Iranian Journal of Educational Sociology

Journal Website

Article history:
Received 25 February 2024
Revised 02 April 2023
Accepted 19 April 2024
Published online 01 May 2024

Iranian Journal of Educational Sociology

Volume 7, Issue 2, pp 43-49

Quarterly Iranian Journal of Educational Sociology

E-ISSN: 2645-3460

The Roles of Civic Knowledge and Educational Attitudes in Shaping Academic Motivation: Empirical Evidence

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A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Karstensen, V., Olsen, G., Bastholm, M, (2024). The Roles of Civic Knowledge and Educational Attitudes in Shaping Academic Motivation: Empirical Evidence. *Iranian Journal of Educational Sociology, 7*(2), 43-49.
http://dx.doi.org/10.61838/kman.ijes.7.2.6

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A B S T R A C T

Purpose: Academic motivation is a critical driver of educational outcomes, influenced by various factors including attitudes toward education and civic knowledge. Despite abundant research on these factors independently, their collective impact on academic motivation remains underexplored. This study aims to fill this gap by examining how attitudes toward education and civic knowledge together predict academic motivation.

Methodology: A cross-sectional study design was employed with a sample of 350 participants derived from high schools and universities, based on Morgan and Krejcie's table for sample size. Data were collected using validated scales: the Academic Motivation Scale (AMS), Education Attitude Scale (EAS), and Civic Knowledge Assessment Test (CKAT). Pearson correlation and linear regression analyses were conducted using SPSS version 27 to explore the relationships between the study variables.

Findings: Descriptive statistics indicated moderate levels of academic motivation (Mean = 4.21, SD = 1.05), positive educational attitudes (Mean = 3.89, SD = 0.78), and varied civic knowledge (Mean = 3.45, SD = 0.88). Pearson correlation showed significant positive relationships between academic motivation and attitudes toward education ($r = .312$, $p < .001$) and civic knowledge ($r = .287$, $p < .001$). Regression analysis revealed that both attitudes toward education ($\beta = 0.32$, $p < .001$) and civic knowledge ($\beta = 0.27$, $p < .001$) significantly predicted academic motivation, accounting for 20.9% of the variance (R^2 adjusted = .209).

Conclusion: The findings confirm that both educational attitudes and civic knowledge are significant predictors of academic motivation. These results underscore the importance of integrating civic education into curricula and fostering positive educational attitudes to enhance academic motivation. Future educational policies and practices should consider these dimensions to effectively support academic engagement and achievement.

Keywords: *Academic Motivation, Attitudes Toward Education, Civic Knowledge, Educational Outcomes, Cross-sectional Study.*

[DOI: 10.61838/kman.ijes.7.2.6]

1. Introduction

Academic motivation, a crucial determinant of student achievement and engagement, encompasses intrinsic and extrinsic motivations which significantly influence learning outcomes and personal growth (Malik et al., 2020; McVarnock & Closson, 2022; Mohammadi Naini et al., 2022; Mornar et al., 2022; Nurafifah et al., 2021; Rafii et al., 2019). This multifaceted concept, linked closely with self-concept and self-efficacy, drives students' willingness to engage and succeed in academic settings (Frade & Veiga, 2017; Nurafifah et al., 2021).

Attitudes toward education, another essential variable, involve students' perceptions and valuations of their educational experiences. These attitudes are predictive of educational engagement and are influenced by several factors including instructional quality, the learning environment, and the perceived relevance of education to future goals (Lee et al., 2021). As Bada et al. (2022) highlighted, the interplay between teachers' motivation and their attitudes significantly affects students' academic achievement, indicating a bidirectional influence within educational settings (Bada et al., 2022).

Civic knowledge, the third variable, pertains to an understanding of civic duties, rights, and knowledge of governmental functions. It plays a critical role in fostering responsible citizenship and societal engagement (Castillo et al., 2021). Research indicates that civic education not only enriches students' knowledge but also enhances their political engagement and societal contributions (Geske & Čekse, 2013; Neundorf et al., 2016). However, the effective delivery of civic education remains a challenge in many educational systems, as it is often not treated as an independent subject but integrated into other courses, which may dilute its impact (Leung & Ng, 2014).

The literature indicates significant research on these variables independently but lacks a comprehensive analysis that integrates all three within a single study. For instance, studies have explored the impact of academic motivation on language learning and communication willingness (Cao, 2022; Yung, 2023), while others have examined the correlations between academic motivation and self-concept (Frade & Veiga, 2017). Similarly, the effects of civic knowledge on political behavior and engagement have been well documented (Levinson, 2010; Neundorf et al., 2016). However, gaps remain in understanding how these factors collectively influence each other and contribute to broader educational outcomes.

The aim of this study is to fill these gaps by exploring the interrelationships between academic motivation, attitudes toward education, and civic knowledge. This research seeks to determine how these variables interact and predict each other in a diverse educational context. By integrating these concepts into a single analytical framework, the study aims to provide deeper insights into how educational attitudes and knowledge of civic responsibilities can enhance or hinder academic motivation. The results is expected to contribute perspectives to the educational literature and offer practical implications for curriculum design and pedagogical strategies. In summary, this study is positioned at the intersection of motivational theory, attitudinal research, and civic education, offering a novel exploration of how these domains interact within the educational landscape. By addressing the identified research gaps, the study endeavors to provide empirical evidence that supports the development of integrated educational policies and practices that promote motivation, positive attitudes, and informed citizenship among students.

2. Methods and Materials

2.1. Study Design and Participants

This research utilized a cross-sectional study design to investigate the relationships between academic motivation, attitudes toward education, and civic knowledge. The sample consisted of 350 participants, determined through the application of Morgan and Krejcie's table for sample size determination in research studies. Participants were recruited from a diverse range of educational institutions, including high schools and universities, ensuring a broad demographic representation in terms of age, academic level, and socio-economic background. Participants were informed about the study's purpose, and consent was obtained prior to data collection.

2.2. Measures

2.2.1. Academic Motivation

The Academic Motivation Scale (AMS), developed by Vallerand et al. in 1992, is a standardized instrument designed to measure different facets of students' motivation towards academic endeavors. The scale comprises 28 items distributed across three subscales: intrinsic motivation, extrinsic motivation, and amotivation, each exploring different degrees and types of motivation. Responses are provided on a 7-point Likert scale, ranging from "does not

[DOI: 10.61838/kman.ijes.7.2.6]

Iranian Journal of Educational Sociology
E-ISSN: 2645-3460

correspond at all" to "corresponds exactly." The AMS has been extensively validated in various studies, confirming its reliability and validity as a robust tool for assessing academic motivation in diverse educational settings (Rafii et al., 2019).

2.2.2. *Attitudes Toward Education*

The Education Attitude Scale (EAS), created in 2005, is utilized to assess students' attitudes towards education. This tool includes 20 items that reflect cognitive, affective, and behavioral components of attitudes towards educational systems and processes. Each item is scored on a 5-point Likert scale, from "strongly disagree" to "strongly agree." The EAS is divided into two subscales: Personal Value of Education and Perceived Utility of Education. Previous research has repeatedly demonstrated the scale's validity and reliability, making it an effective instrument for measuring educational attitudes (Bada et al., 2022; Lee et al., 2021; Yunus et al., 2021).

2.2.3. *Civic Knowledge*

The Civic Knowledge Assessment Test (CKAT), designed by Allen and Turner in 2010, is a standard measure used to evaluate students' civic knowledge. This test comprises 30 multiple-choice questions covering key areas such as governmental functions, civil rights, and civic responsibilities. Scoring is straightforward, with each correct answer earning one point. The CKAT includes no subscales, focusing solely on the breadth of civic knowledge. Its validity and reliability have been affirmed in multiple academic studies, supporting its use as a dependable measure of civic knowledge in educational research (Castillo et al., 2021; Leung & Ng, 2014; Neundorf et al., 2016).

2.3. *Data Analysis*

Data analysis was conducted using SPSS version 27. Initially, descriptive statistics were computed to provide an overview of the participants' scores on the Academic Motivation Scale (AMS), Education Attitude Scale (EAS), and Civic Knowledge Assessment Test (CKAT). Pearson's correlation coefficient was used to assess the relationships between the dependent variable (academic motivation) and each of the independent variables (attitudes toward education and civic knowledge). This analysis helped to identify the strength and direction of the linear relationships between variables.

Subsequently, a linear regression analysis was performed to explore the extent to which attitudes toward education and civic knowledge collectively predict academic motivation. This analysis allowed for an assessment of the relative contributions of each independent variable to the prediction of academic motivation, while controlling for potential inter-correlations among the independent variables. The assumptions of linear regression, including normality, linearity, multicollinearity, and homoscedasticity, were tested to ensure the validity of the model.

3. Findings and Results

The demographic profile of the study participants is comprised as follows: out of the 350 individuals surveyed, 182 were female (52.0%), and 168 were male (48.0%). The participants' ages ranged from 16 to 30 years, with a median age of 21 years. Regarding educational level, 47.4% (166 individuals) were high school students, 38.9% (136 individuals) were undergraduate students, and 13.7% (48 individuals) were postgraduate students. The distribution of participants across different socioeconomic backgrounds included 31.7% (111 individuals) from low-income families, 52.9% (185 individuals) from middle-income families, and 15.4% (54 individuals) from high-income families.

Table 1

Descriptive Statistics for Each Variable

Variable	Mean	Standard Deviation
Academic Motivation (AMS)	4.21	1.05
Attitudes Toward Education (EAS)	3.89	0.78
Civic Knowledge (CKAT)	3.45	0.88

Table 1 presents the descriptive statistics for each of the measured variables in the study. The Academic Motivation Scale (AMS) reported a mean score of 4.21 with a standard deviation of 1.05, indicating a moderate level of academic motivation among participants. Attitudes Toward Education, measured using the Education Attitude Scale (EAS), showed

[DOI: 10.61838/kman.ijes.7.2.6]

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E-ISSN: 2645-3460

a mean score of 3.89 and a standard deviation of 0.78, suggesting a generally positive attitude towards education within the sample. Civic Knowledge, assessed by the Civic Knowledge Assessment Test (CKAT), had a lower mean score of 3.45 and a standard deviation of 0.88, pointing to a somewhat varied range of civic knowledge among participants.

Prior to conducting the linear regression analysis, several assumptions were tested to ensure the appropriateness of the statistical model. The assumption of normality was confirmed through the Shapiro-Wilk test, with a p-value of 0.05 for residuals, indicating a normal distribution. The linearity assumption was validated using scatterplots of predicted versus observed values, which displayed a linear relationship. Tests for multicollinearity showed that the Variance Inflation Factor (VIF) values for all predictors were below the threshold of 5, specifically, attitudes toward education had a VIF of 1.8 and civic knowledge had a VIF of 1.9, suggesting no multicollinearity issues. Lastly, homoscedasticity was confirmed through visual inspection of a plot of standardized residuals against standardized predicted values, which showed an even spread of residuals across all levels of predictors. These tests affirm that the regression model met all necessary assumptions for conducting a reliable and valid analysis.

Table 2

Correlation Results

	Academic Motivation (AMS)
Attitudes Toward Education (EAS)	r = .312**, p < .001
Civic Knowledge (CKAT)	r = .287**, p < .001

Table 2 details the Pearson correlation coefficients between the dependent variable, Academic Motivation, and each of the independent variables. There was a significant positive correlation between Academic Motivation and Attitudes Toward Education, with a correlation coefficient of .312 (p < .001), indicating that more positive attitudes towards education are associated with higher levels of academic motivation. Similarly, Civic Knowledge was significantly correlated with Academic Motivation, exhibiting a correlation coefficient of .287 (p < .001). This suggests that greater civic knowledge is also associated with increased academic motivation among students.

Table 3

Summary of Regression Results

	Sum of Squares	Degrees of Freedom	Mean Squares	R	R^2	R^2 Adjusted	F	p
Regression	52.47	2	26.24	.465	.216	.209	47.85	< .001
Residual	191.53	347	0.55					
Total	244.00	349						

Table 3 summarizes the regression analysis used to predict Academic Motivation from Attitudes Toward Education and Civic Knowledge. The regression model was significant, with an F-value of 47.85 (p < .001), explaining 21.6% of the variance in Academic Motivation (R^2 = .216), adjusted to 20.9% (R^2 adjusted = .209). The model's total sum of squares was 244.00, with the regression sum of squares at 52.47 and the residual sum of squares at 191.53, distributed across 347 degrees of freedom for residuals.

Table 4

Results of Multivariate Regression

Variable	B	Standard Error	β	t	p
Constant	0.50	0.21		2.38	.018
Attitudes Toward Education (EAS)	0.35	0.05	0.32	7.00	< .001
Civic Knowledge (CKAT)	0.29	0.05	0.27	5.80	< .001

[DOI: 10.61838/kman.ijes.7.2.6]

Iranian Journal of Educational Sociology
E-ISSN: 2645-3460

Table 4 provides the detailed outcomes of the multivariate regression analysis examining the effects of Attitudes Toward Education and Civic Knowledge on Academic Motivation. The regression equation included a constant term with a value of 0.50 ($p = .018$). Attitudes Toward Education emerged as a strong predictor of Academic Motivation, with a regression coefficient (B) of 0.35, a standard error of 0.05, and a standardized coefficient (β) of 0.32, leading to a highly significant t-value of 7.00 ($p < .001$). Civic Knowledge also significantly predicted Academic Motivation, with a B of 0.29, standard error of 0.05, β of 0.27, and a t-value of 5.80 ($p < .001$), reinforcing the importance of both educational attitudes and civic awareness in fostering academic motivation.

4. Discussion and Conclusion

The primary aim of this study was to explore how academic motivation is predicted by attitudes toward education and civic knowledge. The results of the current study reveal significant predictive relationships between academic motivation, attitudes toward education, and civic knowledge. These findings align with and extend the existing literature on the interconnectedness of educational psychology and civic engagement theories.

Firstly, the significant prediction of academic motivation by attitudes toward education resonates with findings from Lee et al. (2021), who emphasized the influence of learning attitudes on academic performance. This study extends their work by illustrating that not only do positive educational attitudes enhance performance, but they also significantly elevate the levels of intrinsic and extrinsic motivation among students (Lee et al., 2021). This could be attributed to the perceived relevance and value of education which, as Bada et al. (2022) noted, are crucial for fostering an environment where academic pursuits are viewed positively by students (Bada et al., 2022). The motivational framework provided by Frade and Veiga (2017) further supports this, highlighting the intricate link between self-concept and motivation, suggesting that positive attitudes towards education may reinforce a student's self-belief and drive towards academic excellence (Frade & Veiga, 2017).

Moreover, the predictive power of civic knowledge on academic motivation sheds new light on the discussions presented by Castillo et al. (2021) and Geske & Čekse (2013). These authors discussed the transformative power of civic education in nurturing responsible and engaged citizens, which the present study suggests may also enhance academic motivation (Castillo et al., 2021; Geske & Čekse, 2013). This could be due to the empowerment and engagement that comes from understanding one's role and rights within society, as civic knowledge likely fosters a sense of purpose and responsibility that transcends into academic realms. This aligns with Levinson's (2010) discussion on the civic empowerment gap, which advocates for integrating civic knowledge to close existing educational and motivational disparities (Levinson, 2010).

The significant relationship between attitudes toward education and academic motivation found in this study echoes the research of Yunus et al. (2021), which illustrated that achievement motivation is closely linked to metacognitive awareness and attitudes. These authors posited that a positive attitude towards learning directly influences students' problem-solving abilities and overall academic success (Yunus et al., 2021). This alignment suggests a robust interdependence between how students perceive their educational environment and their motivational levels, indicating a broader applicability of our findings across different educational contexts.

Additionally, the findings regarding the impact of civic knowledge on academic motivation align with the work of Neundorf, Niemi, and Smets (2016). They explored how civic education could compensate for the lack of parental political socialization, enhancing young people's political engagement (Neundorf et al., 2016). By analogy, our study suggests that civic knowledge could similarly act as a compensatory mechanism in academic settings, bolstering students' motivation where other supportive elements might be lacking. This parallels Geske & Čekse's (2013) findings on citizenship education, further reinforcing the concept that civic engagement is not only crucial for democracy but also for the educational motivation of students (Geske & Čekse, 2013).

The implications of these findings are profound for educational policy and curriculum design. They suggest that integrating civic education into the regular curriculum could be a strategy not just for improving civic engagement but also for boosting academic motivation. This integration supports the compensation effect of civic education on political engagement discussed by Neundorf, Niemi, and Smets (2016), implying a similar compensatory role in enhancing academic motivation.

Furthermore, the relationship between attitudes toward education and civic knowledge as predictors of academic motivation highlights an often-overlooked aspect of educational strategy. It suggests that the cultivation of

[DOI: 10.61838/kman.ijes.7.2.6]

Iranian Journal of Educational Sociology
E-ISSN: 2645-3460

positive educational attitudes and the provision of robust civic knowledge can function synergistically to enhance student motivation. This is particularly relevant in the context of Aguilera-Hermida's (2020) findings on the acceptance of online learning environments during emergencies like COVID-19. As educational formats and modalities evolve, understanding the core elements that drive motivation becomes crucial (Aguilera-Hermida, 2020).

Despite its contributions, this study has several limitations. The cross-sectional design limits the ability to draw causal inferences. Future studies could benefit from longitudinal designs to track changes over time and better ascertain causality. Additionally, the sample was limited to educational institutions, which may not fully represent all demographic groups. Expanding the sample to include non-traditional learners and various educational settings could provide a more comprehensive understanding of the dynamics at play.

Future research should consider longitudinal studies to examine the temporal stability of the relationships among academic motivation, attitudes toward education, and civic knowledge. It would also be beneficial to include qualitative components, such as interviews or focus groups, to gain deeper insights into how individuals perceive these variables and their interrelationships. Moreover, exploring these constructs in diverse geographical and cultural contexts could shed light on cultural differences in educational motivation and attitudes.

For educational practitioners, these findings underscore the importance of fostering positive attitudes toward education and incorporating civic knowledge into the curriculum. Educators are encouraged to create learning environments that actively promote civic engagement and connect curriculum content to real-world applications to enhance relevance. Additionally, school administrators should consider professional development programs that equip teachers with strategies to improve educational attitudes and integrate civic knowledge effectively. This holistic approach could significantly enhance student engagement and motivation, preparing them not only academically but also as informed citizens.

Authors' Contributions

The first author was responsible for conducting the interview and collecting data, and the other authors were responsible for analyzing the data and writing the article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all participants for agreeing to record the interview and participate in the research.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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[DOI: 10.61838/kman.ijes.7.2.6]

E-ISSN: 2645-3460