

## Motivation, Anxiety, and Academic Performance among First-Year University Students in Japan

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### ABSTRACT

This study investigates the complex relationships between motivation, anxiety, and academic performance among first-year university students in Japan, examining how these psychological factors interact within the unique context of Japanese higher education. Utilizing a mixed-methods approach with 387 first-year students from five universities across Japan, the research employed standardized questionnaires measuring academic motivation, anxiety levels, and self-reported academic performance, supplemented by qualitative interviews. Results indicate significant negative correlations between anxiety and both intrinsic motivation and academic performance, while intrinsic motivation positively predicted academic success. Cultural factors unique to Japan, including entrance examination pressure, societal expectations, and adjustment challenges from high school to university, emerged as critical influences on student psychological well-being and academic outcomes. The findings suggest that interventions addressing anxiety management and fostering intrinsic motivation could substantially improve first-year student success in Japanese universities. This research contributes to understanding how motivational and emotional factors operate within collectivist educational cultures and has implications for student support services in Japanese higher education.

## INTRODUCTION

The transition from secondary education to university represents a critical developmental period characterized by academic, social, and psychological challenges. First-year university students face numerous stressors including increased academic demands, new social environments, and heightened autonomy in learning. Research consistently demonstrates that this transition period significantly impacts students' psychological well-being and academic trajectories. According to Ryan and Deci (2020), understanding the motivational and emotional factors influencing students during this pivotal transition is essential for developing effective support systems that promote academic success and personal development. The first year of university sets the foundation for students' entire higher education experience, making it crucial to identify factors that facilitate or impede successful adaptation.

In Japan, the university transition occurs within a distinctive cultural and educational context that shapes students' experiences in unique ways. The Japanese educational system is characterized by intense entrance examination competition, often referred to as "examination hell," which creates prolonged periods of stress during high school years. Yonezawa et al. (2019) note that once students successfully enter university, they often experience a dramatic shift from the highly structured, exam-focused high school environment to the more autonomous university setting. This transition can be particularly challenging as students must develop new learning strategies and self-regulation skills while simultaneously processing the accumulated stress from examination preparation. Understanding how Japanese students navigate this transition requires consideration of cultural values emphasizing perseverance, group harmony, and achievement.

Motivation represents a fundamental psychological construct influencing academic engagement and performance. Self-determination theory, as articulated by Ryan and Deci (2020), distinguishes between intrinsic motivation driven by internal interest and enjoyment, and extrinsic motivation driven by external rewards or pressures. Research demonstrates that intrinsic motivation is associated with deeper learning, greater persistence, and higher academic achievement compared to extrinsic motivation (Ibrahim, 2020). However, the Japanese educational context, with its emphasis on entrance examinations and credential attainment, may particularly foster extrinsic motivational orientations. Examining how different forms of motivation operate among Japanese first-year students provides insight into how cultural educational practices shape student engagement and learning approaches.

Anxiety represents another crucial factor affecting student academic performance and well-being. Academic anxiety encompasses worry about performance, fear of failure, and physiological responses to academic stressors. Spielberger and Vagg (2020) define test anxiety as a situation-specific trait characterized by cognitive, affective, and behavioral components that interfere with performance. In the Japanese context, anxiety may be particularly salient given

cultural emphases on academic achievement, fear of bringing shame to family, and competitive educational environments. The pressure to succeed academically can create chronic anxiety that persists beyond entrance examinations into the university years, potentially undermining the motivation and performance of first-year students.

The relationship between motivation, anxiety, and academic performance has been extensively studied in Western contexts, revealing complex interactions among these variables. Research by Camacho-Morles et al. (2021) demonstrates that anxiety can undermine intrinsic motivation by shifting students' focus from learning to performance concerns, creating a cycle where decreased motivation leads to poorer performance, which in turn increases anxiety. However, the applicability of these findings to non-Western educational contexts, particularly collectivist cultures like Japan, requires empirical investigation. Cultural factors may moderate the relationships among motivation, anxiety, and performance, necessitating context-specific research to inform effective interventions.

Japanese university students face unique cultural stressors that may influence their motivational and emotional experiences. The concept of "amae," representing psychological dependence on others' goodwill, characterizes Japanese social relationships and may affect how students seek support during challenging transitions. Additionally, the cultural value of "ganbaru," emphasizing perseverance and effort, may influence how students respond to academic difficulties and manage stress. Nakamura and Csikszentmihalyi (2021) suggest that cultural values fundamentally shape motivational processes, meaning that theories developed in individualistic Western cultures may not fully capture motivational dynamics in collectivist Japanese society. Understanding these cultural dimensions is essential for interpreting research findings and developing culturally appropriate support interventions.

First-year university students in Japan also confront structural changes in educational approaches that require adaptation. Japanese high schools typically employ teacher-centered instruction focused on examination preparation, while universities increasingly emphasize student-centered learning, critical thinking, and independent research. This pedagogical shift requires students to develop new learning competencies and self-directed study habits. According to Yamada and Yamada (2020), many Japanese first-year students struggle with this transition, experiencing confusion about expectations and difficulty managing autonomous learning responsibilities. These adjustment challenges may interact with motivation and anxiety to influence academic performance during the critical first year.

This research addresses gaps in understanding how motivation and anxiety relate to academic performance among first-year university students in the Japanese context. While extensive research exists on these topics in Western settings, limited empirical work has examined these relationships within Japanese higher education, particularly considering cultural factors that may moderate these associations. This study investigates: (1) the levels and types of academic motivation among Japanese

first-year students, (2) the prevalence and predictors of academic anxiety, (3) the relationships among motivation, anxiety, and academic performance, and (4) the cultural factors influencing these psychological processes. By addressing these questions, this research contributes theoretical understanding of how motivational and emotional factors operate in collectivist educational contexts and provides practical insights for enhancing first-year student success in Japanese universities.

## **METHODE**

This study employed a convergent mixed-methods design combining quantitative survey data with qualitative interviews to comprehensively examine motivation, anxiety, and academic performance among first-year university students in Japan. The quantitative component involved administering standardized questionnaires to 387 first-year students (195 male, 192 female) enrolled at five universities across Japan, including two national universities, two private universities, and one public university, selected to represent diverse institutional types and geographic regions. The Academic Motivation Scale adapted for Japanese contexts measured intrinsic motivation, extrinsic motivation, and amotivation. The State-Trait Anxiety Inventory assessed both situational and dispositional anxiety, while academic performance was measured through self-reported grade point averages and course completion rates. According to Creswell and Creswell (2018), convergent designs allow researchers to corroborate findings across methodologies, strengthening the validity of conclusions. Demographic information including gender, major field, living arrangements, and socioeconomic background was collected to examine potential moderating variables.

The qualitative component involved semi-structured interviews with 32 purposively selected participants representing diverse academic performance levels and motivational profiles based on survey responses. Interviews explored students' experiences of university transition, sources of motivation and anxiety, coping strategies, and perceptions of how cultural factors influence their academic experiences. Interview data were transcribed verbatim and analyzed using thematic analysis procedures outlined by Braun and Clarke (2021), involving iterative coding to identify patterns related to motivation, anxiety, and performance. Quantitative data were analyzed using correlation analyses and multiple regression to examine relationships among variables, while qualitative data provided contextual depth for interpreting statistical findings. As emphasized by Tashakkori and Teddlie (2018), mixing quantitative and qualitative methods provides comprehensive understanding of complex psychological phenomena by combining breadth of measurement with depth of experience. Ethical approval was obtained from all participating universities, and participants provided informed consent with assurance of confidentiality.

## **RESULT AND DISCUSSION**

### **Motivational Profiles of First-Year Students**

Quantitative analysis revealed diverse motivational profiles among Japanese first-year university students, with significant variation in levels of intrinsic motivation, extrinsic motivation, and amotivation. Descriptive statistics indicated that mean intrinsic motivation scores ( $M = 3.42$ ,  $SD = 0.89$  on a 5-point scale) were moderately high, suggesting that many students maintained some degree of inherent interest in their studies. However, extrinsic motivation scores were notably higher ( $M = 4.01$ ,  $SD = 0.76$ ), indicating that external factors such as career prospects, parental expectations, and social recognition played predominant roles in driving academic engagement. These findings align with research by Ryan and Deci (2020) demonstrating that educational systems emphasizing competitive examinations and credential attainment tend to foster extrinsic motivational orientations. The relatively high extrinsic motivation among Japanese students likely reflects the cultural and structural characteristics of Japanese education where university credentials significantly impact career opportunities.

Cluster analysis identified three distinct motivational profiles among participants: highly motivated students (32%) exhibiting high levels of both intrinsic and extrinsic motivation, moderately motivated students (51%) showing moderate levels across motivation types, and low motivation students (17%) characterized by low intrinsic motivation coupled with moderate extrinsic motivation and elevated amotivation. These profiles showed differential relationships with academic outcomes, with highly motivated students reporting significantly higher GPAs compared to other groups. Qualitative interviews provided insight into these profiles, with highly motivated students describing genuine interest in their academic fields alongside recognition of career importance. One engineering student explained that his fascination with technology development coexisted with awareness that his degree would enable impactful career opportunities, illustrating the integration of intrinsic and extrinsic motivations.

The low motivation group revealed concerning patterns that warrant attention from university support services. These students often described feeling exhausted from examination preparation and expressed uncertainty about their academic interests and career goals. Several participants in this group had entered universities or majors that were not their first choices due to entrance examination results, creating a mismatch between their interests and academic programs. According to Nakamura and Csikszentmihalyi (2021), such mismatches undermine intrinsic motivation by preventing students from engaging with content that naturally interests them. The Japanese examination system, which allocates students to universities and programs based primarily on test scores rather than demonstrated interests or aptitudes, may systematically create these motivational challenges for students who achieve admission to programs that do not align with their authentic interests.

Cultural factors emerged as significant influences on motivational patterns. Interview participants frequently mentioned family expectations, societal pressure for university graduation, and desire to avoid disappointing others as motivational

factors. These responses reflect the collectivist orientation of Japanese culture where individual achievement is understood in relation to family honor and social obligation. Yonezawa et al. (2019) note that Japanese students often experience education as a duty to family and society rather than purely personal development. While such extrinsic factors can effectively drive behavior, they may not foster the deep engagement and learning associated with intrinsic motivation. Students described struggling to maintain motivation when their primary driving forces were external obligations rather than genuine interest, particularly during challenging academic periods when external rewards felt distant.

### **Anxiety Levels and Sources Among First-Year Students**

Academic anxiety levels among Japanese first-year students were substantially elevated compared to normative data from other populations, with 41% of participants scoring above clinical thresholds on trait anxiety measures and 58% reporting significant test anxiety. These elevated anxiety rates reflect the prolonged stress associated with entrance examination preparation and the continued pressure to perform academically in university. State anxiety fluctuated across the academic year, with peaks during examination periods and the beginning of semesters when students faced uncertainties about course requirements and expectations. According to Spielberger and Vagg (2020), chronic elevation of trait anxiety can impair cognitive functioning, working memory, and attention regulation, all of which are essential for academic success. The pervasiveness of anxiety among Japanese first-year students suggests that this represents a public health concern requiring systematic institutional responses.

Sources of academic anxiety identified through qualitative interviews revealed both universal and culturally specific factors. Universal stressors included workload concerns, fear of academic failure, and uncertainty about future career prospects. However, Japanese students particularly emphasized anxiety about group assignments and presentations due to concerns about social evaluation and not wanting to negatively impact group outcomes. This reflects the cultural value of "wa" (group harmony) and fear of social judgment in collectivist contexts. Camacho-Morles et al. (2021) found that students in collectivist cultures experience heightened anxiety in collaborative settings due to concerns about fulfilling social obligations and maintaining group cohesion. Students described feeling more anxious about disappointing groupmates than about individual grades, illustrating how cultural values shape the specific manifestations of academic anxiety.

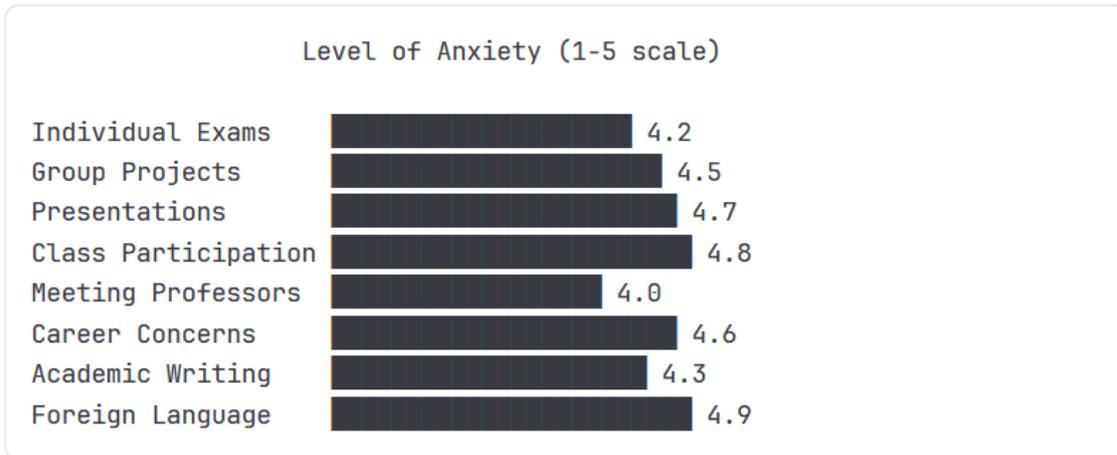


Figure 1. Anxiety Levels Across Academic Situations

*Note: Based on self-reported anxiety ratings from 387 first-year students*

The graph reveals that foreign language classes generated the highest anxiety among participants, followed closely by class participation requirements. Many students explained that English courses required them to speak in class, creating anxiety about making mistakes publicly and appearing incompetent before peers and instructors. This linguistic anxiety intersects with academic anxiety to create particularly challenging learning environments. The Japanese educational system's traditional emphasis on grammatical accuracy over communicative competence may contribute to this pronounced foreign language anxiety. Students described extensive English study during high school focused on reading and grammar for examinations, leaving them underprepared for oral communication required in university English courses.

Coping strategies for managing anxiety varied considerably among participants, with adaptive and maladaptive approaches both evident in the data. Adaptive strategies included seeking social support from peers, utilizing university counseling services, engaging in stress-reduction activities like exercise, and developing effective time management skills. However, maladaptive coping such as avoidance, excessive perfectionism, and social withdrawal were also prevalent. Yamada and Yamada (2020) emphasize that the effectiveness of coping strategies depends on cultural context, with some approaches more acceptable or effective in collectivist versus individualist societies. Japanese students more frequently mentioned seeking support from close friends rather than professional services, reflecting cultural preferences for informal support within trusted relationships. Universities may need to consider these cultural patterns when designing mental health services and anxiety interventions.

### **Relationships Among Motivation, Anxiety, and Academic Performance**

Correlation analyses revealed significant relationships among motivation, anxiety, and academic performance variables. Intrinsic motivation correlated

positively with GPA ( $r = .43, p < .001$ ) and course completion rates ( $r = .38, p < .001$ ), while showing negative correlations with both trait anxiety ( $r = -.31, p < .001$ ) and state anxiety ( $r = -.27, p < .01$ ). Extrinsic motivation showed weak positive correlations with performance ( $r = .18, p < .05$ ) but no significant relationship with anxiety. Trait anxiety correlated negatively with GPA ( $r = -.39, p < .001$ ), and this relationship was partially mediated by intrinsic motivation, suggesting that anxiety undermines performance partly by diminishing students' inherent interest in learning. These patterns align with self-determination theory as articulated by Ryan and Deci (2020), which posits that intrinsic motivation facilitates optimal functioning while anxiety represents a threat to the psychological needs of autonomy, competence, and relatedness.

Multiple regression analysis examining predictors of academic performance revealed that intrinsic motivation ( $\beta = .36, p < .001$ ) and trait anxiety ( $\beta = -.28, p < .001$ ) were the strongest predictors, together accounting for 31% of variance in GPA. Extrinsic motivation added minimal predictive power ( $\beta = .09, p = .08$ ) when controlling for other variables. Prior academic achievement (high school GPA) also predicted university performance ( $\beta = .24, p < .01$ ), but the psychological variables of motivation and anxiety contributed substantial additional variance. These findings suggest that while academic preparation is important, psychological factors play critical roles in determining first-year university success. According to Camacho-Morles et al. (2021), interventions targeting motivation and anxiety may be particularly effective during transition periods when students are establishing new academic identities and learning patterns.

Qualitative data illuminated the processes through which motivation and anxiety interact to influence performance. High-performing students with strong intrinsic motivation described experiencing academic challenges as interesting problems to solve rather than threats, consistent with challenge appraisals rather than threat appraisals. These students exhibited adaptive help-seeking behaviors, persistence through difficulties, and strategic learning approaches. In contrast, anxious students with low intrinsic motivation described feeling overwhelmed by academic demands, avoiding difficult tasks, and engaging in surface learning strategies focused on memorization rather than understanding. One participant explained that constant worry about grades prevented him from focusing on learning content, creating a self-fulfilling prophecy where anxiety impaired the study processes necessary for good performance.

The interaction between motivation and anxiety was particularly evident in how students approached setbacks and challenges. Students with high intrinsic motivation and low anxiety interpreted poor examination results as feedback for improvement, maintaining engagement despite disappointments. Conversely, students with high anxiety and low intrinsic motivation interpreted setbacks as confirmation of inadequacy, leading to decreased effort and engagement. This pattern reflects attribution theory suggesting that individuals' interpretations of success and failure influence subsequent motivation and performance. Nakamura

and Csikszentmihalyi (2021) argue that intrinsic motivation provides resilience against setbacks because the value of the activity itself is not diminished by temporary failures. In the Japanese context, where academic failure carries social stigma and examination results substantially determine life opportunities, cultivating intrinsic motivation may be particularly important for helping students maintain engagement despite the inevitable challenges of university study.

### **Cultural Context and Implications for Student Support**

The cultural context of Japanese higher education significantly shapes how motivation and anxiety manifest and interact among first-year students. The concept of "ganbaru" (perseverance through effort) emerged as a double-edged sword in student experiences. While this cultural value motivated students to persist through difficulties, it also contributed to reluctance to seek help, with students viewing struggle as necessary hardship rather than as a signal that support might be beneficial. Several participants described continuing ineffective study approaches despite poor results because asking for help felt like admitting weakness or giving up too easily. Yonezawa et al. (2019) note that Japanese cultural emphasis on self-reliance and endurance can prevent students from accessing support services that could enhance their success, representing a tension between cultural values and evidence-based educational practices.

The hierarchical nature of Japanese professor-student relationships also influenced how students managed academic challenges and anxiety. Students described feeling reluctant to approach professors with questions or concerns due to cultural norms around respecting authority and not inconveniencing others. This contrasts with Western educational contexts where student-faculty interaction is actively encouraged as enhancing learning. One participant explained that while her professors announced office hours, attending felt presumptuous because she should be able to understand material independently. Such cultural barriers to help-seeking may exacerbate anxiety and undermine motivation when students struggle but feel unable to access instructor support. Yamada and Yamada (2020) suggest that Japanese universities must develop culturally appropriate ways to facilitate student-faculty interaction that honor hierarchical norms while promoting academic support.

University support services showed limited effectiveness in reaching students who would most benefit from them. Despite 41% of participants scoring above clinical anxiety thresholds, only 8% reported utilizing university counseling services. Students cited concerns about stigma, uncertainty about how counseling worked, and beliefs that they should manage problems independently. These barriers reflect Japanese cultural attitudes toward mental health where psychological difficulties are often viewed as personal weaknesses rather than treatable conditions. According to Spielberger and Vagg (2020), early intervention for anxiety significantly improves outcomes, suggesting that Japanese universities must develop innovative approaches to normalize and facilitate mental health support. Some participants

suggested that integrating mental health education into required first-year courses could reduce stigma and increase service utilization.

Peer support emerged as the most commonly utilized and culturally acceptable form of assistance, with students spontaneously forming study groups and friendship networks that provided both academic and emotional support. These informal support systems align with collectivist cultural values emphasizing interdependence and group welfare. Several high-performing students attributed their success partly to supportive peer networks that provided encouragement during difficult periods and practical assistance with academic tasks. Ryan and Deci (2020) emphasize that relatedness—feeling connected to others—is a fundamental psychological need supporting motivation and well-being. Japanese universities could harness this cultural strength by systematically facilitating peer support networks, structured study groups, and peer mentoring programs that formalize the beneficial informal support students naturally seek from one another. Such culturally consonant interventions may prove more acceptable and effective than approaches requiring individualistic help-seeking from professional services.

## CONCLUSION

This research demonstrates that motivation and anxiety are critical psychological factors influencing academic performance among first-year university students in Japan, operating within a distinctive cultural context that shapes their manifestations and interactions. Intrinsic motivation emerges as a key protective factor associated with higher academic achievement and lower anxiety, while elevated anxiety levels among Japanese students warrant institutional attention and intervention. The findings reveal that cultural values and educational structures unique to Japan—including entrance examination pressure, collectivist social orientations, hierarchical relationships, and values of perseverance—fundamentally shape students' motivational and emotional experiences during the critical university transition. Practical implications suggest that Japanese universities should develop comprehensive first-year support programs that foster intrinsic motivation through alignment of student interests with academic programs, provide accessible and culturally appropriate mental health services to address widespread anxiety, facilitate peer support networks that leverage collectivist cultural strengths, and create bridges between hierarchical professor-student norms and the student-faculty interaction necessary for effective academic support. Future research should employ longitudinal designs to track how motivation and anxiety evolve across university years and examine the long-term impacts of first-year psychological experiences on degree completion and career outcomes, while intervention studies testing culturally adapted approaches to enhancing motivation and reducing anxiety would provide evidence for effective support practices in Japanese higher education contexts.

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