related to academic outcomes pertains to their motivation and achievements. What further contributes to students' motivation and their engagement is their evaluation of a task. Moreover, the interaction of expectation and evaluation of a particular task predicts their motivation and commitment, and through evaluation, students are more motivated and committed to complete the tasks. This interaction has been conceptualized in appreciation and expectancy theory (Eccles et al., 1998).

Another important component of motivation and engagement is an appreciation of the school and the value of the task within the school. When students see the relevance of what they are learning, they are prone to be more engaged in those courses and achieve a higher level of performance. Evaluation of the school is also important for educational flexibility in the sense that it is related to persistence for challenges (Martin, 2001), and this persistence that differentiates those students who abandon tasks early from those who are able to overcome more difficult academic challenges. Evaluation of the school may strengthen students for difficult times in order to predict objectives for continued study in the future (Martin, 2001). Our model of motivation can be extended to include school appreciation and persistence for this reason.

Students who avoid failure tend to be troubled and motivated by fears of failure, live with self-doubt, and are uncertain about their ability to avoid failure or succeed (Covington and Omelich, 1979). While these students often work harder and succeed, they may also be negatively affected by obstacles as it confirms their doubts about their uncertain abilities and control.

In essence, they lack educational flexibility. Often, as a response to fear of failure, students avoid it and may actively hinder or impede their chances of success (e.g. postpone learning, avoid learning until the last minute, or don't learn at all) so that they have a justification for why they are not as successful. This justification serves them as a protective mechanism since they may blame their poor performance more than their potential lack of ability (Covington and Omelich, 1979).

Students who accept failure (often referred to as helpless learners) have surrendered even without making any effort to avoid failure. These students are generally not engaged in their studies and express a helplessness model of motivation (Abramson et al., 1978). In many cases, students who accept failure actively sabotage their chances of success by making no effort. These students lack motivation. However, it is not very easy to understand what motivates students. Many studies have been conducted in this area, leading to the development of several theories of motivation.

2 Methodology

The research was conducted with the survey, where students gave self-reports in surveys on the studied variables in their grades in the faculty. The target group of the research is about 200 students of the Faculty of Physical Culture and Sports at the private institution "AAB" College in Kosovo, academic years 1, 2, 3 and 4.

2.1 Sampling

A group of 200 students from the private institution "AAB" College in Prishtina participated in the study. The sample was selected according to the convenience method. The age group of students was between 18 and 22 years old. A total of 167 male and 33 female students participated in the study.

2.2 Measurement instruments

The Motivation and Engagement Scale scale (MES) for students was used to collect data for the study. The scale was developed by Australian psychologist Dr. Andrew Martin in 2001. MES, is an instrument that measures student motivation and engagement in sport. It assesses motivation using three adaptive cognitive dimensions (reinforcing thoughts), three adaptive behavioral dimensions (reinforcing behaviors), three impeding cognitive dimensions, and two maladaptive behavioral dimensions of disengagement and self-harm. Each of these factors consists of four items – thus, it is an instrument that included 44 items. For each item, students choose one of the items on the scale, beginning with "strongly agree" and ending with "strongly disagree". MES collects demographic data of the participants such as name, gender, age, and grade point average. The scale consists of 44 items, 4 items for each of the 11 factors of motivation and Engagement Mechanism. The study includes only the factors related to adaptive cognitive dimension and maladaptive behavioral dimension.

2.3 Research hypotheses

Research hypotheses (sub-hypotheses) include:

- *H1: Adaptive cognitive dimension and maladaptive behavioral dimension are important for overall school achievements.*
- *H1.1: Adaptive cognitive dimensions (self-efficacy, mastery orientation and evaluation) are positively related to school achievements. When adaptive cognitive dimensions increase, school achievements increase as well.*
- *H1.2: Impeding cognitions (anxiety, failure avoidance, insecure control) are negatively related to school achievements. When impeding cognition increases, school achievements decrease.*

2.4 Data analysis

In order to complete the study, data analysis methods include descriptive statistics (measures of central tendency, distribution and correlations), and scientific methods of summarising and transforming results. SPSS 21.0 statistical software was used for data processing. Descriptive level of analysis of variables was used together with correlations.

3 Results and discussion

3.1 Correlations between self-efficacy and final grade and achievements

Table 1 shows that there is a high level and significant correlation between self-efficacy level and student's final grade ($p = 0.000$, $r^2 = 0.686$). Among the remaining students, 13.5% were low achievers, 53.5% were average achievers, and 33% were high achievers. Regarding self-efficacy, 11.9% showed low self-efficacy scores and 88.1% showed high self-efficacy. 98.4% of excellent students showed high self-efficacy scores and only 1.6% of them have low self-efficacy scores. For the average performing students, the scores are similar to the excellent students and only 4% of the group showed low level of self-efficacy. Among the low performing students, 68% show low level of self-efficacy while only 32% of the group show high level of self-efficacy.

From this review of the results, we can conclude that the majority of students who have high levels of self-efficacy perform averagely or excellently, while students with lower levels of self-efficacy perform poorly. These correlations of the variables indicate that self-efficacy plays an important role in students' academic achievements, which shows that an increase in self-efficacy positively affects students' achievements.

Table 1

Correlations of self-efficacy with final grades (n = 200)

	Low	*Average*	*Excellent*	*Total*
Low self-efficacy	68.0%	4.9%	1.6%	11.9%
High self-efficacy	32.0%	96.0%	98,4%	88.1%
Total	13.5%	53.5%	33.3%	100.0%

Note: $p = 0.000$, $r^2 = 0.686$

3.2 Correlations between school's evaluation and students' final grades

In this second case, we find that there is a high-level and significant correlation between the school's evaluation and students' final performance. The analyses show that there is a statistically significant correlation between the school's evaluation and students' final grades ($p = 0.000$; $r^2 = 0.686$).

In the case of the evaluation of the school, we have presented an identical situation of the distribution of the scores of the respective groups of students. 11.9% showed that they rated the school low, and 88.1% showed a high rating. Also 98.4% of excellent students showed high appreciation and only 1.6% of them showed low appreciation. Students with average performance showed approximately similar values, with 96% of them showing high appreciation of the school and only 4% of the group showing low appreciation. As for low achieving students, 68% of them showed low level of appreciation while only 32% of the group showed high level of appreciation of the school (Table 2).

From this review of the results, we may conclude that the majority of students who show high levels of school evaluation, and expressed the attitude that what they learn in school is relevant and useful to their lives achieved average or excellent performance, while the students who showed low levels of appreciation also achieved low levels of performance. In this regard, we can conclude that school appreciation plays an important role in final school performance, suggesting that increasing appreciation positively affects student performance.

Table 2

Correlations between evaluation of the school and final grades (n = 200)

	Low	*Average*	*Excellent*	*Total*
Low valuing	68.0%	4.0%	1.6%	11.9%
High valuing	32.0%	96.0%	98,4%	88.1%
Total	13.5%	53.5%	33.3%	100.0%

Note: $p = 0.000$, $r^2 = 0.686$

3.3 Correlations between mastery orientation and final grades

The analyses show that there is a highly significant and statistically important correlation between mastery orientation and final student performance ($p = 0.000$, $r^2 = 0.667$) (Table 3). Mastery orientation also showed that the excellent students are more than 98% satisfied with what they have learned and have clear ideas about what they perceive as new knowledge and skills they have learned in school. In this case, too, the proportion of average-performing students showing high levels of mastery orientation is slightly lower than that of excellent students. Low-performing students exhibited low levels of mastery orientation 68% of the time. As with the previous variables, mastery orientation plays an important role in students' final performance.

From the review of these three dimensions, including self-efficacy, evaluation of school, and mastery orientation, which belong to the adaptive cognitive dimensions, we conclude that they play a significant role in school performance. This implies that high levels of adaptive cognitive dimensions contribute to higher student achievement and vice versa.

Table 3

Correlations between mastery orientation and final grades (n = 200)

	Low	*Average*	*Excellent*	*Total*
Low mastery	68.0%	5.1%	1.6%	12.4%
High mastery	32.0%	94.9%	98,4%	87.6%
Total	13.5%	53.5%	33.3%	100.0%

Note: $p = 0.000$, $r^2 = 0.667$

3.4 The relationship between anxiety and school success

In the case of the anxiety dimension, which is defined as a certain level of apprehension regarding school work, especially during the period before exams or certain exams, the statistical values show this dimension has no significant statistical relationship with school achievement ($p = 0.867$; $r^2 = 0.039$). Overall, 64% of the students showed a high level of anxiety and 36% showed a medium level of anxiety. Among students with high, average, and low achievements, the percentage of high level anxiety is almost the same. The fact that students with different levels of success show similar levels of anxiety suggests that in our sample, school success does not change regardless of anxiety level.

This conclusion implies that whatever the students' level of concern, and despite their concern about failing exams, this does not determine their ultimate success.

3.5 The relationship between avoiding failure and school success

The failure dimension also showed no significant effect on final success. The values ($p = 0.630$, $r^2 = 0.071$) show that the statistical relationship is insignificant. Looking at the distribution of the percentage of students with success at different levels of failure avoidance, we see that there is an almost even distribution of school success, but also of different levels of failure avoidance. The percentage of students who demonstrated high levels of failure avoidance ranges from 45% to 50% among students with low, average, and high levels of success.

This shows that despite the manifestation of different levels of avoiding potential failures at school, this has no relationship with the final school success.

3.6 The relationship between insecure control and school success

Insecure control, which is about the level of worryiness among students on how to improve at school and how to avoide school failure has no significant relationship with the school success ($p = 0.403$, $r^2 = 0.089$). In the case of insecure control the distribution of students with low and high levels of control does not differ significantly among groups of students with low, average, and high success.

Regardless of how concerned students may be about avoiding a repeat of failure in schoolwork, this is not a good indicator from which we can infer their success in school.

Regarding the three dimensions of cognitive inhibition factors, namely anxiety, failure avoidance, and insecure control, we did not find a positive or negative relationship with school success in any case, therefore, we can conclude that cognitive inhibition factors have no influence on students' school success in our sample.

4 Conclusions and recommendations

Our research results show the relevance of the motivation dimension on student athletes' performance. Despite the fact that the learning process itself is a complex phenomenon subject to the influence of many different factors, the study has shown that there are several motivational dimensions that influence the final performance of students.

The model used in the study to determine the influence on student performance in sport includes only a limited number of variables that influence final student performance. A more comprehensive study that would include other factors in multifactor models would certainly yield, with greater accuracy, the effect size of motivation dimensions on student achievement.

The data obtained can be used by all those involved in the learning process to understand the relevance of motivation dimensions so that their didactic-professional work can steer students' performance towards higher achievement.

Based on our research findings and the conclusions drawn from the research methods used in the study, we can make the following recommendations:

- Since the adaptive cognitive and behavioral dimensions (adaptive cognitive dimensions: self-efficacy, school evaluation and mastery orientation) have positive effects on students' achievements in sports, they need to be taken more seriously and their development promoted in schools.
- In working with students, it is important to reduce the development of impeding cognitions (anxiety, failure avoidance, uncertain control).
- In order to have a higher reliability of the obtained results, we recommend to include a much larger sample than in the present study.
- A longitudinal study that would examine motivation dimensions and measure school achievements in order to investigate cause-and-effect relationships.

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Vpliv večdimenzionalnih miselnih procesov na učne dosežke

Različne študije zagovarjajo, da študenti s prirojenimi oziroma notranjimi motivacijskimi sposobnostmi uporabljajo kognitivne strategije in procese samoregulacije veliko bolj kot študenti, ki se zanašajo na zunanje motivatorje. Priča smo bili intenzivnim uč-

nim pristopom, ki so povezani z višjim nivojem vključenosti in s prirojenim zanimanjem za učenje. Rezultati so bili znova in znova posledica notranjih faktorjev (sposobnost in trud), čeprav je bilo v osnovi predvidevano, da bodo rezultati pokazatelj zunanjih faktorjev, kot so na primer pozitivni učinki pri površinskih pridobivanjih znanja.

Najnovejši teoretični doprinos k našemu razumevanju motiviranosti in prizadevanja se nanaša na motivacijske sposobnosti. Motivacijske sposobnosti so tako študentova koncentracija na dano delo (osredotočenost na usvajanje znanja) oziroma kako študent opravi delo (osredotočanje na izvedbo). V tej diskusiji je osredotočenost na usvajanje znanja izrednega pomena ter v ospredju našega zanimanja. Osredotočenost na usvajanje znanja se nanaša na študentovo tendenco, da se želi počutiti uspešnega in da z učenjem občuti zadovoljstvo pri tem, kar želi doseči.

Študenti, ki so osredotočeni na usvajanje znanja, se učijo zato, da bi razvili nove sposobnosti, namesto da bi bili boljši od drugih. Delo in naloge vidijo kot treniranje svojih sposobnosti, neuspeh pa je za njih bolj kot nekakšen diagnostični zaznamek, ki lahko vodi k poznejšemu izboljšanju. Zaradi takšnega truda in motivacijskih sposobnosti študentje nimajo občutka ogroženosti in strahu pred neuspehi, saj se zavedajo, da neuspeh odraža njihov trud, ne pa tudi njihovih sposobnosti. Posledično se odzivajo na ovire in pritiske s povečanim trudom in s proaktivnimi strategijami namesto s kaznovanjem samih sebe (sem spadajo na primer lastna sabotaža, umik in izguba zanimanja).

Osredotočenost na usvajanje znanja je pozitivno povezana s prakticiranjem strategij obvladovanja nekega znanja in negativno s prakticiranjem strategij izogibanja. Pomembno je vedeti, da so študentje, ki so osredotočeni na usvajanje znanja, fleksibilni glede ovir, saj vidijo svoje slabše rezultate ali neuspehe kot odraz njihovega (pomanjkanja) truda in slabših strategij in se zato odzovejo z implementiranjem večjega truda in boljših strategij. Tako se osredotočenost na usvajanje znanja kaže kot kritičen element v študentovi motivaciji. Študenti, ki želijo obvladovati neko snov, so optimistično naravnani in imajo močnejši občutek za lastno učinkovitost, kar je odprlo zanimanje za omenjeno učinkovitost tudi pri raziskavah. Učinkoviti študenti znajo ustvariti in testirati nove alternativne pristope, ko njihova začetna uspešnost ni na pričakovani ravni. Tudi v učilnici delujejo bolje zaradi večjega truda in vztrajnosti, s problematičnimi situacijami pa se spopadajo bolj uspešno tako kognitivno kot čustveno. Študenti z nizko učinkovitostjo posvečajo pozornost svojim šibkim točkam in vidijo težke situacije bolj pereče, kot te v resnici so. S kar nekaj samozavesti lahko rečemo, da je lastna učinkovitost posameznika pomemben faktor motivacije pri študentu. Učinkoviti študenti so energični in si želijo zaključiti delo, saj imajo tako motivacijo kot zanimanje. Tudi konkretni dokazi podpirajo to trditev, saj sta lastna učinkovitost in samozavest povezani s samo-regulacijo, trudom, vztrajnostjo in dosežki. Učinkovitost je torej pomembna za model, ki ga gradi pričujoča raziskava, in sicer gre za kombinacijo motivacije in zanimanja.

Še en način konceptualizacije učinkovitosti je vidik pričakovanja. Študenti, ki se počutijo, da lahko obvladujejo naloge in delo, imajo pozitivna pričakovanja o uspešnem končnem rezultatu. Največji delež študentove učinkovitosti v povezavi z učnim uspehom je odvisen od njihove motivacije in dosežkov. Na motivacijo in zanimanje vpliva tudi njihovo lastno vrednotenje nalog in dela. Interakcija med pričakovanji in vrednotenjem dela lahko pravzaprav predvidi posameznikovo motivacijo in zanimanje, saj so študenti z večjo motivacijo in večjim zanimanjem bolj pripravljeni uspešno zaključiti delo. Ta interakcija je bila konceptualizirana v teoriji cenjenja in pričakovanja.

Še ena pomembna komponenta motivacije in zanimanja je vrednotenje šole in nalog, ki jih šolanje zahteva. Ko študenti pri predmetu vidijo relevantnost znanja, ki ga morajo usvojiti, so bolj dovzetni za zanimanje in udejstvovanje pri teh tematikah in dosegajo tudi boljše rezultate. Visoko vrednotenje šole je pomembno tudi za izobrazbeno fleksibilnost v smislu, da je povezano z vztrajnostjo pri izzivih in da je ta vztrajnost tisti faktor, ki ločuje študente, ki nad nalogami in delom obupajo, in tiste, ki so sposobni premagati ovire pri težjih učnih podvigih. Vrednotenje šole lahko pomaga posamezniku pri osmišljanju težkih časov, saj s predvidevanjem prihodnjih ciljev zasnujemo načrt za doseganje teh ciljev. Naš model motivacije se tako lahko razširi in doda zraven še koncept vztrajnosti in vrednotenja šole.

Pričujoča raziskava želi dokazati, da veliko različnih stvari, med drugim samozavest posameznika, način učenja, podajanja snovi, ocenjevanje znanja, tesnoba, izogibanje učenju zaradi morebitnih neuspehov ter dvoumen nadzor vpliva na končni uspeh in vrednotenja znanja študentov. Raziskava je bila izvedena z metodo ankete, v kateri so študenti v vprašalnikih individualno in brez nadzora poročali o različnih preučevanih spremenljivkah pri svojih ocenah na fakulteti. Ciljna skupina raziskovanja je štela 200 študentov s privatne institucije, in sicer z AAB visoke šole v Prištini. Izbira preučevanega vzorca je delovala na principu metode dostopnosti. Starost ciljne skupine je zajemala posameznike med 18. in 22. letom starosti, skupno pa je pri raziskavi sodelovalo 167 moških in 22 žensk. Za pridobivanje končnih podatkov je bila uporabljena Lestvica motivacije in udejstvovanja (v izvirniku Motivation and Engagement Scale, teorija, ki jo je razvil dr. Andrew Martin), v nadaljevanju "lestvica". Lestvica je inštrument, ki pomaga meriti motivacijo in udejstvovanje študentov, uporabili pa smo jo na področja športa. Motivacija se oceni s tremi prilagoditvenimi kognitivnimi dimenzijami (krepitvene misli), tremi prilagoditvenimi vedênjskimi dimenzijami (krepitveno vedênje), tremi motenjskimi kognitivnimi dimenzijami in dvema neprilagoditvenima vedênjskima dimenzijama, ki temeljita na umiku in lastnemu sabotiranju. Vsak od teh faktorjev vsebuje nadaljnje štiri lastnosti, kar pomeni, da ima inštrument skupno 44 lastnosti. Pri vsaki lastnosti se je študent odločil za enega od elementov na lestvici (elementi so prehajali z ene strani, kjer se je nahajala trditev "se popolnoma strinjam", na drugo, kjer se je nahajala trditev "se absolutno ne strinjam"). Lestvica je pridobila tudi demografske informacije udeležencev, kot so ime, spol, starost in povprečna ocena. Lestvica vsebuje skupno vsega skupaj 44 lastnosti, 4 lastnosti na 11 faktorjev mehanizmov motivacije in udejstvovanja. Raziskava je vsebovala samo tiste faktorje, ki so se dotikali prilagoditvenih kognitivnih dimenzij in neprilagoditvenih vedênjskih dimenzij.

Naša hipoteza je predvidevala, da so prilagoditvene kognitivne dimenzije in neprilagoditvene vedênjske dimenzije izredno pomembne za splošni učni uspeh.

Rezultati kažejo, da je velika korelacija med nivojem lastne učinkovitosti in študentovo končno oceno ($p = 0.000$, $r^2 = 0.686$). Pri študentih se je izkazalo, da je 13.5 % takih z nizkimi rezultati, 53.5 % takih s povprečnimi rezultati in 33 % takih z visokimi rezultati. Pri lastni učinkovitosti 11.9 % študentov kaže nizke vrednosti, 88.1 % pa visoke vrednosti. Kar 98.4 % študentov z visokimi rezultati je pokazalo visok nivo učinkovitosti, samo 1.6 % pa ima nizek nivo. Pri študentih s povprečnimi rezultati so vrednosti pravzaprav podobne tistim od študentov z visokimi rezultati, samo 4 % celotne skupine teh študentov pa ima nizek nivo učinkovitosti. Pri študentih z nizkimi rezultati so bile vrednosti sledeče, 68 % jih ima nizek nivo učinkovitosti in 32 % visokega.

Pregled rezultatov nam pokaže, da lahko izluščimo naslednje trditve: večina študentov, ki ima visok nivo učinkovitosti, dosega visoke ali povprečne rezultate, medtem ko imajo študenti z nižjo učinkovitostjo nižje rezultate. Te korelacije spremenljivk kažejo, da igra lastna učinkovitost pomembno vlogo pri študentovih šolskih dosežkih, in da povišanje učinkovitosti pozitivno vpliva na omenjeno aktivnost. Ugotovili smo, da je velika korelacija med vrednotenjem šole in študentovim končnim učnim uspehom ($p = 0.000$; $r^2 = 0.686$). V primeru vrednotenja šole smo prikazali identično situacijo z distribucijo ocen pri zgoraj omenjenih skupinah študentov (visoki, povprečni in nizki rezultati). 11.9% vseh študentov je pokazalo, da imajo nizko vrednotenje šole, 88.1% pa visoko. 98.4% študentov z visokimi rezultati je pokazalo visoko vrednotenje šole, med njimi le 1.6% nizko. Študenti s povprečnimi rezultati so pokazali približno enake rezultate, kar 96% jih šolo vrednoti visoko, 4% pa nizko. Pri študentih z nizkimi rezultati jih 68% vrednoti šolo nizko, 32% pa visoko.

Pregled rezultatov nam pokaže, da lahko izluščimo naslednje trditve: večina študentov, ki vrednoti svojo šolo visoko, ima tak tudi odnos do naučenega, saj ocenjujejo usvojeno znanje kot relevantno in uporabno na različnih nivojih življenja, ta skupina pa obsega tako študente z visokimi rezultati kot tiste s povprečnimi. Študenti z nižjimi rezultati pa imajo nizko vrednotenje šole. Te korelacije spremenljivk kažejo, da igra vrednotenje šole pomembno vlogo pri študentovih končnih ocenah, in da povišanje vrednotenja pozitivno vpliva na dosežke. Rezultati kažejo, da je statistično velika korelacija med obvladovanjem znanja in študentovo končno oceno ($p = 0.000$, $r^2 = 0.667$). Anketa študentov z visokimi rezultati je pokazala, da jih je več kot 98% zadovoljnih s tem, česar se naučijo, da je novo usvojeno znanje jasno podano in da ga tekom šolanja obvladujejo. Tudi v tem primeru so številke pri študentih s povprečnimi rezultati, ki imajo visok nivo obvladovanja znanja, malo nižje od tistih pri študentih z visokimi rezultati. V 68% primerih so študenti z nizkimi rezultati pokazali nizko obvladovanje tem in znanja. Kot pri prejšnjih spremenljivkah se je tudi tukaj pokazalo, da obvladovanje znanja igra pomembno vlogo pri študentovih končnih ocenah.

Pregled vseh treh zgoraj omenjenih prilagoditvenih kognitivnih dimenzij, ki obsegajo učinkovitost, vrednotenje šole in obvladovanje znanja, nam pokaže, da vse dimenzije igrajo pomembno vlogo pri učnem uspehu. To pomeni, da visok nivo prilagoditvenih kognitivnih dimenzij pripomore k višjemu učnemu uspehu in obratno.

Naša raziskava je pokazala, da posameznikova samozavest, osredotočenost na usvajanje znanja in visoko vrednotenje šole pozitivno vplivajo na udejstvovanje in delovanje študentov. V enaki meri pa tesnoba, izogibanje učenju zaradi morebitnih neuspehov ter dvoumen nadzor vplivajo na študente negativno. Študenti, ki so v anketi pokazali visok nivo prilagoditvenih kognicij, so tudi študenti, ki imajo visok uspeh in udejstvovanje, študenti z nizkimi vrednostmi pa imajo nizek uspeh in šibkejše udejstvovanje.

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