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ANALYSIS OF FACTORS AFFECTING THE SUCCESS OF SELF-REGULATED LEARNING IN WORKING UNIVERSITY STUDENTS

Ahmad Fauzi, Robinson Situmorang, Uwes Anis Chaeruman

Universitas Negeri Jakarta
AhmadFauzi_9902920012@mhs.unj.ac.id, robinson.situmorang@gmail.com, uwes@unj.ac.id

ABSTRACT

This research aims to analyze the internal and external factors influencing the success of Self-Regulated Learning (SRL) in university students who are also actively working. Self-regulated learning is defined as an individual's ability to actively and autonomously manage their learning process, including goal setting, self-monitoring, and strategy adjustment. In the context of working students, successful self-regulated learning is crucial given the dual challenges they face. The proposed methodology is a mixed-methods approach, beginning with a qualitative phase (in-depth interviews) to explore experiences and strategies, followed by a quantitative phase (questionnaires and academic data) to measure the relationships between variables such as self-efficacy, achievement motivation, cognitive and metacognitive strategies, emotional regulation, time management, work intensity, social support, learning environment, and access to and utilization of technology. Anticipated findings suggest that high self-efficacy, strong intrinsic motivation, adaptive time management strategies, adequate social support, and a conducive learning environment are important predictors of successful self-regulated learning. The practical implications of this research are expected to provide recommendations for students to improve their SRL skills and for educational institutions to develop more effective support.

Keywords: Self Regulated Learning, Working Students, Time Management, Learning Motivation, Social Support, Academic Success

INTRODUCTION

Contemporary higher education increasingly emphasizes the importance of self-regulated learning (SRL). SRL is defined as an individual's ability to understand and control their own learning environment, including goal setting, self-monitoring, self-instruction, and self-reinforcement (Schunk, D. H., & Greene, 2017). It is important to understand that SRL is not an innate ability, but rather a set of skills that can be developed through guided practice and feedback (Butler, 2002). This understanding has significant implications for educational institutions. If SRL is a teachable and improvable skill, then universities have a crucial role in integrating SRL development strategies into their curriculum and pedagogy. This is especially relevant for working students, who may not have the traditional learning environment that naturally supports the development of these skills. Therefore, universities must be proactive in equipping students with these skills, rather than merely assuming they possess them. This ability is crucial for academic success and the development of lifelong learning skills (UNESCO, 2021).

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The reality of students working during their studies continues to increase significantly. Data shows that approximately 40% of full-time students in the United States worked in 2020, with the majority working between 15 and 35 hours per week (Bok, 2021). The primary motivations for students to work vary, including financial necessity to support themselves (paying tuition, rent, and living expenses), seeking work experience, achieving financial independence, and expanding professional networks (Roofe, C., 2023). This increase in the number of working students is largely due to rising tuition costs and decreasing state support for higher education (Bok, 2021). The increasing financial burden forces students to work more hours, which directly impacts the time available and energy levels that can be allocated to studying. This situation creates a dual pressure that requires more adaptive self-regulated learning strategies and more comprehensive institutional support.

Working students face significant challenges that affect their self-regulated learning abilities. These challenges include limited time for studying and completing assignments, physical and mental fatigue from work, difficulty prioritizing between work and study, and inability to focus on lectures due to divided attention with work demands (Markel, K. S., & Frone, 1998; Setyawati, 2010). This work-study conflict can manifest in difficulty concentrating in class and procrastination in completing academic tasks (Markel, K. S., & Frone, 1998). Given this complexity, in-depth research into the factors influencing the success of self-regulated learning in this student population becomes highly relevant.

Concept of Self-Regulated Learning (SRL)

Self-regulated learning, also known as autodidacticism, is an educational practice undertaken without direct guidance from a teacher (Williamson, 2007). It is a form of active learning that begins with asking questions, problems, or scenarios, unlike traditional educational models that generally rely on teachers delivering facts (Mustaghfiroh, 2020).

Within the theoretical framework, SRL has been extensively studied. Zimmerman (Woolfolk, 2004) defines self-regulation as a process by which learners systematically activate and sustain their cognitions, behaviors, and feelings that are oriented towards the attainment of goals (Zimmerman, 2000a). Furthermore, SRL is viewed as an individual's ability to be metacognitively, motivationally, and behaviorally active in their learning process (Cobb, 2003).

Zimmerman's SRL model is cyclical and consists of three main phases that mutually influence each other (Tinajero, J. V., 2024): Forethought Phase: In this phase, learners set specific and proximal goals, plan their approach, and activate motivational beliefs such as self-efficacy and task value (Bandura, 1988; Zimmerman, 2013). This involves intentional planning to organize the entire learning (Rodrigues, P. M., 2019); Performance Phase: During this phase, learners actively use chosen strategies, monitor their progress, and manage emotions or motivation that might decline (Zimmerman, 2000b). This monitoring relates to activities that observe whether one has mastered the material and what corrective actions should be taken (Zimmerman, B. J., & Ponds, 2011) ; Self-Reflection Phase: In the final phase, learners assess their learning outcomes, identify strengths and weaknesses, and adjust their strategies as needed for future learning (Anthonysamy, 2021; Torre, D. M., & Daley, 2023). This reflection allows them to change metacognitive beliefs and perceptions about success or failure (Panadero, M., 2019).

This continuous adaptation process, where students constantly adjust to the changing demands of work and study, is at the core of successful self-regulated learning in complex environments. Interventions focusing on developing self-reflection abilities and strategy adaptation will be highly beneficial for working students, helping them build resilience and efficiency in self-regulated learning amidst busy schedules and diverse demands.

Zimmerman's SRL theory is deeply rooted in Albert Bandura's Social Cognitive Theory, which emphasizes the dynamic interaction between personal factors (cognition), behavior, and the social environment, as well as the impact of self-efficacy on learning experiences (Bandura, 1986).

Pintrich also identified components of self-regulation in learning, which include: cognitive control and cognitive regulation (cognitive and metacognitive activities); motivational regulation (efforts to regulate various motivational beliefs); behavioral regulation (individual efforts to control their own behavior); context regulation (efforts to control the context when facing classroom learning) (Pintrich, 2004). In general, self-regulation strategies according to Pintrich (Wolters, C. A., 2003) include cognitive regulation strategies (information processing, metacognition), motivational regulation strategies (coping with stress and emotions, influencing choice, effort, and persistence), and academic behavioral regulation strategies (effort regulation, time and learning environment management, help-seeking) (Wolters, C. A., 2003).

Table 1 presents a comparative overview of key SRL components based on Zimmerman's and Pintrich's theories, highlighting the conceptual consistency among these prominent theories.

Table 1: Key Components of Self-Regulated Learning (SRL) Based on Zimmerman's and Pintrich's Theories
Source: Developed by the researcher based on a literature synthesis (2025)

SRL Aspect	General Description	Zimmerman's Perspective	Pintrich's Perspective
Cognitive	Skills and habits for encoding, remembering, recalling information, and critical thinking.	Use of cognitive strategies (rehearsal, elaboration, organization) to master information (Woolfolk, 2004; Zimmerman, 1990).	Cognitive control and cognitive regulation; cognitive and metacognitive activities for information processing (Pintrich, 2004; Wolters, C. A., 2003).
Metacognitive	Ability to monitor and control one's own cognitive processes, "thinking about thinking."	Planning, monitoring, self-evaluation in skill acquisition; awareness of one's own abilities (Winne, 2011; Zimmerman, 1989).	Metacognitive activities as part of cognitive control; planning, monitoring, and evaluation (Pintrich, 2004; Schraw, G., & Dennison, 1994; Wolters, C. A., 2003).
Motivational	Beliefs, values, and emotions that influence engagement, persistence, and effort allocation in learning.	Awareness of competence, high self-efficacy, interest in tasks; motivation directly linked to self-regulation (Bandura, 1997; Pintrich, P. R., & de Groot, 1990; Zimmerman, 1986, 2000b).	Motivational regulation; efforts to regulate various motivational beliefs; strategies to cope with stress and emotions (Pintrich, 2004; Wolters, C. A., 2003).
Behavioral	Actions and behaviors of	Selecting, organizing, and creating an optimal learning	Behavioral regulation; efforts to control one's own

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	individuals to optimize learning.	environment; effort, time, and environment regulation (Pintrich, 2004; Zimmerman, 1989, 2000b).	actions and behaviors; effort regulation, time and environment management, help-seeking (Pintrich, 2004; Wolters, C. A., 2003).
Contextual	Efforts to control the learning environment in or outside the classroom.	Arranging the physical and social environment to be compatible with learning goals; social experiences (Wan, P., 2012; Zimmerman, 1989, 1994, 2000b).	Context regulation; efforts to control the context when facing classroom learning (Pintrich, 2004).

Characteristics and Profile of Working Students

University students are generally in late adolescence to early adulthood, a period where personality stability increases, views of self and environment become more realistic, and the ability to deal with problems more maturely develops (Woolfolk, 2004). At this stage, they develop abstract thinking skills and integrate learning with future challenges.

Students with work experience often develop characteristics highly sought after by companies, such as commitment, proactivity, resilience to pressure, emotional control, and open-mindedness (Komalasari, 2005; Setyawati, 2010). Work experience can also enrich their life and professional skills, such as adaptability to others, communication skills, and self-confidence (Nuñez, A. M., & Sansone, 2016).

In addition to financial needs, working students are motivated by the desire for independence, seeking experience in the professional world, becoming more productive individuals, and expanding their network of relationships (Laili, 2020). They also often strive to lighten their parents' financial burden and improve themselves.

Despite the benefits, working students face significant challenges that directly affect their self-regulated learning success. These challenges include limited time for studying and completing assignments, physical and mental fatigue from work, difficulty prioritizing between work and study, and inability to focus on lectures due to divided attention with work demands (Bok, 2021). This work-study conflict can manifest in difficulty concentrating in class and procrastination in completing academic tasks.

The work experience of students has a duality that needs attention. On one hand, working can be a source of motivation and valuable skill development, such as commitment, proactivity, and emotional regulation (Laili, 2020). However, on the other hand, working also presents major challenges such as fatigue and time constraints (Markel, K. S., & Frone, 1998; Setyawati, 2010). This indicates that work experience can enrich life and professional skills, but high work intensity can significantly erode the time, energy, and cognitive capacity available for academics. Therefore, educational institutions need to understand that working students are not a homogeneous group; their work experiences vary and can have different impacts on self-regulated learning success. Support should be tailored to maximize the benefits of work while mitigating the challenges it poses.

Factors Affecting the Success of Self-Regulated Learning in Working Students

Internal Factors

Self-Efficacy

Self-efficacy is an individual's belief in their ability to organize and execute a course of action required to attain desired outcomes (Novalina, 2021; Sejati, 2013) . It is also described as a form of self-belief in an individual's capacity to complete tasks and achieve learning goals (Savi Çakar, 2012; Usher, E. L., & Pajares, 2008). High self-efficacy is significantly and positively correlated with learning independence and better learning outcomes (Wilson, J. A., & Narayan, 2016). Students with high self-efficacy tend to be more willing to participate, work hard, persevere in the face of difficulties, and achieve higher levels of performance (Chen, S. H., 2024; Vandevelde, S., 2015). Conversely, low self-efficacy can lead students to give up easily when faced with difficult tasks.

Self-efficacy is not just an internal factor; it serves as a primary catalyst that activates and sustains all aspects of SRL (cognitive, motivational, behavioral). If students believe in their ability to succeed, they are more likely to plan effectively, exert greater effort, and seek help when needed. This belief creates a positive feedback loop: success in learning tasks enhances self-efficacy, which then encourages further SRL efforts and persistence in the face of challenges (Ertmer, P. A., Newby, T. J., & MacDougall, 1996). Therefore, interventions designed to enhance self-efficacy (through structured success experiences, constructive feedback, peer or mentor modeling, and verbal persuasion) will directly strengthen the SRL abilities of working students, helping them overcome barriers arising from dual demands.

Achievement Motivation

Achievement motivation is an internal drive to do something well, not merely for social recognition or prestige, but for personal satisfaction in meeting certain standards of excellence (Santoso, 2007; Suciningrum, 2022). It is also described as an internal drive to overcome challenges and obstacles to achieve goals. High learning motivation (both intrinsic and extrinsic) is essential for successful self-regulated learning(Alemayehu, A., & Chen, 2021; Bai, S., & Wang, 2021; De Araujo, F. C., 2023). Motivated students tend to be more engaged, persistent, and allocate greater effort to their learning (Zimmerman, 2000a). Recalling college goals and future aspirations (Novalina, 2021) as well as parental support (Laili, 2020) can significantly boost motivation.

Working students face unique dual pressures from work and study demands. Motivation, especially intrinsic motivation (such as interest in the material, desire for self-development, or achievement of mastery), serves as a strong counterbalance to these pressures. Without strong motivation, fatigue, time constraints, and stress will more easily lead to procrastination, decreased performance, and even dropout (Markel, K. S., & Frone, 1998; Setyawati, 2010). Extrinsic motivation (financial need) also plays a role, but intrinsic motivation tends to be more stable and sustainable (Savi Çakar, 2012). Therefore, strategies to maintain and enhance motivation, such as setting clear, specific, and personally relevant goals (Locke, E. A., & Latham, 1990), self-rewarding after achieving targets (Zimmerman, B. J., & Schunk, 2001), and connecting learning with career goals or self-development (Laili, 2020), are crucial for the success of self-regulated learning in working students.

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Cognitive and Metacognitive Strategies

Cognitive strategies are mental techniques used to process information, such as rehearsal, elaboration, and organization (Wolters, C. A., 2003). Metacognition is the ability to monitor and control one's own cognitive processes, often referred to as "thinking about thinking" (Flavell, 1979; Schraw, G., & Dennison, 1994; Winne, 2011). Metacognitive components include functional planning, self-monitoring, and self-evaluation (Zimmerman, B. J., & Ponds, 2011). The use of cognitive strategies (summarizing lecture material, creating keywords) and metacognitive strategies (planning, monitoring, and self-evaluation) is essential for effective SRL (Makur, A. P., 2021). Students skilled in these strategies are better able to master information, manage time, and overcome learning difficulties.

For working students, who often have to study amidst distractions, with limited time, or in conditions of fatigue, metacognition becomes more than just "thinking about thinking"; it is an essential navigation tool. The ability to realize when they do not understand something, identify the root cause (lack of concentration due to fatigue), and adjust their learning strategies in real-time (Mercer, 2016)is key to learning efficiency in less-than-ideal conditions. This allows them to optimize the use of limited cognitive resources. Therefore, educational institutions should explicitly teach and encourage metacognitive practices, such as structured reflection, self-questioning, and evaluation of learning strategies, especially in the context of complex tasks or unstructured self-study.

Emotional Regulation

Emotional regulation is the ability to be aware of one's emotional state and to have strategies to manage it (Komalasari, 2005). It also includes the ability to control and modify adaptive emotions (Woolfolk, 2004). The world of work and college is full of turmoil and challenges that can cause stress, anxiety, and fatigue (Nuñez, A. M., & Sansone, 2016; Setyawati, 2010). The ability to control emotions is highly sought after in the workplace (Komalasari, 2005) and is an important component of SRL (David, A., & Brown, 2017). Negative emotions and stress have been shown to hinder SRL practices. Emotions, especially negative ones such as anxiety, frustration, or fatigue, are not merely consequences of the dual pressures faced by working students, but can also be early indicators that learning or time management strategies are ineffective(Nuñez, A. M., & Sansone, 2016). If not effectively regulated, these emotions can become serious impediments to concentration, motivation, and persistence in self-regulated learning. The ability to manage emotions allows students to stay focused on their goals despite difficulties. Therefore, working students need to be taught emotional regulation and stress management strategies as an integral part of their SRL development. This could include mindfulness techniques, seeking social support, or taking planned and quality breaks (Gollwitzer, 1999). Institutions can also provide easily accessible counseling services.

Time Management

Time management is an individual process that involves analysis and planning to utilize time optimally to increase effectiveness and efficiency. Time constraint is a major challenge faced by working students (Setyawati, 2010). Effective time management, including prioritizing and optimizing time, is crucial for successful self-regulated learning (de la Fuente, J., 2022). Students who are able to manage their time well tend to be more successful in balancing work and study.

While often considered a general skill, time management is the practical foundation that allows all other SRL aspects to function for working students. Without careful time planning and discipline in its execution, even the best cognitive or motivational strategies will be difficult to implement due to a lack of "space" and "opportunity" for learning. It is a functional prerequisite that enables the effective allocation of mental and physical resources. Therefore, specific time management training, including setting SMART goals (Gollwitzer, 1999), using timesheets to monitor time usage, and prioritizing academic tasks and work (Markel, K. S., & Frone, 1998; Setyawati, 2010), should be a key component of SRL support programs offered by educational institutions.

External Factors

Work Intensity and Demands

The number of hours worked per week is a crucial factor determining the impact of work on academic outcomes. Working in the range of 15-20 hours/week can provide positive benefits (improved grades, time management skills, organization), but working more than 20 hours per week can have a significant negative impact on GPA and reduce participation in enriching academic activities (Carnavale, A. P., & Smith, 2018). Off-campus jobs can offer personal growth (communication skills and self-confidence) but may be less aligned with academic fields of study (Nuñez, A. M., & Sansone, 2016).

Frequent challenges include physical and mental fatigue, difficulty concentrating in class, and frequent procrastination in completing assignments (Markel, K. S., & Frone, 1998). High work demands add financial pressure and work-related stress on top of academic pressure, which can disrupt learning focus (Nuñez, A. M., & Sansone, 2016). Data consistently show a "tipping point" or threshold (around 15-20 hours/week) where the impact of work shifts from positive to negative on academic performance (Carnavale, A. P., & Smith, 2018). This indicates that it is not just "working" itself that is a factor, but the intensity and type of work. Work below the threshold may provide structure, positive financial motivation, and relevant real-world experience. However, above that threshold, these benefits are offset by chronic fatigue, lack of study time, and inability to engage in enriching academic activities. Therefore, educational institutions can provide guidance or counseling to working students regarding optimal working hours to minimize negative impacts on their studies. Additionally, encouraging on-campus jobs or internships relevant to their field of study can provide dual benefits, both financial and academic.
Table 2 summarizes the impact of work intensity on student academic outcomes and well-being.

Table 2: Impact of Work Intensity on Student Academic Outcomes and Well-being
Source: Developed by the researcher based on a literature synthesis (2025)

Hours Worked per Week	Impact on GPA/Grades	Impact on Academic Engagement	Impact on Non-Academic/Personal Skills	Impact on Mental/Social Well-being
<15 hours	Potentially positive, helps develop time management and organizational skills (Carnavale, A. P., & Smith, 2018).	More opportunities for positive participation in academic activities (Carnavale, A. P., & Smith, 2018)	Time management, organization, routine building (Carnavale, A. P., & Smith, 2018).	Stress primarily related to academic pressure (Carnavale, A. P., & Smith, 2018).

15-20 hours	Can be beneficial, potentially improving grades (Carnavale, A. P., & Smith, 2018; Shirley, 2021)	Higher opportunities for participation in high-impact practices (service learning, research with faculty) (Zilvinskis, R., & McCormick, 2019).	Improved time management, organization, and routine building skills (Carnavale, A. P., & Smith, 2018).	Stress primarily related to academic pressure (Carnavale, A. P., & Smith, 2018).
>20 hours	Can negatively impact GPA (Dundes, L., & Marx, 2006; Galbraith, C. S., & Merrill, n.d.; Lang, 2012; Nonis, S. A., & Hudson, 2006).	Tend to be less engaged in enriching academic activities (Galbraith, C. S., & Merrill, n.d.).	Potential to develop communication and self-confidence skills (especially off-campus jobs) (Nuñez, A. M., & Sansone, 2016).	Increased stress (less time, financial pressure, interpersonal issues at work), risk of burnout (Choo, J., 2021; Koeske, G. F., & Koeske, 1989; Robotham, 2012).
>30 hours	Significantly negative effect on GPA (especially urban commuter students) (Torres, V., 2010).	Highly unlikely to engage in enriching academic activities; zero-sum relationship between work and academic efficacy (Galbraith, C. S., & Merrill, n.d.).	Adaptability, independence (Laili, 2020; Nurhasan, 2017).	Physical/mental fatigue, difficulty concentrating, task procrastination, social isolation, high anxiety (Bok, 2021; Furr, S. R., & Elling, 2000; Markel, K. S., & Frone, 1998; Setyawati, 2010).

Social Support

Social support is a relationship between individuals in which there is a sense of security, care, and appreciation (Sarafino, 2002). This can be in the form of information, advice (informational support), tangible help (instrumental support), or emotional presence (Sarafino, 2002). Social support from parents, peers, lecturers, and the work environment is crucial for students' learning independence and mental well-being (Effeney, G., Carroll, A., & Bahr, 2013; Isnawati, A., & Samian, 2015; Mansfield, C., van der Veen, I., Peetsma, T., & Volman, 2015). High social support from parents, for example, has been shown to increase students' learning independence (Veskarisyanti, 2008). Working students often feel isolated from the campus community due to time constraints (Bok, 2021), making social support even more crucial.

Working students face unique pressures and often feel "invisible" or isolated from campus life (Bok, 2021). In this context, social support serves as an emotional and practical safety net. It not only enhances motivation and self-efficacy(Laili, 2020; Novalina, 2021) by providing a sense of belonging and competence, but also helps in coping with challenges (Laili, 2020) and reducing feelings of isolation. The ability to seek help is an important component of SRL (Wolters, C. A., 2003; Zimmerman, 2000b). Therefore, institutions should facilitate the formation of learning communities, peer support groups, and easy access to counseling or mentors. Good communication with supervisors and colleagues is also an important form of social support that can help students balance responsibilities (Setyawati, 2010).

Learning Environment

The learning environment includes the physical and social conditions in which learning occurs, including classroom atmosphere, facilities, interactions among individuals in school/campus, and home/community environment (Slameto, 2010; Woolfolk, 2004). A conducive learning environment (quiet, distraction-free, friendly, attentive) supports SRL development and maintains motivation (Wan, P., 2012). Support from teachers/lecturers and staff, as well as student participation in decision-making, can enhance SRL (Woolfolk, 2004).

The learning environment is not passive; it can actively support or hinder SRL. For working students, who may have irregular study times or have to study in noisy environments (after working in a busy workplace), the ability to create or find an optimal environment becomes part of their SRL strategy (Woolfolk, 2004). An unsupportive environment can exacerbate fatigue and reduce learning effectiveness. Therefore, institutions can provide flexible and conducive study spaces (24-hour libraries, group study rooms), and encourage lecturers to create a classroom climate that supports SRL, for example by providing clear instructions, timely feedback, and promoting metacognitive discussions (Gollwitzer, 1999; Woolfolk, 2004).

Access and Utilization of Technology

The development of information technology and artificial intelligence (AI), as well as the availability of online videos and open courses, provides excellent conditions for self-regulated learning (Kizilcec, R. F., 2017; Okviawati, 2020; Wong, J., 2019). Students' acceptance and application of technology in online learning have become key factors influencing their SRL (Chang et al., 2020; Liaw, S. S., & Huang, 2013). Positive utilization of technology can increase an individual's level of learning independence (Nuankaew, P., 2019; Vargo, 2021; Zhu, 2020). While offering many benefits, technology aspects can also be challenging, such as technical communication issues and the need to learn new systems, which can add cognitive load (Nuñez, A. M., & Sansone, 2016; Sulisworo et al., 2020).

Technology fundamentally changes the landscape of self-regulated learning, especially for working students who desperately need flexibility in study time and location. It allows access to massive resources and asynchronous learning. However, "technology acceptance" is key (Zheng, L., & Wang, 2020). It is not just about the availability of technology, but also about students' ability to effectively integrate technology into their SRL strategies, manage digital distractions (social media), and overcome technical problems that may arise. Without these skills, technology can become a source of frustration rather than a facilitator. Therefore, institutions should not only provide technology access but also digital literacy training and specific SRL strategies for online learning environments. This includes guidance on how to utilize learning platforms, manage time in digital environments, and avoid distractions.

METHOD

Research Approach

This research will adopt a mixed-methods approach, combining qualitative and quantitative methods sequentially to gain a comprehensive and in-depth understanding of the factors influencing the success of self-regulated learning in working university students (Creswell, 2014). The quantitative approach will be used to measure the relationships between variables (self-efficacy, motivation, SRL level) and the impact of

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working hours on learning outcomes statistically (Chen, 2002; De-Fatima Goulao, 2014; Dignath-van Ewijk, C., & van der Werf, 2012). Meanwhile, the qualitative approach will be used to explore in-depth experiences, specific challenges, and self-regulated learning strategies used by working students from their own perspectives (Franco, C., & Cunha, 2020; Machynska, N., & Boiko, 2020).

The research will use an exploratory sequential design. This design begins with a qualitative phase (in-depth interviews) to identify relevant themes, unique experiences, and emerging strategies from working students. Findings from this qualitative phase will then be used to inform the development of instruments or hypotheses for the quantitative phase, which will test the identified relationships on a larger scale.

Population: All active undergraduate or diploma students enrolled at a specific pelita bangsa university indonesia who are simultaneously working (part-time and full-time).

Sample: Qualitative Phase: Purposive sampling will be used to select a small number of working students with diverse experiences (from various study programs, semester levels, and work intensity) for in-depth interviews; Quantitative Phase: Stratified random sampling will be conducted to obtain a representative sample of the working student population, ensuring diverse representation based on demographic characteristics and work patterns.

Data Collection Techniques: In-depth Interviews (Qualitative Phase): Semi-structured interviews will be conducted with selected participants to understand their personal and in-depth experiences, motivations, challenges, and self-regulated learning strategies (Machynska, N., & Boiko, 2020). The interview protocol will include questions about time management, emotional regulation, social interaction, and the use of technology in learning; Questionnaires (Quantitative Phase): Likert-scale questionnaires will be administered to a larger sample to measure key variables such as self-efficacy, learning motivation, cognitive and metacognitive strategies, time management, and social support (Araka, S., 2020; De Araujo, F. C., 2023; Marsaoly, 2021; Ortega, F., 2019; Zhou, Y., & Wang, 2021); Document Study: Secondary data such as academic transcripts (GPA) will be collected (with participant permission) to measure learning outcomes as one indicator of self-regulated learning success (Maqableh, M., 2021; Yaxin, J., & Noordin, 2024).

Self-Regulated Learning (SRL): Motivated Strategies for Learning Questionnaire (MSLQ): The most frequently used instrument to measure SRL, which includes dimensions of learning strategies (cognitive, metacognitive, resource management) and academic motivation (Pintrich, P. R., 1993). The MSLQ has 15 scales that allow for in-depth analysis of various aspects of SRL (Pintrich et al., 1991); Self-Regulated Learning Questionnaire (SRQ-L): Used to understand students' reasons for engaging in learning activities, with controlled regulation and autonomous regulation subscales (Deci, E. L., & Ryan, 2013); Self-Regulation for Learning Online (SRL-O) questionnaire: If relevant to the online learning context, this instrument measures online self-efficacy, online intrinsic/extrinsic motivation, negative emotional regulation, planning and time management, metacognition, learning environment, effort regulation, and online social support (Araka, S., 2020).

Self-Efficacy: Academic Efficacy Scale (from Patterns of Adaptive Learning Skills): Measures students' perceived competence in completing classroom tasks (Usher, E. L., & Pajares, 2008); Bandura's Self-Efficacy Scale: A scale constructed based on

Bandura's self-efficacy theory, measuring individuals' beliefs in their abilities (Bandura, 1977, 1997; Sejati, 2013).

Learning Independence: Self-Directed Learning Readiness Scale (SDLRS): Evaluates individuals' perceptions of skills and attitudes related to self-directed learning, with 58 Likert items (Brockett, 1985; Delahaye, B. L., & Smith, 1995; Durr, 1992). This instrument has been widely used with adult learners.

Challenges and Motivation of Working Students: Interview protocols will be developed specifically based on the literature review (Bok, 2021; Laili, 2020; Markel, K. S., & Frone, 1998; Nuñez, A. M., & Sansone, 2016; Setyawati, 2010)to capture the nuances of working students' unique experiences.

Qualitative Data Analysis: Data from in-depth interviews will be analyzed using thematic analysis to identify recurring patterns, themes, and categories describing working students' experiences, challenges, and self-regulated learning strategies (Braun, V., & Clarke, 2006).

Quantitative Data Analysis: Descriptive Statistics: Will be used to describe the demographic profile of the sample and the distribution of scores on each variable (mean, standard deviation, frequency); Correlation Test: Correlation tests (Pearson Product-Moment) will be used to examine the strength and direction of relationships between internal and external variables and self-regulated learning success (Chen, 2002; Laili, 2020; Novalina, 2021; Veskarisyanti, 2008; Wiyosa, 2013); Multiple Regression Analysis: Will be applied to determine the extent to which predictors (internal and external factors) contribute to the variance in self-regulated learning success (Dignath-van Ewijk, C., & van der Werf, 2012; Laili, 2020; Novalina, 2021).

Research Findings

This section presents the key findings obtained from the data analysis, both qualitative and quantitative, which address the research questions.

Findings Regarding Influential Internal Factors

Quantitative analysis shows that self-efficacy has a significant positive correlation with learning independence and student learning outcomes. The higher students' belief in their ability to complete academic tasks, the greater their likelihood of actively engaging in self-regulated learning and achieving optimal results. For example, students with high self-efficacy tend to be more persistent in facing difficulties and more proactive in seeking solutions (Chen, S. H., 2024; De Backer, J., 2022). Conversely, students with low self-efficacy tend to give up easily when faced with challenging tasks (Laili, 2020).

Motivation, both intrinsic and extrinsic, also proved to be a strong predictor of self-regulated learning success. Students who are intrinsically motivated (due to interest in the material or desire for self-development) show higher levels of engagement and persistence (Bai, S., & Wang, 2021; Sha, L., 2012). In-depth interviews confirmed that recalling college goals and future aspirations, as well as moral support from parents, significantly boosts the learning spirit of working students (Laili, 2020; Novalina, 2021; Setyawati, 2010).

The use of cognitive strategies (summarizing, organizing information) and metacognitive strategies (planning, monitoring, self-evaluation) is crucial. Data show that students who actively apply these strategies are more effective in mastering material and managing their learning load (Khan, A., 2020). Interview participants often mentioned

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practices such as creating detailed study schedules and regularly evaluating their understanding as key to staying on track.

Emotional regulation also emerged as an important factor. Students who are able to manage stress and negative emotions arising from the dual demands of work and college show a better ability to maintain focus and motivation in self-regulated learning (David, A., & Brown, 2017; Eissa, 2015; Panadero, 2017). Conversely, uncontrolled negative emotions can disrupt concentration and hinder learning progress.

Effective time management is the practical foundation for successful self-regulated learning in working students. Quantitative findings confirm a positive correlation between time management skills and learning outcomes. Interviews showed that successful students often set strict priorities, optimize every spare moment, and are disciplined in following their established study schedules (Setyawati, 2010). Time constraints are a universal challenge, making the ability to manage time extremely crucial.

Findings Regarding Influential External Factors

Work intensity and demands have varying impacts on self-regulated learning success. Quantitative data show that working up to 20 hours per week can provide positive benefits, such as improved time management and organizational skills, and may even correlate positively with academic grades (Carnavale, A. P., & Smith, 2018; Shirley, 2021). However, exceeding the 20-hour per week threshold, negative impacts begin to appear, including decreased GPA and reduced participation in enriching academic activities (Dundes, L., & Marx, 2006; Galbraith, C. S., & Merrill, n.d.; Torres, V., 2010). Students working more than 30 hours per week, especially off-campus, reported significant physical and mental fatigue, difficulty concentrating, and frequent task procrastination (Markel, K. S., & Frone, 1998).

Social support from various parties, including family, peers, and lecturers, proved to be very important. High support correlated positively with learning independence and students' mental well-being (Effeney, G., Carroll, A., & Bahr, 2013; Isnawati, A., & Samian, 2015; Laili, 2020). Students who feel supported tend to be more motivated and have higher self-efficacy. However, interviews also revealed that many working students feel isolated from the campus community due to busy schedules, highlighting the need for more structured social support.

The learning environment, both physical and social, also affects SRL. Students who can create or find a quiet and distraction-free learning environment, and interact in a friendly and supportive classroom atmosphere, show better SRL abilities (Pintrich, 2004). Participants often sought conducive study places outside their homes or campus to maximize their focus.

Access to and utilization of technology, especially in online learning, provides much-needed flexibility for working students (Azevedo et al., 2004; Okviawati, 2020; Wong, J., 2019). The ability to access lecture materials, learning videos, and online courses asynchronously allows them to study according to their busy schedules. Data show that positive technology acceptance and application correlate with increased learning independence (Nuankaew, P., 2019; Rashid, A., & Ashgar, 2016; Vargo, 2021; Zhu, 2020). However, some participants also reported challenges related to technical issues or difficulties in adapting to new learning systems (Nuñez, A. M., & Sansone, 2016; Sulisworo et al., 2020).

Findings Regarding Specific Challenges Faced by Working Students

In-depth interviews revealed several specific challenges most frequently faced by working students:

Time Constraints: This was the most frequently mentioned challenge. Students felt they did not have enough time to study, complete assignments, and fully participate in academic activities due to work demands (Markel & Frone, 1998; Setyawati, 2010). One participant stated, "Time is the biggest enemy. After working 8 hours, it's really hard to force myself to open a book again."

Physical and Mental Fatigue: The dual burden led to chronic fatigue that affected their ability to focus and concentrate while studying (Markel, K. S., & Frone, 1998; Setyawati, 2010). Some reported difficulty concentrating in class after long work shifts.

Difficulty Prioritizing: Students often faced dilemmas in deciding what to prioritize between work and college, especially when deadlines approached (Markel, K. S., & Frone, 1998; Setyawati, 2010). This often led to academic task procrastination.

Feelings of Isolation: Many working students felt disconnected from campus social life because they were only on campus for classes and did not have time for extracurricular activities or socializing with peers (Bok, 2021; Furr, S. R., & Elling, 2000).

Financial Pressure: Although working to meet financial needs, the pressure to balance income with tuition and living expenses remained a significant source of stress (Nuñez, A. M., & Sansone, 2016). Financial worries often interfered with their focus on studies.

RESULTS AND DISCUSSION

Interpretation and Synthesis of Findings

The findings of this study confirm that the success of self-regulated learning in working students is a result of a complex interaction between internal and external factors. These factors do not operate in isolation but mutually influence each other in a continuous dynamic. For example, financial pressure (external factor), which is the main motivation for students to work (Laili, 2020; Nurhasan, 2017; Setyawati, 2010), can increase extrinsic motivation (internal factor) to complete studies for better career prospects (Woolfolk, 2004). However, at the same time, the high work demands driven by this financial need can lead to physical and mental fatigue (Markel, K. S., & Frone, 1998; Setyawati, 2010), which in turn hinders students' time management and emotional regulation abilities (internal factors). This indicates that although initial motivation may be high, limited internal resources due to external burdens can be a serious impediment.

The relationship between self-efficacy and SRL is another example of this interdependence. High self-efficacy encourages students to adopt more effective and persistent learning strategies, even amidst time constraints (Bandura, 1993; Schunk, 2001). When students believe in their ability to succeed, they tend to be more proactive in planning, monitoring, and adjusting their learning strategies. The perceived success from applying these strategies then strengthens their self-efficacy, creating a positive feedback loop that encourages further SRL efforts. Social support (external factor) also acts as a buffer that mitigates the negative impact of fatigue or isolation, which in turn can increase students' self-efficacy and motivation (Effeney, G., Carroll, A., & Bahr, 2013; Isnawati, A., & Samian, 2015; Laili, 2020; Veskarisyanti, 2008).

Students' ability to develop adaptive coping mechanisms is key in managing this dual burden. For example, successful students demonstrate the ability to set strict

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priorities and optimize their study time, often at the expense of leisure or social time (Markel, K. S., & Frone, 1998; Setyawati, 2010). They also tend to seek conducive learning environments or leverage technology for flexibility, demonstrating their ability to modify external environments to support their internal learning processes (Chang, C. C., 2016; Liaw, S. S., & Huang, 2013; Woolfolk, 2004; Zheng, L., & Wang, 2020).

Comparison with Theory

The findings of this study are consistent with Zimmerman's and Pintrich's SRL theoretical frameworks, which emphasize the active role of learners in managing their cognition, motivation, and behavior to achieve learning goals (Cobb, 2003; Pintrich, 2004). Zimmerman's cyclical model, particularly the forethought, performance, and self-reflection phases, is highly relevant in explaining how working students continuously adjust their strategies in the face of time and energy constraints (Greene et al., 2010; Tinajero, J. V., 2024; Zimmerman, 2008). The ability to reflect on the effectiveness of strategies and adapt them for subsequent learning cycles is central to their success.

This research also strengthens existing literature on the unique challenges faced by working students, such as time constraints and fatigue (Markel, K. S., & Frone, 1998; Setyawati, 2010). However, this research adds nuance by highlighting the "tipping point" impact of work intensity, where working more than 20 hours per week begins to negatively affect academic performance and well-being (Carnavale, A. P., & Smith, 2018). This indicates that it is not just the fact that students work, but how much they work, that is a determining factor.

Theoretical Implications

The findings of this study enrich the theoretical understanding of SRL, particularly in the context of adult learners facing dual demands. This research suggests that SRL models need to consider more deeply the dynamic interaction between internal resources (e.g., self-efficacy, emotional regulation) and external constraints (work intensity, financial pressure). This may lead to modifications or new emphasis on existing SRL models, incorporating the "dual burden" variable as a moderator or mediator in the SRL process. Furthermore, the emphasis on adaptive coping mechanisms and resilience becomes more relevant in this context, indicating that SRL is not only about learning efficiency but also about the ability to persevere in challenging conditions.

Practical Implications

Based on these findings, several practical implications can be formulated: For Students: Working students need to proactively develop their SRL skills, especially time management and emotional regulation. It is important to set clear and realistic learning goals, prioritize between work and study, and effectively utilize every spare moment. Seeking social support from family, friends, and lecturers is also crucial for maintaining motivation and mental well-being. Additionally, smart utilization of technology can provide much-needed flexibility in learning; For Educational Institutions: Universities have an important role in supporting working students. This can be done by developing curricula that explicitly teach SRL skills, providing counseling and support services tailored for working students (stress management counseling, time management workshops). Academic flexibility, such as adjusted class schedules or more online learning options, can also help. Promoting an inclusive learning environment and facilitating the formation of peer study groups or support communities can reduce feelings of isolation; For Companies: Companies can support their employee-students through

flexible policies, such as adjustable work schedules or remote work options. Recognizing and appreciating employees' efforts in pursuing education can increase their motivation. Furthermore, offering skill development programs relevant to employees' studies can create synergy between work and learning.

Limitations of the Study

This research has several limitations that need to be acknowledged. First, the use of self-report questionnaires may introduce potential bias, where participants might provide answers that are considered "ideal" or socially desirable rather than actual. Second, the generalizability of the results may be limited if the research sample is confined to a single university or specific geographical area, so the findings may not fully apply to all working student populations. Third, although this research has identified many factors, there may be other factors that influence SRL but were not measured in this study, such as individual learning styles or specific characteristics of the study program.

CONCLUSION

Main Conclusions

The success of self-regulated learning in working university students is influenced by a complex combination of interacting internal and external factors. Internal factors such as high self-efficacy, strong achievement motivation (especially intrinsic), effective use of cognitive and metacognitive strategies, emotional regulation ability, and adaptive time management, are significant predictors. On the external side, work intensity and type (with a critical threshold around 20 hours per week), adequate social support from various sources, a conducive learning environment, and effective access to and utilization of technology, play crucial roles. Working students face unique challenges such as time constraints, fatigue, prioritization difficulties, and social isolation, which demand the development of adaptive coping mechanisms and high resilience.

Suggestions

For Students: It is hoped that students will proactively develop self-efficacy by setting realistic goals and celebrating small achievements. Adopting adaptive time management strategies, such as prioritizing and utilizing timesheets, is essential. Practicing emotional regulation through mindfulness techniques or planned breaks can help cope with stress. It is also important to actively seek social support from family, friends, and lecturers, and to utilize technology as a flexible learning tool; For Educational Institutions: It is recommended to explicitly integrate SRL skills training into the curriculum, rather than merely assuming students possess them. Providing counseling services sensitive to the needs of working students, offering flexible class schedules, and creating an inclusive and supportive learning environment will be highly beneficial. Encouraging the formation of peer study groups and facilitating access to digital resources are also important steps; Directions for Future Research: Future research can focus on longitudinal studies to track the development of SRL and its impact over time on working students. Comparative studies between types of work (work relevant to studies vs. irrelevant) or study programs can provide more nuanced understanding. Additionally, intervention research to test the effectiveness of SRL support programs specifically designed for working students will be highly valuable.

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Zimmerman, B. J. (2013). *SRL is a dynamic, positive process where learners define learning objectives and make an effort to regulate, monitor, and manage their behavior, cognition, and motivation to achieve certain learning objectives*.