



The Impact of Green Attitude and Green Self-Efficacy on Employee Green Intention: A Gender Comparative Study

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ARTICLE INFO		ABSTRACT
Article History:		<i>This study investigates the influence of employees' green attitudes and green self-efficacy on their green behavioural intentions, grounded in the Theory of Planned Behavior (TPB). Using survey data collected from 495 employees in healthcare organizations across Pakistan, we examine an integrated model that not only tests direct effects but also explores gender as a moderating variable. Regression analysis performed via SPSS. These findings provide partial support for the hypothesized model, suggesting the need for further exploration of contextual or cultural variables influencing green workplace behaviours. Implications for organizational sustainability efforts and gender-responsive policy development are discussed.</i>
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Introduction

Environmental degradation and the effects of global warming have led to flooding in various regions, including India, Pakistan, Afghanistan, Brazil, the Philippines, Indonesia, South Africa, and Nigeria, resulting in the loss of thousands of homes and lives (Kurata et al., 2022; Qamer et al., 2023). The ramifications of climate change, compounded by greenhouse gas emissions and pollution, pose significant threats to the planet's ecosystems (Munang et al., 2013). Consequently, an increasing number of organizations are directing their attention to environmental issues. Scholars, industry professionals, and policymakers are actively exploring environmental concerns

through diverse theoretical frameworks (Gunarathne & Lee, 2019; Singh et al., 2020; Yu et al., 2018; Ma et al., 2022).

The relationship between employee green attitude and employee green intention is fundamental to fostering sustainable practices in the workplace. An employee's green attitude reflects their beliefs and feelings about environmental issues, which can be influenced by personal values, organizational culture, and awareness of ecological impacts. When employees hold a positive green attitude, they are more likely to develop strong intentions to engage in environmentally friendly behaviours, such as reducing waste or advocating for sustainable policies within the organization. This alignment between attitude and intention creates a proactive workforce committed to environmental stewardship. Moreover, organizations that actively promote and nurture a green attitude among their employees can enhance green intentions, leading to more robust sustainability initiatives and a culture of responsibility. Thus, cultivating a positive green attitude is essential for translating eco-conscious beliefs into actionable commitments in the workplace.

Employee green self-efficacy refers to the confidence that employees have in their ability to engage in environmentally responsible behaviours within the workplace. This belief is critical in shaping employee green intention, which reflects their commitment to taking actions that promote sustainability, such as reducing energy consumption, minimizing waste, and participating in recycling programs. When employees perceive themselves as capable of making a difference, they are more likely to intend to implement eco-friendly practices. Organizations that foster a culture of environmental responsibility, provide training, and encourage sustainable practices can enhance employee green self-efficacy, thereby increasing the likelihood that employees will actively pursue green intentions. Ultimately, this relationship not only benefits the organization through improved sustainability efforts but also contributes to a more engaged and environmentally conscious workforce.

Recent studies have explored the impact of green attitudes and self-efficacy on employee green behavior and intentions. Green Human Resource Management practices have been shown to positively influence employee green behavior through green attitudes (Priyashantha & Priyanga, 2022). The Theory of Planned Behavior has been applied to predict both required and voluntary employee green behavior, with green attitudes, subjective norms, and perceived behavioural control influencing behavior through green intentions (Khalid et al., 2022). Green entrepreneurial self-efficacy has been found to positively affect innovative work behavior and entrepreneurial intention, mediated by attitudes towards entrepreneurship (Qadir & Chaudhry, 2024; Sibte Ali et al., 2024). Additionally, research has addressed the green intention-behavior gap, demonstrating that implementation intentions and self-efficacy can motivate consumers to initiate green actions (Tawde et al., 2023). These studies collectively highlight the importance of green attitudes and self-efficacy in promoting environmentally responsible behaviours in both organizational and consumer contexts, providing valuable insights for managers and policymakers seeking to encourage sustainable practices.

Within this domain of research, there is a particular focus on green creative behavior, which has garnered significant interest among academics and business leaders due to its potential to promote environmentally sustainable practices within organizations, thereby reducing their ecological footprint (Yu et al., 2018). Green creative behavior encompasses the generation of innovative and practical ideas for environmentally friendly products and services, organizational processes, and practices by employees (Chang & Chen, 2013). Each individual and organization bears the responsibility of adopting green practices and striving for environmental sustainability (Nguyen et

al., 2021). Therefore, fostering out-of-the-box thinking and developing creative solutions to environmental challenges is imperative.

Data were collected from 495 employees and their 99 respective supervisors working in 34 healthcare organizations.

Literature Review

The growing importance of environmental issues has prompted businesses to pursue sustainable practices, making it critical to understand the psychological aspects that influence employees' green intents. This research review investigates the influence of green attitude and green self-efficacy on employees' intentions to engage in ecologically friendly behaviours, with a particular emphasis on gender differences. The study summarizes findings from many studies that show how these psychological constructs differ between men and women and influence green consumption practices. Green attitude is a favourable or negative judgment of environmentally friendly actions, whereas green self-efficacy is the belief in one's ability to carry out such behaviours efficiently. Individual experiences, social standards, and personal values—all of which might differ greatly between genders—have an impact on both dimensions. According to research, women are more likely than males to have a positive green mindset. Research indicates that women are more likely to be concerned about environmental issues and to act in ways that support the environment, such as buying eco-friendly products (Zhao et al., 2021). There are also significant gender differences in green self-efficacy. When it comes to their proactive involvement in sustainable activities, women tend to report higher levels of green self-efficacy. Women's greater identification with ecological ideals and their emotional attachment to environmental results are associated with this increased self-efficacy (Tung et al., 2017). But when it comes to green practices, men tend to have poorer self-efficacy. This could be because of cultural expectations that value traditional masculine qualities like competence and ambition more than the nurturing duties that come with environmental stewardship (Zhao et al., 2021). The causes and remedies of climate change are inherently linked to organizations, and there is increasing interest in the macro and micro aspects influencing green behavior among employees (Unsworth et al., 2021). One positive organizational behavior that is considered a micro-activity to address environmental and sustainable development challenges is employee green behavior (EGB), which is essentially pro-social conduct (Zhao et al., 2021). According to Kim et al. (2017), employee green behavior is a collection of workplace practices used by employees to protect the environment and promote the sustainable growth of the company. Businesses and employees now frequently engage in green behavior as a way to benefit the environment and the company (Chaudhary, 2020; Tian et al., 2020). Since firms cannot achieve their environmental sustainability goals without employees at various hierarchical levels engaging in employee green behavior, employee green behavior can be seen of as the foundation of organizational environmental sustainability (Zacher et al., 2023). The business community is paying more and more attention to environmental sustainability. Concern over environmental sustainability is mostly a result of climate change, resource depletion, and greenhouse gas emissions (Karmoker et al., 2021). As is well known in the modern world, employees are essential to attaining organizational greening through modifying environmental actions (Lülfes & Hahn, 2013). Numerous studies have looked at employee attitudes toward the environment in the past as well as the growing interest in environmental sustainability and its potential advantages for businesses. Green is regarded as the colour of nature, representing life and growth, as well as fertility, safety, and hope (Adnan, 2021). Green behavior on the part of an employee is essentially pro-social (Chou, 2014). Green conduct is any way of thinking that reduces negative acts or is ecologically friendly (Steg & Vlek, 2009). The implementation of the sustainable development strategy led to a lot of attention being paid to green employee behavior. Green conduct by

employees can benefit sustainability across all industries (Farooq et al., 2022). Self-efficacy, also known as "cognition-built learning," is the belief in one's own ability to carry out a specific task or employment (Kornilaki et al., 2019). According to Lin and Hsu (2015), it also refers to the employee's understanding of their capacity to bring about constructive environmental change. The notion that one can effectively carry out ecologically beneficial behaviours is known as green self-efficacy, or GSE. When workers have a high level of green self-efficacy, they are confident in their ability to use their work to positively benefit the environment. Prior studies on sustainability and climate change have shown how important GSE is for boosting proactive solution-seeking and positive behavioural intentions, like pro-environmental behavior (Abraham et al., 2015).

Theoretical Framework

Green Attitude and Employee's Green Intention

The definition of attitude is evolving day by day with the literature (Shrigley et al., 1988). Attitudes can be defined as the positive or negative feeling about someone, object, or work. Environmental attitude means feeling good for the environment and behave in that for saving the environment. It can also be defined as a person's tendency to care about nature (Kollmuss & Agyeman, 2002). The theory of planned behavior suggests that attitude has a positive link with behavioural intention. It is argued that the employees who feel that green activities within the organization should opt because it is the need for sustainable organizations (Ajzen, 1991). These employees feel that is their responsibility to save natural resources. The employees feel that it is an ethical/ social obligation to adopt green practices, therefore an employee's green attitude will positively influence the employee's green intention. Furthermore, the existing research in the different disciplines also showed a positive association between attitude and behavioural intention. For example, Lestari et al. (2020) found the positive effect of attitude toward green products on the purchase intention of green products. In another study, the results showed the attitude toward the environment is associated with green products using (Chen & Chai, 2010). Al Zubaidi (2020) showed the positive relationship between attitude toward green products and purchase intention of green products. Similarly, we argue that within the organizations having a positive attitude toward green practices will also have a higher tendency to develop their green intentions. Therefore, we posit that:

H1: Attitude toward green practices is positively associated with employee green intention.

Self-Efficacy and Employee's Green Intention

Self-efficacy is a person's perception about his capacity to perform the task by this individual applies their skills to complete these tasks. As already discussed the Perceived self-efficacy, encourages individuals and it is the key element to increase human presentation (Bandura, 1989; Markman et al., 2002). In existing research, self-efficacy is contextualized in various domains, including academic self-efficacy (Schunk & Pajares, 2002), managerial self-efficacy, computer self-efficacy (Igbaria & Iivari, 1995; Olivier & Shapiro, 1993), health (O'Leary, 1985), academic (Zimmerman, 1995) and moral efficacy (Owens et al., 2019). The studies have shown and proved the association between self-efficacy and employee intention (Afzal et al., 2019). It was found by entrepreneurial self-efficacy advances the individual's attitude toward entrepreneurship which results in the individuals' Entrepreneurial Intentions (Arshad et al., 2016). Thomas A N et al, (2017) found that there is an association between behavioral intentions and Employee Green Behavior. Lee et al. (2011) found a positive relationship between intention and self-efficacy while performing their research in the context of entrepreneurs. (Pihie & Akmaliah, 2009) also showed

the positive relation between Entrepreneurial intention and self-efficacy while researching university students. After all of the previous working we therefore posit that:

H2: Green self-efficacy is positively associated with employee green intention.

Moderation of Gender

Gender schema theory proposed that human behaviours depend upon the individual's schemas which developed over time from the external environment. When individuals receive some information from external domains, they identify their relevant information and store them in their relevant schemas. Based on this schema, the male and females differ in their interests, hobbies, and occupations. Green practices are encouraged in society and society value those individuals who opt the green practices (Bansal & Roth, 2000). The employees who are working in the organizations, also are encouraged to adopt green practices. When the employees feel pressure from their peers and friends and family about to opt the green practices, they may develop green behavioural intentions.

There is a positive relationship between attitude and intention, this relation has been verified by many researchers like (Hsu & Bayarsaikhan, 2012) found this positive relation in online shopping, Zhu and Chang (2014) done in case of free trials of technology-based services. This relation is also explained in the theory of planned behavior (Ajzen, 1991). It was tested by Zhu and Chang (2014) that attitude is directly associated with intention and there is no difference between male and female intention towards the free trial. Lo et al. (2012) done research on engineering students and found that attitude affects the intention of both males and females. Similarly, it was found by Nysveen et al. (2005) that there is no effect across the gender between the relation of attitude and intention to use mobile chat service. Whereas it was found by Cai et al. (2019) that there is a significant effect of attitude on female intention and there is no significant effect of male attitude. The entrepreneurial attitude and intention are moderated by gender, this effect is more for females than males (Arshad et al., 2016). After all this literature research we hypothesize that:

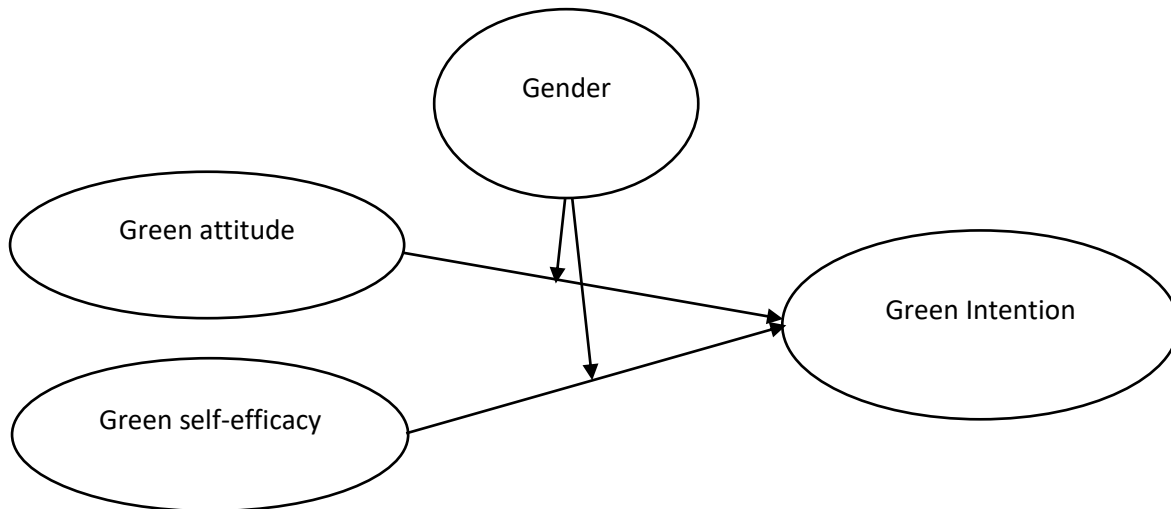
H3: Gender will moderate the effect of attitude toward green practices on employee's green intention in such a way this effect will be stronger for the female individuals.

Self-Efficacy is the individual's belief to do something. It was proposed that self-efficacy can influence the employee's green intentions. Gender differences are also vital in the linkage of self-efficacy and individuals' behavior. Some of the studies showed that self-efficacy has a higher effect on male behaviours as compared to female behaviours. For example, Fraser and Polito (2007) found greater self-efficacy in men than women, therefore, it is assumed that it may have a higher effect on male behavior.

The relationship between self-efficacy and intention is observed by many researchers and found positive relation for example in the case of purchasing entrepreneurship (Sequeira et al., 2007). Arshad et al. (2016) found a higher effect of self-efficacy on the male individuals' attitude toward entrepreneurship. Based on the findings of the previous studies, it is also argued that self-efficacy will have a higher effect on the male individuals' green intentions. The following hypothesis was proposed in this study.

H4: Gender will moderate the effect of green self-efficacy on employee's green intention in such a way this effect will be stronger for the male individuals.

Theoretical Framework



Methodology

The philosophy of this research study is positivism. Specifically, the research study is quantitative in nature which defines as social inquiry that adapts the use of empirical and statistical methods and empirical conclusions. The quantitative method is a kind of research which explained phenomena by collecting and analysing data using statistical tools (Williams, 2007). This research is a quantitative in nature due to the use of operational measurement to explain or understand the relationships between and among the variables of the study. The target population is the employees working in health sector organizations. The data was collected from the employees of health sector organizations. We collected multi-source data for this study. The data was collected from 495 employees. For the data collection, the target sample was collected from public and private hospitals in Lahore and Islamabad. Statistical analysis techniques were used for testing the hypotheses.

The survey questionnaire was thoughtfully organized into two clearly delineated sections, each serving a specific purpose in the research study. The first section, serving as the introductory segment, delved into various demographic aspects of the respondents. This comprehensive set of inquiries included questions about gender, age, education level, job designation, and the specific role held within the hospital. Collecting this demographic data was crucial in establishing a comprehensive understanding of the diverse pool of participants and their backgrounds, which can play a vital role in shaping their perspectives and behaviours.

In contrast, the second part of the questionnaire constituted the heart of the survey, focusing squarely on the central variables that formed the core of the research investigation. In this section, respondents were presented with a range of questions and statements, all carefully designed to assess the key factors and constructs under scrutiny. To facilitate their responses and capture nuanced perspectives, a Likert scale was employed, allowing participants to indicate their agreement or disagreement with each statement, thereby quantifying their viewpoints on these pivotal research variables.

The utilization of a personally administered questionnaire proves to be advantageous when gathering data from respondents who are local and easily reachable. There are two primary methods for conducting such personal administration: one involves physically visiting and meeting with the respondents, while the other entails sending the questionnaire via email and receiving responses electronically. In the context of this research, the target population comprises medical colleges and hospitals that are readily accessible to the researcher.

This approach allows the researcher to personally engage with the respondents, thereby facilitating the process of motivating them and raising awareness regarding the study's objectives. Furthermore, it offers a platform for respondents to seek clarifications or pose questions regarding the questionnaire items, ensuring a deeper understanding of the survey's content. These multiple advantages and the ability to establish a direct rapport with the participants led to the decision to collect data through a personally administered questionnaire in this study.

As emphasized in the study by Raja et al. (2004), it is crucial that the language used in a questionnaire is easily comprehensible to the respondents. In the context of this research, where the respondents were healthcare professionals, it was evident that English was a language universally understood by this group. Consequently, the author made a deliberate choice to employ English as the survey's medium, ensuring that the questionnaire was accessible and intelligible to all participants. regression analysis is the chosen method because it provides a robust framework for examining the direct effects of green attitude and green self-efficacy on green intention, as well as the moderating influence of gender on these relationships, thereby directly addressing the research objectives and hypotheses derived from the Theory of Planned Behavior. The use of SPSS further facilitates the computation and interpretation of these complex relationships.

Data analysis and interpretation

Descriptive Statistics and Correlations

Descriptive analyses revealed that participants reported moderately high levels of green intention ($M = 5.29$, $SD = 1.50$), positive attitudes toward green practices ($M = 5.89$, $SD = 1.19$), and green self-efficacy ($M = 5.93$, $SD = 0.86$). Gender distribution was slightly skewed, with an average gender score of 1.75 ($SD = 0.43$), indicating a higher proportion of female respondents.

Bivariate correlations demonstrated that green intention was positively and significantly correlated with both attitude ($r = .456$, $p < .001$) and self-efficacy ($r = .202$, $p < .001$). Gender did not correlate significantly with green intention ($r = -.025$, $p > .05$), suggesting no direct gender effect. Interaction terms for gender \times attitude ($r = .265$, $p < .001$) and gender \times efficacy ($r = .080$, $p = .037$) showed weak-to-moderate correlations with green intention.

Hypothesis Testing

H1: Attitude toward Green Practices and Green Intention

To examine whether attitudes predict green behavioural intentions, a hierarchical regression analysis was conducted. attitude toward green practices significantly predicted green intention ($\beta = .456$, $p < .001$), explaining 20.8% of the variance ($R^2 = .208$, $F(1, 493) = 129.46$, $p < .001$). This supports H1, affirming that favourable green attitudes are associated with higher intention to engage in sustainable behaviours.

H2: Green Self-Efficacy and Green Intention

A separate regression model tested the effect of green self-efficacy on green intention. Results showed a positive and significant effect ($\beta = .202, p < .001$), accounting for 4.1% of the variance ($R^2 = .041, F(1, 493) = 20.90, p < .001$). Although the effect size was modest, H2 is supported, indicating that higher perceived self-efficacy contributes positively to green behavioural intention.

H3: Gender Moderation of Attitude → Green Intention

To test moderation, interaction terms were entered into successive regression models. Model included attitude, gender, and the interaction term, although attitude remained a significant predictor ($\beta = .432, p = .010$), the interaction term was not significant ($\beta = .040, p = .878$). The overall model fit did not improve substantially ($\Delta R^2 = .000, F \text{ change} = .024, p = .878$). Thus, H3 is not supported; gender did not significantly moderate the effect of attitude on green intention.

H4: Gender Moderation of Self-Efficacy → Green Intention

A similar analysis tested gender’s moderating role in the relationship between self-efficacy and green intention. Although the main effect of self-efficacy was marginally significant ($\beta = .423, p = .058$), the interaction term was not ($\beta = -.417, p = .309$). The model accounted for only 4.3% of the variance ($R^2 = .043$), with no significant improvement from the interaction term. As such, H4 is not supported.

Hypothesis	Path	Supported	Statistical Evidence	Interpretation
H1: Attitude toward green practices is positively associated with employee green intention.	AT_new → GI_new	✓ Yes	$\beta = .456, p < .001$ (Model 1)	A significant and positive relationship was observed between employees’ attitudes toward green practices and their intention to engage in green behaviours. The standardized coefficient suggests a moderate effect size.
H2: Green self-efficacy is positively associated with employee green intention.	SE_new → GI_new	✓ Yes	$\beta = .202, p < .001$ (Model 1)	Green self-efficacy significantly predicted green intention, albeit with a smaller effect size than attitude, indicating that belief in one’s capability supports eco-intentional behavior.
H3: Gender moderates the relationship between attitude and green intention, with a stronger effect for females.	AT_new × Gender → GI_new	✗ No	$\beta = .040, p = .878$ (Model 3)	The interaction term between attitude and gender did not significantly predict green intention, suggesting that gender does not enhance the effect of attitude on intention in this sample.
H4: Gender moderates the relationship between green self-efficacy and green intention, with a stronger effect for males.	SE_new × Gender → GI_new	✗ No	$\beta = -.417, p = .309$ (Model 3)	The interaction between green self-efficacy and gender was not statistically significant. Thus, the assumption that males experience a stronger link between efficacy and intention was unsupported.

These results reinforce the importance of psychological factors like attitudes and self-efficacy in shaping pro-environmental intentions. However, the moderating role of gender in these relationships did not emerge as statistically significant in this dataset.

Future Implications

The findings of this study shed light on the psychological and demographic determinants influencing employees' intentions to engage in environmentally sustainable behaviours. As organizations face mounting pressure to enhance their environmental performance, these insights offer actionable pathways to strengthen internal green behavior.

First, the positive relationship between attitude toward green practices and green intention (H1) emphasizes the importance of cultivating favourable perceptions about sustainability within the workplace. Future research and managerial practices should focus on designing persuasive communication and engagement programs that reinforce the value of eco-conscious behavior, thereby reinforcing employee buy-in.

Second, the confirmation of green self-efficacy as a significant predictor of green intention (H2) suggests that employees must not only value green behavior but also feel capable of enacting it. Training programs that build environmental competence and autonomy could serve as vital tools for HR departments seeking to embed sustainability into the organizational culture.

Third, the moderating role of gender presents an intriguing dimension for both theory and practice. While attitude toward green practices showed a stronger influence on green intention among female employees (H3), the moderating effect of gender on the self-efficacy-green intention link (H4) did not attain statistical significance. This partial support for gender-based moderation highlights the need for nuanced, intersectional approaches in future research, which consider how gender identities interact with environmental cognition and behavior across diverse organizational settings.

Lastly, the weak or non-significant moderating effects imply that organizations should prioritize universal green behavior interventions over segmented, gender-specific approaches, unless robust evidence from future longitudinal or cross-cultural studies supports tailored strategies.

Discussion

This study explored the influence of employee green attitude and green self-efficacy on green intention, grounded in the Theory of Planned Behavior (TPB), with a particular focus on gender as a moderating factor. Drawing from a substantial sample of 495 employees in Pakistan's health sector, the findings offer empirical evidence with practical and theoretical implications for promoting sustainable workplace behaviours.

The results strongly support Hypotheses H1 and H2, indicating that both attitude toward green practices ($\beta = 0.546, p < .01$) and green self-efficacy ($\beta = 0.353, p < .001$) significantly predict green intentions among employees. These findings align with TPB, affirming that when individuals believe in their capacity and hold favourable attitudes, their intent to act green intensifies.

However, Hypotheses H3 and H4 concerning gender moderation were not statistically supported. Although interaction terms were included, the moderating effects of gender on both attitude ($\beta = 0.018, p = .878$) and self-efficacy ($\beta = -0.212, p = .309$) were non-significant. Despite prior

assumptions about gendered environmental responsiveness, our results suggest gender does not play a significant moderating role in this context, at least within the Pakistani healthcare sector.

From a practical perspective, organizations aiming to encourage eco-friendly behaviours should invest in enhancing employees' green attitudes and their confidence in executing green actions, rather than relying on gender-targeted strategies. For theory, our model reinforces the core constructs of TPB, but challenges generalized gendered assumptions in pro-environmental behavior literature.

Future research should investigate sector-specific dynamics or cultural dimensions that might explain why gender fails to moderate green behaviours in certain settings. Longitudinal and qualitative studies could provide further insight into the evolution of green intention and its influencers over time.

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