

ACADEMIC MOTIVATION AND CRITICAL THINKING DISPOSITIONS AMONG UNIVERSITY STUDENTS IN UZBEKISTAN

N.Zarina¹ 

Mas'ul muallif: Zarina Nasimova,
Department of Psychology,
Bukhara State University, Bukhara,
Uzbekistan.

e-mail: nasimovaz@mail.ru

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1. Department of Psychology, Bukhara State University, Bukhara, Uzbekistan

Abstract. Critical thinking in higher education depends partly on students' willingness to question claims, examine evidence, and remain open to new information. This study examined how seven dimensions of academic motivation relate to seven critical thinking dispositions in an Uzbek university sample. It reports a focused correlational analysis from a doctoral project involving 300 students: 120 from Bukhara State University, 100 from Karshi State University, and 80 from Urgench State University. Critical thinking dispositions were assessed with the seven-domain California Critical Thinking Disposition Inventory framework, and academic motivation with the Academic Motivation Scales described by Gordeeva, Sychev, and Osin. The dissertation reports Pearson correlations. The largest reported positive associations were between inquisitiveness and cognitive motivation ($r = .44$), analyticity and achievement motivation ($r = .42$), open-mindedness and cognitive motivation ($r = .37$), and critical thinking self-confidence and self-development motivation ($r = .35$); truth-seeking was negatively related to amotivation ($r = -.36$). All five associations were marked significant at $p \leq .05$ in the source table. The results suggest that distinct learning motives are linked to different dispositions rather than to a single undifferentiated critical thinking trait. Because the analysis is correlational and relies on reported summary statistics, its findings do not establish direction of influence or the effectiveness of a particular teaching strategy.

Keywords: critical thinking disposition, academic motivation, inquisitiveness, amotivation, university students, Uzbekistan.

O'ZBEKISTON OLIY TA'LIM TALABALARI ORASIDA AKADEMIK MOTIVATSIYA VA TANQIDIY FIKRLASHGA MOYILLIK

Annotatsiya. Oliy ta'limda tanqidiy fikrlash talabani fikrlarni shubha ostiga olish, dalillarni tekshirish va yangi axborotga ochiq bo'lishga tayyorligi bilan ham bog'liq. Tadqiqotda akademik motivatsiyaning yetti ko'rsatkichi tanqidiy fikrlashga moyillikning yetti ko'rsatkichi bilan qanday bog'liqligi o'rganildi. Doktorlik tadqiqotining korrelyatsion ma'lumotlari Buxoro davlat universitetidan 120, Qarshi davlat universitetidan 100 va Urganch davlat universitetidan 80 nafar, jami 300 talabani qamrab oladi. Tanqidiy fikrlashga moyillik CCTDI metodikasining yetti yo'nalishi, akademik motivatsiya esa Gordeyeva, Sichev va Osin akademik motivatsiya shkalalari asosida baholangan. Dissertatsiyada Pirson korrelyatsiyalari keltirilgan. Eng yuqori ijobiy bog'lanishlar qiziquvchanlik va bilishga motivatsiya ($r = .44$), tahliliylik va yutuqqa motivatsiya ($r = .42$), ochiq fikrlilik va bilishga motivatsiya ($r = .37$), tanqidiy fikrlashga ishonch va o'zini rivojlantirish motivatsiyasi ($r = .35$) o'rtasida kuzatilgan; haqiqatni izlash va amotivatsiya o'rtasidagi bog'lanish salbiy bo'lgan ($r = -.36$). Ushbu besh bog'lanish manba jadvalida $p \leq .05$ darajasida ahamiyatli deb belgilangan. Natijalar turli o'quv motivlari tanqidiy fikrlashga moyillikning turli jihatlar bilan bog'liqligini ko'rsatadi. Korrelyatsion natijalar ta'sir yo'nalishi yoki muayyan pedagogik usul samaradorligini isbotlamaydi.

Kalit so'zlar: tanqidiy fikrlashga moyillik, akademik motivatsiya, qiziquvchanlik, amotivatsiya, talabalar, O'zbekiston.

АКАДЕМИЧЕСКАЯ МОТИВАЦИЯ И ПРЕДРАСПОЛОЖЕННОСТЬ К КРИТИЧЕСКОМУ МЫШЛЕНИЮ У СТУДЕНТОВ ВУЗОВ УЗБЕКИСТАНА

Аннотация. Критическое мышление в высшем образовании отчасти связано с готовностью студента подвергать утверждения сомнению, проверять доказательства и рассматривать новую информацию. В исследовании изучены связи семи показателей академической мотивации с семью показателями предрасположенности к критическому мышлению. Корреляционный анализ данных докторского исследования охватил 300 студентов: 120 из Бухарского государственного университета, 100 из Каршинского государственного университета и 80 из Ургенчского государственного университета. Предрасположенность к критическому мышлению оценивалась по семи шкалам CCTDI, академическая мотивация — по шкалам академической мотивации Гордеевой, Сычёва и Осина. В диссертации приведены корреляции Пирсона.

Наибольшие положительные связи выявлены между любознательностью и познавательной мотивацией ($r = .44$), аналитичностью и мотивацией достижения ($r = .42$), открытостью мышления и познавательной мотивацией ($r = .37$), уверенностью в собственном критическом мышлении и мотивацией саморазвития ($r = .35$); связь стремления к истине с амотивацией была отрицательной ($r = -.36$). Все пять связей отмечены в исходной таблице как значимые при $p \leq .05$. Результаты указывают на различия в связях отдельных учебных мотивов с компонентами предрасположенности к критическому мышлению. Корреляционный характер данных не позволяет установить направление влияния или эффективность конкретного метода обучения.

Ключевые слова: предрасположенность к критическому мышлению, академическая мотивация, любознательность, амотивация, студенты, Узбекистан.

Introduction. University students routinely encounter conflicting explanations, uncertain evidence, and competing interpretations. Productive responses require the skills to analyze a claim and the disposition to use those skills when a convenient answer is available. Facione's expert consensus distinguished critical thinking abilities from dispositions such as truth-seeking and open-mindedness (Facione, 1990). Subsequent work with undergraduates examined seven dimensions of these dispositions, showing why a single overall score can conceal different psychological profiles (Giancarlo & Facione, 2001). The present study concerns dispositions. It does not measure performance on an independent critical thinking skills test.

Motivation may help explain when a student actually engages in sustained evaluation. Self-determination theory distinguishes the quality of motivation according to whether learning is experienced as personally meaningful or is driven mainly by external demands (Deci & Ryan, 2000). In the Academic Motivation Scales, cognitive interest, achievement, and self-development are represented separately from self-esteem, introjected and external motives, and amotivation (Gordeeva et al., 2014). These distinctions matter because wanting to understand a difficult issue, wanting to complete it successfully, and feeling no purpose in studying may each be related to a different aspect of critical thinking.

Prior investigations have connected students' motivational orientations to critical thinking, although they have used different constructs and measures. A study across academic programs associated achievement goals with thinking dispositions (Poondje et al., 2013), while Berestova et al. (2022) investigated academic motivation in relation to critical thinking in a multi-university sample. More recent research has also placed intrinsic motivation within broader models involving academic control, self-efficacy, and student success (Lukačková & Šeboková, 2026). Such work provides a reason to examine associations, but it does not predict that every motivational scale will relate equally to every disposition.

Research from Uzbekistan has proposed a wider pedagogical model linking metacognitive control, evidence use, dialogue, and meaningful tasks in the development of critical thinking (Nasimova, 2026). An empirical account of motivation within that context needs to report the specific observed associations, including non-significant cells, while keeping disposition scores distinct from demonstrated critical thinking skills. This article addresses that need using the academic motivation results of a larger doctoral study.

The aim was to identify which dimensions of academic motivation were associated with particular critical thinking dispositions among students at three Uzbek universities. The guiding question was whether cognitive, achievement, self-development, externally regulated, and absent motivation show distinguishable correlational patterns with truth-seeking, open-mindedness, analyticity, systematicity, self-confidence, inquisitiveness, and maturity of judgment. The analysis was exploratory; it did not test a causal model or a classroom intervention.

Methods.

Design and participants. This article is a focused report of the correlational component of a doctoral study. The study record describes 300 university students, with 120 at Bukhara State University, 100 at Karshi State University, and 80 at Urgench State University. It also reports 110 mathematics and 190 psychology students elsewhere in the research, but the motivation correlation matrix is presented for the pooled sample of 300. The present article does not infer differences between universities or programs from the pooled correlations.

Measures. The seven critical thinking disposition domains reported in the doctoral abstract correspond to the California Critical Thinking Disposition Inventory (CCTDI): truth-seeking, open-mindedness, analyticity, systematicity, critical thinking self-confidence, inquisitiveness, and maturity of judgment. The CCTDI assesses orientation toward applying critical thinking; it is not a direct test of reasoning performance (Giancarlo & Facione, 2001). Academic motivation was assessed using the Academic Motivation Scales of Gordeeva, Sychev, and Osin (2014), which distinguish cognitive motivation, achievement motivation, self-development, self-esteem motivation, introjected motivation, external motivation, and amotivation. The source reports these domains but does not provide item-level responses or locally estimated reliability coefficients for the present sample.

Analysis. The dissertation presents Pearson product-moment correlations between seven disposition domains and seven motivation domains. This article reproduces the full 7×7 matrix in two readable tables and interprets associations specifically flagged as significant in the source. An asterisk indicates $p \leq .05$ according to the dissertation. No coefficient, p value, confidence interval, or adjusted model has been generated from unavailable individual-level data. The reported results are descriptive associations; their signs and magnitudes do not identify which variable precedes the other.

Results. Five cells in the reported 49-cell matrix were marked statistically significant. Cognitive motivation was associated with open-mindedness ($r = .37$) and inquisitiveness ($r = .44$). Achievement motivation was associated with analyticity ($r = .42$), and self-development motivation with critical thinking self-confidence ($r = .35$). Truth-seeking was inversely related to amotivation ($r = -.36$). The remaining coefficients were not marked significant in the source. Tables 1

and 2 reproduce all reported coefficients so that the pattern can be examined without selecting only favorable pairs.

Table 1.

Correlations between critical thinking dispositions and cognitive, achievement, and self-development motivation (n = 300)

Critical thinking disposition	Cognitive	Achievement	Self-development
Truth-seeking	.06	.08	.10
Open-mindedness	.37*	.03	.05
Analyticity	.04	.42*	.08
Systematicity	.07	.09	-.03
Critical thinking self-confidence	.10	-.04	.35*
Inquisitiveness	.44*	.07	.09
Maturity of judgment	.08	.10	.04

Note. Values are Pearson r coefficients as reported in the doctoral study. * $p \leq .05$ according to the source; unmarked values were not designated significant.

Table 2.

Correlations between critical thinking dispositions and self-esteem, introjected, external, and absent motivation (n = 300)

Critical thinking disposition	Self-esteem	Introjected	External	Amotivation
Truth-seeking	.04	.06	-.08	-.36*
Open-mindedness	.07	-.09	.03	.05
Analyticity	-.10	.04	.06	.08
Systematicity	.05	.07	.09	.03
Critical thinking self-confidence	.08	.10	.04	.06
Inquisitiveness	.03	.05	.07	.09
Maturity of judgment	.06	.08	.10	-.04

Note. Values are Pearson r coefficients as reported in the doctoral study. * $p \leq .05$ according to the source; unmarked values were not designated significant.

The two positive correlations involving cognitive motivation were the most conspicuous feature of the pattern: students more interested in learning also tended to report greater intellectual curiosity and a greater willingness to consider alternative views. Analyticity aligned specifically with achievement motivation, while confidence in one's own thinking aligned with self-development motivation. In the reported matrix, none of the self-esteem, introjected, or external motivation coefficients carried a significance marker. This observation is limited to the scales and sample examined; absence of a marker is not evidence that a relationship is exactly zero.

The negative association between truth-seeking and amotivation deserves a separate interpretation. Students who reported less purpose for academic activity also tended to report less willingness to pursue accurate conclusions when those conclusions could challenge a preferred belief. That interpretation is consistent with the direction of the correlation. It cannot determine whether low motivation reduced truth-seeking, whether weak truth-seeking reduced engagement, or whether a third factor shaped both.

Discussion. The analysis suggests a differentiated motivational pattern. Cognitive motivation was linked to inquisitiveness and open-mindedness, two orientations that are useful when a student must ask further questions and evaluate competing explanations. Their correlations do not indicate that every cognitively motivated student will perform well on a critical thinking task. They indicate that the students who endorsed the learning motive more strongly also tended to endorse these dispositions more strongly. This distinction is important when translating questionnaire findings into teaching design.

The relationship between analyticity and achievement motivation can be read as an association between striving to perform well and valuing careful examination of a problem. It does not show that grade pressure itself strengthens analysis. Achievement motivation in the scale refers to satisfaction in overcoming challenges and attaining good results (Gordeeva et al., 2014). Teaching practices that permit students to revise an argument, explain their evidence, and see improvement may be consistent with that orientation. Such practices require direct evaluation before any claim of instructional effectiveness can be made.

Self-development motivation related to confidence in one's own critical thinking. This is plausible because students who see learning as personal growth may be more willing to state and defend a reasoned judgment. Yet self-confidence is a perception, and high confidence can coexist with mistaken reasoning. An educational implication is to pair opportunities for independent judgment with feedback that asks whether evidence actually supports the conclusion. A performance task

and calibrated feedback would be needed to test that proposal.

Amotivation showed the only reported inverse relationship: lower purpose for study was linked with weaker truth-seeking. The finding accords broadly with the idea that personally meaningful activity supports sustained intellectual effort (Deci & Ryan, 2000). It also resembles the motivation and critical thinking association explored by Berestova et al. (2022), although the instruments and populations are different. The present data do not permit a mediation or prediction claim. A future study could test whether meaningful task framing precedes changes in truth-seeking while controlling for baseline disposition.

The pattern also illustrates why a broad assertion that "motivation improves critical thinking" would be too strong. The study measured disposition domains, the associations were selective, and almost all cells involving externally regulated motives were unmarked. Earlier research has found that the way instruction is structured can matter for critical thinking outcomes (Abrami et al., 2015), but the present correlational results are not an evaluation of any such strategy. A reasonable application is to design learning tasks that make inquiry worthwhile and to assess both dispositions and actual reasoning separately.

Several limits affect interpretation. The reported dissertation summary does not provide the recruitment procedure, data collection dates, response rate, demographic breakdown, local scale reliability, or item-level data needed to independently reproduce the correlations. All measures in this analysis are questionnaire domains, which may share response tendencies. The pooled results may conceal program or university differences. Forty-nine pairwise comparisons were examined, and the source used $p \leq .05$ markers without documenting a multiple-testing correction. These details should be checked against original research records before journal submission. Future work should preregister a smaller set of hypotheses, report complete measurement properties and confidence intervals, and examine whether any relationships persist after accounting for program and institutional context.

Conclusion. Among 300 university students, the dissertation reported positive correlations linking cognitive motivation to inquisitiveness and open-mindedness, achievement motivation to analyticity, and self-development motivation to critical thinking self-confidence. Truth-seeking was inversely related to amotivation. These domain-specific associations support examining how students experience the purpose of learning alongside their willingness to use critical thinking. They do not establish causation or directly measure gains in critical thinking skills.

References

- [1] Abrami, P. C., Bernard, R. M., Borokhovski, E., Waddington, D. I., Wade, C. A., & Persson, T. (2015). Strategies for teaching students to think critically: A meta-analysis. *Review of Educational Research*, 85(2), 275–314. DOI: <https://doi.org/10.3102/0034654314551063>
- [2] Berestova, A., Kolosov, S., Tsvetkova, M., & Grib, E. (2022). Academic motivation as a predictor of the development of critical thinking in students. *Journal of Applied Research in Higher Education*, 14(3), 1041–1054. DOI: <https://doi.org/10.1108/JARHE-02-2021-0081>
- [3] Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. DOI: https://doi.org/10.1207/S15327965PLI1104_01
- [4] Facione, P. A. (1990). Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. California Academic Press. <https://eric.ed.gov/?id=ED315423>
- [5] Giancarlo, C. A., & Facione, P. A. (2001). A look across four years at the disposition toward critical thinking among undergraduate students. *The Journal of General Education*, 50(1), 29–55. DOI: <https://doi.org/10.1353/jge.2001.0004>
- [6] Gordeeva, T. O., Sychev, O. A., & Osin, E. N. (2014). Опросник «Шкалы академической мотивации» [Academic Motivation Scales questionnaire]. *Психологический журнал* [Psychological Journal], 35(4), 96–107. <https://publications.hse.ru/en/articles/118240237>
- [7] Lukačková, E., & Šeboková, G. (2026). Enhancing academic success in higher education: The predictive role of critical thinking through sequential mediation of academic control, self-efficacy, and intrinsic motivation. *Frontiers in Psychology*, 17, 1783512. DOI: <https://doi.org/10.3389/fpsyg.2026.1783512>
- [8] Nasimova, Z. I. (2026). Oliy ta'lim talabalarida tanqidiy fikrlash ko'nikmalarini rivojlantirishning pedagogik psixologik omillari [Pedagogical and psychological factors in developing university students' critical thinking skills]. *Buxoro Xalqaro Universiteti Ilmiy Axborotnomasi*, 9(1), 258–261. <https://journal.bxu.uz/articles/oliy-talim-talabalarida-tanqidiy-fikrlash-konikmalarini-rivojlantirishning-pedagogik-psixologik-omillari>
- [9] Poondej, C., Koul, R., & Sujivorakul, C. (2013). Achievement goal orientation and the critical thinking disposition of college students across academic programmes. *Journal of Further and Higher Education*, 37(4), 504–518. DOI: <https://doi.org/10.1080/0309877X.2011.645463>