

Toxic Productivity Among College Students: A Human Resource Management Perspective on the Early Formation of Work Behavior

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HIGHLIGHTS

- ❖ Toxic productivity emerges as an early form of unsustainable work behavior.
- ❖ Digital social comparison intensifies productivity pressure among students.
- ❖ Higher education plays a strategic role in shaping future workforce well-being.



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ABSTRACT

This study explores how toxic productivity is experienced by college students and examines its implications from a Human Resource Management (HRM) perspective, particularly as an early formation of future work behavior. A qualitative phenomenological approach was employed through in-depth interviews with 15 university students, and the data were analyzed using thematic analysis. The findings reveal that students internalize productivity as a core component of self-worth, leading to persistent pressure to remain productive and feelings of guilt when resting. Academic demands and digitally mediated social comparison further reinforce this behavior, intensifying psychological strain. Toxic productivity manifests in emotional exhaustion, reduced motivation, and decreased wellbeing, indicating a potential risk for maladaptive work patterns. From an HRM perspective, this study extends the Job Demands–Resources framework by highlighting the early internalization of productivity norms and their implications for workforce sustainability. The findings emphasize the importance of integrating well-being-oriented strategies in higher education to support sustainable human resource development.

INTRODUCTION

The Rise of Toxic Productivity in the Digital Era

The development of the digital era has fundamentally changed the way individuals work, learn, and define productivity. From a Human Resource Management (HRM) perspective, these changes have not only increased performance demands but also heightened the risk of impaired individual well-being. Modern organizations no longer focus solely on productivity, but also on sustainable performance that balances work demands and psychological well-being (Bakker & Demerouti, 2017).

However, current social realities indicate a growing shift toward a culture of excessive productivity, often referred to as hustle culture. This culture encourages individuals to continuously work without clear boundaries between productive activities and rest. As a result, the phenomenon of toxic productivity has emerged, characterized by internal and external pressures to remain constantly productive despite negative consequences for mental health. In the long term, such conditions may reduce work quality and increase the risk of burnout (Maslach & Leiter, 2016).

Among younger generations, especially university students, this phenomenon becomes more complex due to academic demands and social expectations related to achievement and career preparation. Students are expected to demonstrate continuous success as part of their readiness to enter the workforce. Furthermore, social media intensifies this condition through social comparison and exposure to unrealistic standards of success (Vogel et al., 2014). Consequently, students may internalize unhealthy productivity behaviors at an early stage of personal and professional development.

Recent studies show that burnout among university students has significantly increased in recent years due to academic workloads, social pressure, and achievement demands (Abraham et al., 2024; Chong et al., 2025). This indicates that productivity pressure is no longer limited to organizational settings but has also become deeply rooted during the pre-employment phase, where students are positioned as future workforce members.

From an HRM perspective, this condition reflects an imbalance between demands and available resources, which is recognized as a major factor contributing to stress and burnout (Demerouti et al., 2001). If such productivity patterns continue to develop during the student phase, there is a possibility that maladaptive work behaviors will persist into future organizational environments. Therefore, toxic productivity among university students should not merely be viewed as an individual issue, but rather as a strategic concern in sustainable human resource development.

Distinction Between Toxic Productivity, Burnout, and Workaholism

Although toxic productivity is often discussed alongside burnout and workaholism, these constructs represent different psychological phenomena. Burnout is a psychological syndrome that develops as a prolonged response to chronic emotional and interpersonal stressors. It is characterized by three dimensions: emotional exhaustion, cynicism (or depersonalization), and reduced professional efficacy (Maslach et al., 2001). In contrast, according to Clark et al. (2020), workaholism is a multidimensional construct characterized by an inner compulsion to work, persistent work-related thoughts, negative emotions when not working, and a tendency to work excessively. Unlike burnout and workaholism, however, toxic productivity is an emerging concept that has yet to receive a universally accepted academic definition. It is generally described as an unhealthy drive to remain constantly productive despite physical or psychological limits (Sabrina et al., 2025).

While burnout commonly emerges as an outcome (Maslach et al., 2001) and workaholism reflects a behavioral pattern (Clark et al., 2020), the definition adopted in this study conceptualizes toxic productivity as a cognitive and motivational orientation that may precede or contribute to both burnout and workaholism. Recognizing these conceptual distinctions is important because higher education is a

formative period during which students develop career values, professional identities, and work-related attitudes that shape their future workplace behaviors (Jackson & Tomlinson, 2019). Consequently, students may exhibit toxic productivity long before entering the workforce, highlighting the importance of examining these beliefs during university education. From an HRM perspective, examining toxic productivity among university students extends existing research beyond employee well-being by focusing on the early development of work-related attitudes and behaviors. Understanding how these beliefs emerge during higher education provides insight into preventive strategies that educational institutions and future employers can adopt to promote healthier, more sustainable work practices before students transition into professional careers.

Toxic Productivity Among University Students as Future Workforce

Although studies discussing burnout and well-being within HRM have expanded considerably, research specifically examining toxic productivity as a distinct phenomenon remains relatively limited. Existing studies mainly focus on work demands, stress, and burnout without deeply exploring the excessive drive to remain constantly productive as an independent form of dysfunctional behavior (Bakker & Demerouti, 2017; Maslach & Leiter, 2016).

In addition, most empirical studies continue to focus primarily on employees and workers, while limited attention has been given to university students as future workforce actors. This is particularly important because the student phase represents a critical period in the formation of values, attitudes, and work behavior patterns that may persist into professional life (Safitri *et al.*, 2025; Abraham *et al.*, 2024).

Furthermore, previous research on toxic productivity is largely conceptual and literature-based, resulting in limited understanding of individuals' subjective experiences in dealing with productivity pressure (Fredlina, 2025). Existing studies also tend to separate educational and workplace contexts, thereby overlooking how productivity norms formed during education may evolve into future workplace behavior.

Based on these gaps, this study aims to analyze the phenomenon of toxic productivity among university students and identify the psychological and social dynamics underlying the experience from a Human Resource Management perspective. This study is expected to contribute to the broader discussion regarding sustainable workforce development and the importance of well-being-oriented approaches within educational institutions.

MATERIALS AND METHODS

Materials

This study involved 15 university students selected through purposive sampling based on their experiences related to academic pressure and productivity demands. The participants consisted of both fulltime students and working students, allowing for diverse perspectives on toxic productivity. Variations in gender, age, and academic level were considered to obtain a more comprehensive understanding of the phenomenon. The summary of participants' characteristics is presented in **Table 1**.

Table 1. Characteristics of participants

Variables	Category	Frequency (n)
Gender	Male	7
	Female	8
Age	19-20 y.o	6
	21-23 y.o	9
Semester	2-4	7
	6-8	8

Variables	Category	Frequency (n)
Status	Student	9
	Working student	6

*Source: Processed by the researchers (2026)

Methods

This study employed a qualitative research design with a phenomenological approach to explore students' lived experiences related to toxic productivity. A qualitative approach was considered appropriate as it enables an in-depth understanding of individuals' perceptions, meanings, and subjective experiences in dealing with complex psychological and social phenomena (Creswell & Poth, 2018).



Figure 1. Thematic analysis process

Data were collected through semi-structured interviews, allowing participants to freely express their experiences while maintaining alignment with the research objectives. The interview guide covered key aspects such as perceptions of productivity, academic pressure, emotional and psychological responses, and coping strategies. Each interview lasted approximately 30 to 60 minutes and was conducted either face-to-face or online. All interviews were recorded with participants' consent and transcribed verbatim to ensure data accuracy.

The data were analyzed using thematic analysis following Braun & Clarke (2006), which provides a systematic yet flexible approach to identifying patterns and themes within qualitative data. The analysis process involved several stages, including data familiarization, initial coding, theme development, and interpretation. The overall process of data analysis is illustrated in **Figure 1**.

To ensure the trustworthiness of the findings, several strategies were applied, including maintaining consistency in data collection procedures and documenting the analysis process to enhance transparency and credibility (Lincoln & Guba, 1985).

RESULTS

Overview of Thematic Findings

Based on the data analysis conducted using a thematic analysis approach, this study successfully identified key patterns representing students' experiences facing the phenomenon of toxic productivity. The analysis process was conducted systematically through stages of data familiarization, initial coding, grouping codes into categories, and developing key themes that reflected the deeper meaning of participants' experiences.

The analysis results indicate that toxic productivity is not only defined as excessive work behavior but also as a psychological construct internalized within students. This phenomenon is formed through the interaction of internal factors, such as self-perception and the need for achievement, and external factors, such as academic pressure and social influences.

Furthermore, the findings of this study reveal that students' experiences with toxic productivity are complex and multidimensional, encompassing cognitive, emotional, and behavioral aspects. This is evident in how students interpret productivity as a value, feel ongoing pressure, and experience negative impacts on their psychological well-being. Overall, the data analysis yielded four main themes along with several interrelated subthemes that explain the phenomenon studied. A summary of the thematic analysis results is presented systematically in **Table 2**.

Theoretically, these findings are consistent with the Job Demands-Resources (JD-R) theory, which states that an imbalance between demands and resources can trigger burnout and reduce individual well-being (Bakker & Demerouti, 2017). Furthermore, these results support Maslach & Leiter's (2016) findings that excessive work demands without adequate support can trigger emotional exhaustion.

Detailed thematic analysis

Internalization of Productivity as Self-Worth

Findings show that students perceive productivity as a measure of self-worth. Productivity is an indicator of personal success that influences self-perception. Several informants stated:

"If I'm not productive for even a day, I feel like a failure." (P3)

"If I don't do anything, I feel useless." (P9)

"I always have to have something to do to feel meaningful." (P1)

These findings align with previous literature showing that individuals often associate productivity with self-esteem and self-perception (Maslach & Leiter, 2016; Chong et al., 2025). Furthermore, Sonnentag (2018) emphasized that internal pressure can lead to emotional stress when individuals fail to meet their own productivity standards.

Academic and Social Pressure

Students face academic pressures in the form of assignments, deadlines, and high expectations. Social pressures also arise through social media and comparisons with peers. Several informants stated:

"There are so many assignments, so you have no choice but to be productive." (P6)

"The piling deadlines make it impossible to relax." (P11)

"Seeing friends post their achievements makes me feel like I have to be productive too." (P7)

"Seeing other people succeed makes me feel left behind." (P2)

This phenomenon is consistent with the JD-R theory, which suggests that excessive demands with limited resources increase psychological stress (Bakker & Demerouti, 2017). Furthermore, Abraham et al. (2024) emphasized that students, as future workforce members, experience academic pressure that can trigger stress and burnout.

Table 2. Themes, subthemes and example quotes

Themes	Subthemes	Description	Example Quotes	Theory/References
Internalization Of Productivity as Self-Worth	Productivity as self worth	Productivity as an indicator of self-esteem	<i>"If you're not productive, it feels like a failure."</i> (P3)	JD-R; Bakker & Demerouti (2017)
	Unproductive fear	Guilt arises	<i>"If I just stay silent, I feel useless."</i> (P9)	Maslach & Leiter (2016)

Themes	Subthemes	Description	Example Quotes	Theory/References
Academic and Social Pressure	Academic pressure	High workload	<i>"Deadlines keep piling up." (P11)</i>	JD-R; Bakker & Demerouti (2017)
	Social comparison	The influence of social media	<i>"Fear of being left behind by friends." (P7)</i>	Vogel et al. (2014)
Emotional Exhaustion and Loss of Well-Being	Emotional exhaustion	Burnout and fatigue	<i>"Tired but still forced to work." (P10)</i>	Maslach & Leiter (2016)
	Decreased motivation	Loss of enthusiasm	<i>"I'm not motivated anymore." (P4)</i>	JD-R; Demerouti et al. (2001)
Ambivalent Coping Strategies	Striving for Balance	Trying to Manage Time	<i>"Trying to rest but thinking about assignments." (P12)</i>	Sonnentag (2018)
	Feeling guilty when resting	Unable to relax	<i>"I feel guilty when I rest." (P5)</i>	Maslach & Leiter (2016)

Sources: Processed by the researchers (2026)

Emotional Exhaustion and Loss of Well-Being

The impact of toxic productivity is seen in emotional exhaustion and decreased motivation. Several informants revealed:

- "I'm really tired, but I still force myself to work." (P10)*
- "Over time, I become burned out and lose enthusiasm." (P4)*
- "I often feel tired all the time, even when I wake up." (P13)*

These results are consistent with the literature stating that excessive pressure on productivity is correlated with burnout and decreased mental well-being (Maslach & Leiter, 2016; Demerouti et al., 2001)

Ambivalent Coping Strategies

Students try to manage their time and take breaks, but internalizing productivity makes them feel guilty when they're not productive. Several informants stated:

- "Sometimes I try to rest, but I end up thinking about assignments." (P12)*
- "When I rest, I feel guilty." (P5)*
- "I try to manage my time, but I still end up thinking about work." (P8)*

This finding supports the concept of the recovery paradox explained by Sonnentag (2018) and research by Safitri et al. (2025) that individual recovery efforts often fail due to strong internal pressures.

DISCUSSION

The findings of this study provide a more nuanced understanding of toxic productivity by positioning it not merely as excessive behavioral engagement, but as a deeply internalized psychological and socio-cultural construct. The findings of this study suggest that the participants experienced toxic productivity through the interplay of identity formation, academic demands, and digitally mediated social comparison (Bakker & Demerouti, 2017; Fredlina, 2025).

First, the internalization of productivity as self-worth reflects a deeper identity-based mechanism that extends beyond the traditional assumptions of the JD-R model. While JD-R theory explains how excessive demands and insufficient resources lead to strain and burnout (Bakker & Demerouti, 2017), this study suggests that students internalize productivity as a moral obligation. This finding is consistent with recent research indicating that persistent academic pressure contributes to emotional exhaustion and reduced psychological well-being among students (Chong *et al.*, 2025).

Second, this study expands the conceptualization of toxic productivity by highlighting the role of digitally mediated social comparison. Social media exposure creates continuous visibility of peer achievement, which reinforces unrealistic productivity standards (Vogel *et al.*, 2014). Recent studies also show that social media use is associated with burnout and psychological distress, particularly when individuals engage in upward social comparison (Du & Wang, 2024; Fang *et al.*, 2024). The present findings suggest that digital environments may amplify internal pressure by reinforcing social comparison and productivity norms among participants, consistent with previous research.

Third, the identification of emotional exhaustion and reduced well-being confirms that toxic productivity operates as a maladaptive coping mechanism rather than a sustainable performance strategy. Prior research demonstrates that prolonged exposure to performance pressure is strongly associated with burnout, stress, and decreased engagement (Chong *et al.*, 2025; de Oliveira *et al.*, 2023). This study reinforces the paradox that excessive productivity ultimately undermines long-term performance sustainability (Maslach & Leiter, 2016).

Furthermore, the emergence of ambivalent coping strategies highlights the complexity of students' psychological responses. While students attempt to rest, they remain cognitively preoccupied with productivity demands. This aligns with the recovery paradox, where individuals struggle to disengage despite recognizing the need for rest (Sonnentag, 2018). Recent findings also suggest that coping strategies play a mediating role in psychological distress related to digital overload (Shiraly *et al.*, 2024).

From an HRM perspective, these findings suggest that toxic productivity may begin to develop during the pre-employment phase and may persist into professional life. Students who internalize productivity as identity may be at greater risk of carrying these beliefs and behaviors into future organizational settings (Abraham *et al.*, 2024; Schaufeli *et al.*, 2002), although longitudinal research is needed to examine this transition. Moreover, this study positions toxic productivity as a systemic phenomenon shaped by academic culture and digital environments, rather than merely an individual issue (Sukmana *et al.*, 2025). Taken together, the findings suggest that toxic productivity is better understood as a phenomenon shaped by both individual experiences and broader structural influences, indicating that interventions may need to address not only individual coping strategies but also academic and digital environments.

Beyond the individual and academic dimensions, the findings of this study also highlight the relevance of toxic productivity within the broader framework of self-determination and motivation. From the perspective of Self-Determination Theory (SDT), individuals require autonomy, competence, and relatedness to maintain psychological well-being. However, the internalization of productivity as a moral obligation may distort these needs, particularly autonomy, as students feel compelled to remain productive not out of intrinsic motivation but due to internalized pressure. Recent studies indicate that controlled

motivation— driven by external expectations and internalized pressure—is strongly associated with stress and burnout, rather than sustainable engagement (Chong et al., 2025; Du & Wang, 2024).

These findings may be interpreted as reflecting a shift from intrinsic toward more controlled forms of motivation, which previous research has associated with poorer psychological well-being. In addition, the findings can also be interpreted through the lens of cognitive overload and attention fragmentation. Participants' descriptions of persistent thoughts about academic responsibilities and difficulty disengaging from productivity demands are consistent with the concept of sustained cognitive activation discussed in previous literature. Participants' experiences suggest that continuous exposure to academic tasks and social media may contribute to persistent cognitive activation, making it more difficult to achieve mental recovery. Empirical research shows that digital overload significantly contributes to reduced concentration, increased fatigue, and lower academic performance (Duan et al., 2025). In this context, toxic productivity may be understood not only as a behavioral issue but also as involving cognitive processes, where difficulty disengaging mentally from productivity demands may contribute to sustained stress. These findings offer a possible interpretation that cognitive resource depletion may complement existing explanations focused on emotional exhaustion, although this mechanism warrants further investigation.

Furthermore, this study provides important implications for institutional practices in higher education. The normalization of excessive productivity suggests that universities may unintentionally reinforce unhealthy performance standards through curriculum design, assessment systems, and competitive academic cultures. Recent literature emphasizes that institutional pressure and performance-oriented evaluation systems can significantly increase student stress and burnout levels (Abraham et al., 2024). Therefore, addressing toxic productivity may require not only individual-level interventions but also structural changes, such as redesigning workload distribution, promoting flexible learning environments, and integrating well-being-oriented policies within academic systems.

Another important dimension emerging from this study is the role of socio-cultural expectations in shaping productivity norms. In many contexts, particularly among younger generations, productivity is closely associated with success, self-worth, and future career readiness. This cultural narrative is reinforced by digital platforms that glorify constant achievement and busyness. Recent studies suggest that fear of missing out (FOMO) and perceived social pressure significantly mediate the relationship between social comparison and psychological distress (Shiraly et al., 2024). This indicates that toxic productivity may be influenced not only by personal ambition but also by culturally constructed expectations of success. As such, interventions should also address these socio-cultural narratives by promoting alternative definitions of success that prioritize well-being and balance.

Finally, this study opens new avenues for future research by highlighting the need to integrate psychological, technological, and organizational perspectives in understanding toxic productivity. Future studies could explore the role of algorithmic exposure, digital habits, and personality traits in shaping productivity behaviors. Additionally, longitudinal research is needed to examine how toxic productivity evolves from the student phase into professional life, particularly in high-demand industries. Such research would contribute to a more comprehensive understanding of how early productivity patterns influence long-term career trajectories and organizational well-being.

CONCLUSION

Taken together, the findings reframe toxic productivity as a phenomenon that emerges during the formative stage of work behavior, rather than as a mere response to academic demands. Viewing students as future workforce actors reveals how productivity norms are constructed and internalized prior to entering organizational contexts, shaping long-term orientations toward performance and well-being.

Within the scope of HRM, this insight shifts attention from reactive approaches in managing burnout to more preventive strategies that address its early development. Such a perspective highlights the

strategic role of higher education institutions in cultivating sustainable work values alongside academic achievement. In terms of scholarly contribution, the study broadens existing discussions on work stress and productivity by incorporating identity formation and socio-digital influences as integral components. This integrative perspective offers a more comprehensive understanding of how productivity expectations evolve across contexts.

Addressing this issue, therefore, requires moving beyond individual-level adjustment and toward systemic transformation in how productivity is defined, valued, and sustained across the transition from education to work.

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