

Machiavellianism in the Millennial Workforce: Unpacking the Relationships between Work Environment, Engagement, Innovation, and Turnover Intentions

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Abstract. This study investigates the relationships between work environment, innovative work behavior, and quitting intentions among millennial employees, with a particular focus on the moderating role of Machiavellianism and the mediating role of employee engagement. Data were collected through a survey of 379 millennial employees across various organizations in West Java, Indonesia. Structural Equation Modelling (SEM) analysis was employed to test the proposed hypotheses. The findings reveal that work environment positively influences employee engagement, which in turn promotes innovative work behavior and reduces intentions to quit. Moreover, Machiavellianism moderates the relationship between work environment and employee engagement, as well as the indirect relationships between work environment and innovative work behavior and quitting intentions through employee engagement. The study contributes to the literature by shedding light on the complex interplay between organizational factors, personality traits, and work-related outcomes among the millennial workforces. Practical implications for organizations include fostering supportive work environments, implementing strategies to enhance employee engagement, and considering the influence of Machiavellian traits in shaping work behaviors and intentions. Limitations and avenues for future research are also discussed.

Keywords: Work Environment, Machiavellianism, Employee Engagement, Innovative Work Behavior, Intention to Quit

1. Introduction

Millennials, being the largest and most diverse group of workers, are recognized for their high self-regard and belief in deserving special treatment (Laird et al., 2015). They possess a high level of skill in taking advantage of opportunities and effectively managing the demands of both their personal and professional lives (Kapoor & Solomon, 2011). According to Lancaster and Stillman (2010), millennials perceive themselves as valued resources and anticipate receiving particular care in the job. Although millennials are recognized as a significant driver of creativity and productivity (Hou, 2017), there is a lack of empirical research on this generation, resulting in ambiguous and occasionally contradictory information on their characteristics.

According to Twenge et al. (2010), several studies indicate that millennials place more importance on their job responsibilities than their personal life. Additionally, they are often subjected to unfavorable stereotypes, such as being seen as deficient in discipline, professionalism, and loyalty. The widespread adoption of technology has significantly impacted the millennial generation, yet it also poses a hindrance to their potential to innovate due to the brain's limited capacity to process several stimuli concurrently (Dux et al., 2006). Millennial employees often engage in “silent quitting,” which refers to their intention to leave their jobs due to a lack of meaningful interactions in the workplace and the desire to maintain a healthy work-life balance and mental well-being (Formica & Sfodera, 2022; Doğantekin et al., 2023; Moon et al., 2023; Porter & Steers, 1973). Millennials expect a work climate that promotes self-assurance and encourages creative thinking (Wong et al., 2008). While several studies indicate that the work environment has an impact on inventive behavior (Prieto & Pérez-Santana, 2014; Nöhammer & Stichlberger, 2019), other studies have found no substantial effect (Bogilović et al., 2021). This emphasizes the necessity for further research into the intricate characteristics of employee behavior and involvement inside the workplace.

Apart from that, the work environment is one factor that impacts the intention to quit (Qureshi et al., 2013). A positive impact was seen from the work environment on work results, such as the low intention to quit of millennial employees (Qadri et al., 2022). However, millennial employees are recognized as having a higher intention to quit because they usually have more flexibility regarding career choices and financial obligations (Lewis, 1991). Literature that offers guidance on supervising millennial workers at work has the premise that millennials are different from other generations, including values, work motivation, and failure to overcome differences that lead to workplace chaos, low job satisfaction, and even low productivity (Lancaster & Stillman, 2002; Meier & Hicklin, 2007; Smola & Sutton, 2002), which can influence career choices and intention to quit. Thus, this research examines innovative work behavior and intention to quit among millennial employees by offering employee engagement as mediation. Employee engagement is a key driver of high innovative work behavior and low intention to quit. Employee engagement is an effort to clarify the relationship between work environment with the innovative work behavior and the intention to quit.

Despite growing interest in dark personality traits in organizational behavior, the precise role of Machiavellianism as a moderating element in workplace dynamics has received little attention. Previous research has primarily focused on qualities like narcissism and psychopathy, creating a gap in our understanding of Machiavellianism's distinctive significance. While employee engagement is acknowledged as critical to organizational performance, its role as a mediator between personality traits and organizational outcomes has not been substantially examined. Few integrative models investigate both moderating and mediating variables in the context of workplace behavior. This gap inhibits our understanding of how intricate relationships between many factors affect employee outcomes.

According to Macey et al. (2009), employee engagement is important for modern companies involving the millennial generation. Conversely, high-performance work environments foster feelings of involvement that impact employee engagement, including the ability, incentive, independence, and methods of engaging. (Macey et al., 2009). From another perspective, not all employees react similarly

to the work environment. Millennials are more individualistic and unmotivated by the need for work connections (Twenge et al., 2012). As a result, a critical challenge facing millennials is mental health. Millennials tend to distrust institutions and other people and thus encourage proactive profit-making rather than waiting to become victims of manipulation (Twenge et al., 2014). Based on the dark triad meta-analysis, Machiavellianism, together with psychopathy and narcissism, are positive determinants of employee behavior toward their environment (O'Boyle et al., 2015). Machiavellianism prioritizes reaching individual objectives over accomplishing group objectives. (Harms & Spain, 2015). Machiavellian people are frequently mistrusting, heartless, crave power, and resort to calculated deception to achieve their goals (Wisse et al., 2015). In addition, Machiavellianism individuals develop more in their careers and have a greater opportunity to achieve a secure position in the company (Harms & Spain, 2015). This research argues that Machiavellist individuals tend to engage in certain practices to achieve career goals and accumulate leverage. Therefore, Machiavellianism employees utilize the work environment as an opportunity to advance. Besides that, performance theories are situationally based, such as the socio-technical system theory by Trist & Bamforth (1951). It states that unless the work environment is designed to encourage these efforts, human motivation and abilities cannot be completely expressed to achieve optimal performance. This notion is further supported by psychological research, which indicates that millennials exhibit higher degrees of consumerism, narcissism, and elevated expectations in comparison to previous generations. (Twenge & Kasser, 2013).

In order to achieve success, firms should prioritize attaining optimal performance rather than solely focusing on reducing employees' intent to resign. When examining the relationship between Machiavellianism and innovative work behavior, it is shown that Machiavellianism hurts innovative work behavior. This is evident when considering job outcomes such as high levels of inventive work behavior and low intention to leave (Wisse et al., 2015). However, this study experienced controversy, where evidence showed a positive relationship between Machiavellianism and innovative work behavior (Babiak et al., 2010). Therefore, employee engagement plays an important role in encouraging innovative work behavior and determining whether employees intend to quit their jobs, driven by the work environment, by considering the occurrence of Machiavellianism. Based on this phenomenon, the relationship between Machiavellianism, which reads the work environment and benefits from social interactions with work involvement to achieve innovative work behavior and reduce retention, and intention to quit has not been clearly explained.

This research complements the literature on the work environment, in which Machiavellianism influences employee engagement with the results of highly innovative work behavior and low intention to quit. This research combines various theories to explain the proposed theoretical framework to explain how employees high in Machiavellianism read the work environment and benefit from social interactions with work engagement to achieve innovative work behavior and reduce intention to quit.

2. Literature Review

2.1. Environment and Employee Engagement

The work environment plays an important role in implementing work and is an effort to attract new candidates to apply for positions that need to be filled. Previous research has proven that the work environment is a factor that determines the level of employee involvement in the company (Zhenjing et al., 2022). Study Anitha (2014) also stated that there is a significant relationship between work environment and employee engagement. Various aspects of the work environment can produce different levels of employee engagement (Harter et al., 2002; Rich et al., 2010). Employee engagement has been widely described as the physical, cognitive, and emotional connection between employees and the company (Bedarkar & Pandita, 2014). The ergonomics of the work environment, which influence employee engagement, has also been explained in the two-factor theory, and employee reactions to these conditions have been explained in the affective events theory. Therefore, companies must create an environment that can encourage engagement levels, where employees are absorbed by the work and are

motivated about outperforming other employees (Kaliannan & Adjovu, 2015).

Employees in the company will feel safe in a work environment with openness and support. A supportive environment allows employees to try new things and not even fear the consequences when they fail (Kahn, 1990). Popli & Rizvi (2016) state that one of the main factors influencing employee engagement is a meaningful work environment. The work environment is described by the dimensions of the work environment, namely relationships, personal growth, systems maintenance, and systems change (Insel & Moos, 1974). Thus, the research hypothesis formulated as:

H1: Work environment influences employee engagement

2.2. Employee Engagement, Innovative Work Behavior, and Intention to Quit

Employee engagement can provide businesses a competitive edge. The desire to meet goals and show a sense of job ownership are examples of employee engagement. Schaufeli & Bakker (2004) say that there are three components to employee engagement: (1) vigor, which is defined as work behavior that is psychologically resilient and persistent in the face of different challenges and problems; (2) dedication, which is an attitude of willingness, pride, inspiration, and challenge towards work; and (3) absorption, which is involvement, loyalty, and happiness in fulfilling responsibilities. These three aspects are closely related to the dimensions of employee engagement, namely vigor, dedication, and absorption (Schaufeli et al., 2006).

Employees will show innovative work behavior when their psychological state recognizes the meaning of work. Study Kim & Koo (2017) state that employee engagement positively influences innovative work behavior in qualitative and quantitative dimensions. Employee engagement with high enthusiasm, dedication, and absorption can support employee behavior to create innovative work with full dedication and will (Kwon & Kim, 2019). This in line with Hendrayati et al. (2024), that employees are involved in shaping company's culture changes which can encourage innovation, and focus on several qualities such as creativity, openness to exploring new ideas, opportunism, and the courage to take risks. Thus, will bring the organization to success. According to Messmann & Mulder (2020), dimensions of creative work behavior, including idea generation, idea promotion, idea realization, and opportunity investigation.

In addition, even though employee engagement is an important aspect for companies, studies on employee engagement are quite limited (Saks, 2006). Employee engagement has proven to be valuable in preventing the intention to quit, accordingly employee engagement negatively influences the intention to quit (Saks, 2006); (Schaufeli & Bakker, 2004). Schalkwyk et al. (2010) state that the intention to quit is an embryo to stop working or move to another company soon. Intention to quit is a psychological process when employees think about other alternatives related to work as a form of dissatisfaction with the current work situation. According to Roberto et al. (2016), Work and job content, perceived peer and supervisor support, organizational extrinsic incentive, possibilities outside the organization, and work-family issues are factors that influence the inclination to quit. According to Fishbein & Ajzen (1975), shows that intention to quit is a predictor of several subsequent responses from employees that have a major impact on the organization. Intention to quit is a big decision, so considering doing something is taken seriously. Psychological theory also states that psychological factors influence the intention to quit in the workplace. Thus, the research hypothesis formulated as:

H2a: Employee engagement influences innovative work behavior

H2b: Employee engagement influences intention to quit

2.3. Mediating Role of Employee Engagement

Kahn (1990) introduced the notion of employee engagement, which is an attempt to use workers to accomplish tasks in order to actualize their physical, cognitive, and emotional attachment to the work. Kahn's concept of employee engagement is a crucial basis, but it needs to be modified to suit the unique

features and values of the millennial workforce. Organizations seeking to effectively engage millennials must take into account their expectations regarding meaningful employment, emotional support, work-life balance, and technological integration. Although this model provides valuable insights into the various aspects of engagement, it is necessary to modify it to cater to the specific requirements of the millennial generation and effectively promote genuine involvement in today's work environment.

General systems theory, which addresses input, process, and output, explains the mediating role of employee involvement in this study (Wright & Snell, 1991). The work environment serves as the input in this study, and employee engagement serves as the process. The general systems theory states that employee work performance may be an effect. Thus, mediation leads in high levels of innovative work behavior and low levels of intention to quit (Saks, 2006). Given that antecedents are predicted to influence engagement in forecasting outcomes, engagement may mediate the relationship between many antecedents and consequences (Sonnentag, 2003). Baron & Kenny (1986) state that mediation requires the fulfillment of three requirements. The independent variable and the mediator must first be connected. Second, the mediator needs to have some connection to the dependent variable. Third, when the mediator is controlled, the significant association between the independent and dependent variables will either become less significant or cease to exist.

This research has three reasons for choosing employee engagement as a mediator. First, based on research by Karatepe (2014), Employee engagement is a strong driving force for successful results. Second, employee engagement is identified as a result of job tools or resources (Saks, 2006; Schaufeli & Bakker, 2004). Third, based on social exchange theory (SET) and self-determination theory (SDT), workers with high levels of employee engagement tend to be in trustworthy and reliable relationships and are willing to provide innovative work behavior and minimize intention to quit. While numerous models have demonstrated the preconditions for employee engagement—Kahn's (1990) model, for example—it falls short of providing a comprehensive explanation for why people react to a given situation in different ways. Thus, the research hypothesis formulated as:

H3a: Employee engagement mediates the relationship between the work environment and innovative work behavior

H3b: Employee engagement mediates the relationship between work environment and intention to quit

2.4. Moderating Role of Machiavellianism

A component of the dark triad personality theory is Machiavellianism, and it is important to explore it in different scenarios (Harms & Spain, 2015; O'Boyle et al., 2015). Machiavellian individuals' love of power and profit motivates them to use any means to achieve their goals (Pilch & Turska, 2014). Other empirical evidence supports this assumption by confirming that Machiavellian individuals are excellent mind readers (Davies & Stone, 2003). This study shows the relevance of the theory of mind because, without this theory, it is almost impossible for Machiavellian individuals to manipulate other people successfully and recognize other people's weaknesses that they may not be aware of. The dimensions of Machiavellianism are immorality, desire for control, desire for status, and distrust of others. This research believes that employees with high Machiavellianism utilize the work environment to achieve profits through an employee engagement approach. Machiavellian individuals view employee engagement as the best way to fulfill personal goals. In addition, Machiavellian individuals find it difficult to trust other people. Therefore, they desire to exercise control on an ongoing basis (Dahling et al., 2008) so that they are involved in employee engagement to achieve innovative work behavior and minimize intention to quit. A closer look reveals a gap in the literature where the moderating effect of Machiavellianism between employee engagement and the work environment has not been investigated. Therefore, this research proposes the moderating role of Machiavellianism between the work environment and employee engagement with the underlying mechanism leading to innovative

work behavior and intention to quit. Thus, the research hypothesis formulated as:

H4: Machiavellianism moderates the relationship between work environment and employee engagement

H5: Machiavellianism moderates the indirect relationship between work environment and innovative work behavior and intention to quit through employee engagement

3. Research Method

This study used a closed-ended questionnaire instrument as part of a survey strategy to collect data. The research sample consists of employees who identify as part of the millennial generation, born between 1981 and 1996. Based on Hair et al. (2010), a suitable sample size should be between five and ten times the number of indicators, resulting in a necessary sample size of 100 to 200 respondents. Based on this, we have determined that a minimum sample size of 355 respondents is essential for our investigation, calculated by multiplying 5 by 71. In order to guarantee the sample's pertinence to the study aims and its conformity with the stated research questions, a purposive sampling technique is employed. This methodology, when used in conjunction with a non-probability sampling strategy, enables the intentional choice of individuals who satisfy particular criteria relevant to the study. The conditions for participation in the survey are as follows: (1) Being a member of the millennial group, (2) Having a minimum one-year duration of employment, and (3) Voluntarily choosing to participate in the study.

The study attempts to collect valuable viewpoints on the research issue by using a sampling technique that targets persons with the necessary expertise and qualities. In addition, the questionnaire design has a rating scale that spans from 1 to 10. This scale is intended to prompt detailed responses and reduce the likelihood of respondents choosing neutral or intermediate options. A rating ranging from 1 to 5 represents a state of disagreement, whereas a number ranging from 6 to 10 signifies agreement. This strategy improves the accuracy and comprehensiveness of the data gathered, making it easier to conduct a thorough study of the research variables and their connections.

The link between the variables is visualized in this study by the application of Structural Equation Model (SEM) analysis techniques. A thorough statistical technique for examining potential correlations between observed and potential variables is structural equation modeling (SEM). SEM is helpful in differentiating between indirect and direct correlations between latent constructs as well as in assessing the whole range of relationships between latent constructs revealed by several measurements that comprise the research model. The inner and outer models' sets of linear equations define SEM. According to Gefen et al. (2000), the outer model establishes the relationship between potential and observed variables, while the inner model establishes the association between two unobserved variables.

Every measuring item in the research structural model was adapted from the existing literature. The measurement of each variable is seen in Table 1.

Table 1. Operationalization of Research Variables

Variable	Dimensions	Indicator	Information
Work Environment (Insel & Moos, 1974)	Relationships	Employees care and are committed to their work	WE1
		Employees are friendly and supportive of each other	WE2
		Management supports and encourages employees.	WE3
	Personal Growth	Using your initiative to do something	WE4
		Have the freedom to do what you like	WE5
	Systems Maintenance and Systems Change	New and different ideas are always being tried	WE6
		Details of assigned work are generally explained clearly	WE7

		There is constant pressure to follow policies and regulations	WE8
<i>Machiavellianism</i> (Dahling et al., 2008)	<i>Amorality</i>	Lying is necessary to maintain a competitive advantage over others	M1
		Talk to other people to get profitable information	M2
	<i>Desire for Control</i>	Likes to give orders in interpersonal situations	M3
		Enjoys having control over others	M4
	<i>Desire for Status</i>	Status is a good sign of success in life	M5
	<i>Distrust of Others</i>	If you show weakness at work, others will take advantage of it	M6
<i>Employee Engagement</i> (Schaufeli et al., 2006)	<i>Vigor</i>	Feel full of energy at work	EE1
		Want to go to work in the morning immediately	EE2
	<i>Dedication</i>	Enthusiastic about work	EE3
		Proud of the work done	EE4
	<i>Absorption</i>	Feel happy when working intensely	EE5
		Immersed in work	EE6
Innovative Work Behavior (Messmann & Mulder, 2020)	<i>Opportunity Exploration</i>	Follow the latest developments within the company	IWB1
	<i>Idea Generation</i>	Exchange ideas for concrete changes in the workplace	IWB2
	<i>Idea Promotion</i>	Recruit members to support the realization of an idea actively	IWB3
		Recruit superiors to support the realization of an idea actively	IWB4
	<i>Idea Realization</i>	Systematically realizing an idea in work	IWB5
<i>Intention to Quit</i> (Roberto et al., 2016)	<i>Spaces and Job Content</i>	Working conditions do not meet expectations	ITQ1
	<i>Perceived Supervisor Support</i>	Bosses do not provide opportunities to learn, grow, and improve their skills.	ITQ2
	<i>Perceived Peer Support</i>	Lack of peer support	ITQ3
	<i>Organizational Extrinsic Motivation</i>	The incentives obtained are not commensurate with the work	ITQ4
	<i>Available Opportunities Outside the Organization</i>	There are differences between career opportunities in companies and elsewhere.	ITQ5
	<i>Work-family Conflicts</i>	Family interferes with work	ITQ6
		Work interferes with family life.	ITQ7

Source: Prepared by the authors, 2023

4. Results

379 employees participated in this study as responders. Gender and occupation were used to categorize respondent characteristics. The research participants exhibited the subsequent traits:

Table 2. Characteristics of Respondents

Characteristics	Attribute	Frequency	%
Gender	Man	196	51.72
	Woman	183	48.28
Work	Civil servants	96	25.33
	State-owned company	112	29.55
	Private	171	45.12

Source: Prepared by the authors, 2023

Based on Table 2, it can be seen that male workers and female workers have almost the same proportion. This result shows that there is gender equality among research respondents, which can support the generalization of the results of this research. Apart from that, if we look at the type of company organization, research respondents were divided into three categories, namely civil servants, state-owned companies, and private companies. Workers in private organizations dominated the respondents for this study. Workers in private companies have more discretion to carry out other activities outside of work to spend their time taking part in this research survey. Private workers are also believed to have more room to innovate than other workers.

The conceptual model was tested in this study using a two-step analysis. To validate the measurement model, a confirmatory factor analysis (CFA) must be performed first. The suggested variables' association was then examined. A multivariate technique called CFA is used to examine variables that are deemed to be related to one another. Using CFA, researchers can verify that all indicators fit into factors associated with the way they have been connected to latent variables (unidimensionality). Group effects on variables, the role of measurement error in the model, and multifactorial model validation are all accomplished with CFA models in SEM. Both exogenous and endogenous variables were subjected to the CFA test. The analysis's findings are displayed in the following table:

Table 3. Confirmatory Factor Analysis of Exogenous and Endogenous Variables

			Estimate	S.E.	C.R.	P	Label
M1	<---	MCH	1,000				
M2	<---	MCH	1,073	,066	16,320	***	par_6
M3	<---	MCH	1,127	,068	16,622	***	par_7
M4	,	MCH	1,009	,062	16,217	,	par_8
M5	,	MCH	1,069	,065	16,444	,	par_9
M6	,	MCH	1,061	,065	16,407	,	par_10
WE1	,	WE	1,000				
WE2	,	WE	,992	,064	15,602	***	par_11
WE3	<---	WE	,961	,061	15,660	***	par_12
WE4	<---	WE	1,105	,069	16,095	***	par_13
WE5	<---	WE	1,174	,073	16,183	***	par_14
WE6	<---	WE	1,140	,070	16,228	,	par_15
WE7	,	WE	1,120	,070	16,092	,	par_16
			Estimate	S.E.	C.R.	P	Label
WE8	,	WE	1,067	,067	15,983	,	par_17
EE1	,	EE	1,000				
EE2	,	E.E.	,865	,069	12,561	,	par_18
EE3	<---	E.E.	,846	,067	12,601	***	par_19
EE4	<---	EE	,676	,061	11,009	***	par_20

EE5	<---	EE		,642	,062	10,358	***	par_21
EE6	<---	EE		,609	,062	9,784	***	par_22
IWB1	<---	IWB		1,000				
IWB2	<---	IWB		,993	,077	12,873	***	par_23
IWB3	<---	IWB		,810	,069	11,801	***	par_24
IWB4	<---	IWB		1,014	,078	12,958	***	par_25
IWB5	<---	IWB		,786	,066	11,942	***	par_26
ITQ1	<---	ITQ		1,000				
ITQ2	<---	ITQ		,862	,092	9,346	***	par_27
ITQ3	<---	ITQ		,617	,087	7,079	***	par_28
ITQ4	<---	ITQ		,906	,087	10,415	***	par_29
ITQ5	<---	ITQ		,884	,088	9,995	***	par_30
ITQ6	<---	ITQ		,781	,086	9,044	***	par_31
ITQ7	<---	ITQ		,958	,092	10,374	***	par_32

Source: Amos Calculation Results, 2023

The structural relationship between the variables is discovered by the goodness of fit performance evaluation analysis. The goodness of fit index can be used to determine whether the structural relationships between variables are appropriate.

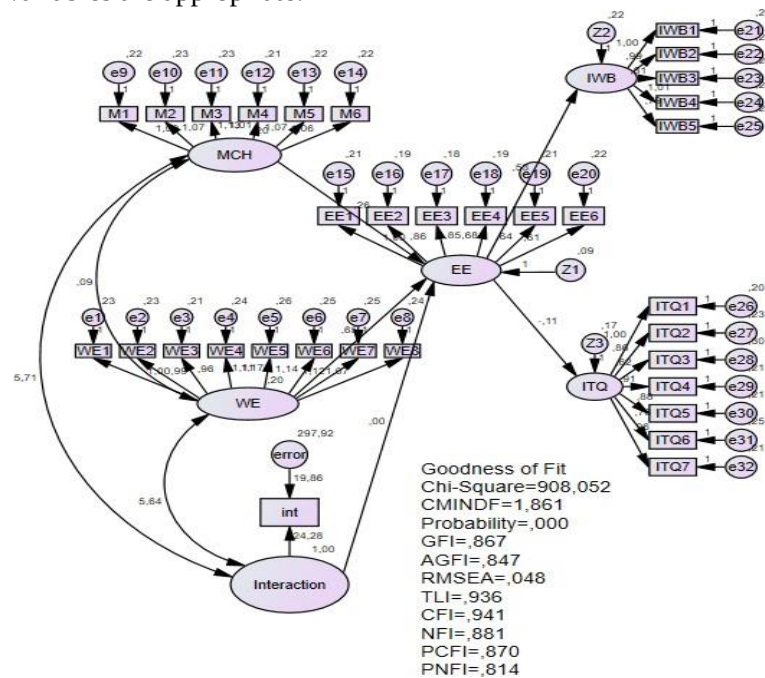


Fig. 1: Full Model SEM Test Results

From Figure 1, the Goodness of Fit value of the full SEM model can be seen in the following table:

Table 4. SEM Full Model Goodness of Fit Test

Goodness of Index	Cut-Off Value	Results Model	Conclusion
Chi-Square	Expected Small	908,052	
RMSEA	≤ 0.08	0.048 _	Fit
GFI	≥ 0.90	0.867 _	Marginal Fit
AGFI	≥ 0.90	0.847 _	Marginal Fit
CMIN/DF	≤ 2.0	1,861	Fit
TLI	≥ 0.95	0.936 _	Marginal Fit
CFI	≥ 0.95	0.941 _	Marginal Fit

Source: Amos Calculation Results, 2023

If the chi-square score is low, the tested model is regarded as good. Based on probability and a cut-off value of $p > 0.05$, the model with a reduced χ^2 value is considered better. A chi-square value of 908.052 was found based on the computation results. One interpretation is that the tested model is deemed to be good. Furthermore, the CFI is 0.941, the TLI is 0.936, the CMIN/DF is 1.861, and the AGFI is 0.847. The CMIN/DF values fall into the fit group, while AGFI, TLI, and CFI fall into the marginal fit category.

The expected goodness-of-fit is shown by the RMSEA value. Based on the degrees of freedom in the model, the model fits the data if the RMSEA value is less than or equal to 0.08. The model can be approved because, according to the calculation findings, the RMSEA value is 0.048. The RMSEA value of the fit is less than 0.08. The measuring model for the suggested construct is well-suited, according to the suitability index. Therefore, it is appropriate to proceed with further analysis of the full research model that incorporates the interaction of work environment characteristics, employee engagement based on Machiavellianism, innovative work behavior, and intention to resign.

The validity test then determines the validity of the questionnaire. If a statement on a questionnaire can be used to express whatever will be measured, then it is legitimate. Construct validity can be evaluated using the loading factor value found in the standardized direct effects table. Furthermore, each measurement that is estimated to assess the aspects of the concept being tested legitimately and has a direct relationship or direct influence can be found using convergent validity. Loading factors should have a minimum of 0.4 or ideally 0.7 (Hair et al., 2006). A table of extracted variance, construct reliability, and validity is shown below:

Table 5. Validity, Construct Reliability, and Variance Extracted

Variable	Construct	<i>Lf</i>	<i>error</i>	<i>R</i>	<i>VE</i>
Work Environment (Insel & Moos, 1974)	WE1	,682	0,318	0,930	0,623
	WE2	,682	0,318		
	WE3	,689	0,311		
	WE4	,709	0,291		
	WE5	,717	0,283		
	WE6	,719	0,281		
	WE7	,711	0,289		
	WE8	,703	0,297		
Machiavellianism (Dahling et al., 2008)	M1	,693	0,307	0,912	0,633
	M2	,708	0,292		
	M3	,726	0,274		
	M4	,700	0,300		
	M5	,714	0,286		

	M6	,712	0,288		
Employee Engagement (Schaufeli et al., 2006)	EE1	,732	0,268	0,874	0,539
	EE2	,701	0,299		
	EE3	,701	0,299		
	EE4	,605	0,395		
	EE5	,574	0,426		
	EE6	,541	0,459		
Innovative Work Behavior (Messmann & Mulder, 2020)	IWB1	,764	0,236	0,893	0,626
	IWB2	,733	0,267		
	IWB3	,646	0,354		
	IWB4	,718	0,282		
	IWB5	,654	0,346		
Intention to Quit (Roberto et al., 2016)	ITQ1	,681	0,319	0,859	0,470
	ITQ2	,594	0,406		
	ITQ3	,427	0,573		
	ITQ4	,634	0,366		
	ITQ5	,625	0,375		
	ITQ6	,545	0,455		
	ITQ7	,657	0,343		

Source: Amos Calculation Results, 2023

The measurements yield suitable loading factor values, as Table 5 demonstrates. All measures are therefore deemed valid. The construct reliability testing performs reliability tests to assess the consistency and dependability of data. The dependability coefficient is in the range of 0 to 1. Therefore, the more dependable the measuring device, the greater the coefficient (nearer to 1).

If the variance extracted value is greater than 0.5 and the build reliability value is greater than 0.7, the construct reliability is acceptable. When a latent variable can, on average, explain more than half of the variance of its indicators, it is said to have acceptable convergent validity, or VE value of at least 0.5. Construct reliability for the work environment variable is 0.930, Machiavellianism is 0.912, employee engagement is 0.874, innovative work behavior is 0.893, and intention to quit is 0.859, according to the data processing results. Since the construct reliability in this study is more than 0.7, it can be said that it is satisfactory. The indicators included in this study have proven reliability and can partially explain the hidden variables they form.

The variance retrieved in the work environment variable was 0.623, the employee engagement variable was 0.539, the Machiavellianism variable was 0.633, the innovative behavior variable was 0.626, and the intention to quit variable was 0.470, according to the data processing results. Even though the intention to quit variance extracted is 0.470, this number is acceptable since the extracted variance is conservative. As a result, it was determined that the study's questionnaire was credible.

To determine if the independent variable influences the dependent variable, hypothesis testing is done. Should the probability (P) value be less than 0.05, the hypothesis is accepted. The research's hypothesis testing yielded the following findings:

Table 6. Coefficient Significance Test

			Estimate	C.R.	P	Conclusion
EE	<---	MCH	,260	4,533	***	Accepted
EE	<---	WE	,655	9,433	***	Accepted
E.E.	<---	Interaction	,002	8,868	***	Accepted
IWB	<---	EE	,533	7,464	***	Accepted
ITQ	<---	EE	-,109	-2,092	,036	Accepted

Source: Amos Calculation Results, 2023

According to the Coefficient Significance Test on Table 6, all hypotheses have been accepted, suggesting significant correlations between the variables being examined. Hypothesis 1, that is the work environment has a significant impact on employee engagement. The substantial coefficient indicates that a favourable work environment promotes increased levels of employee engagement. This highlights the significance of establishing supportive and favourable work environments to encourage employee engagement, ultimately resulting in enhanced organizational outcomes such as increased productivity and job satisfaction.

Hypothesis 2a is employee engagement has a direct impact on innovative work behavior. The significant coefficient suggests that higher levels of employee engagement are linked to an increase in innovative work behavior. Organizations should give priority to measures aimed at improving employee engagement, as it not only has a beneficial effect on individual creativity but also adds to corporate innovation and competitiveness. Furthermore, H2b is employee engagement has a direct impact on the intention to resign. The notable coefficient emphasizes the impact of employee engagement in decreasing turnover intentions. Highly motivated employees exhibit a decreased inclination to contemplate departing from their present employer. This highlights the significance of cultivating a committed team to reduce turnover and its related expenses.

Addressing hypothesis 3a, employee engagement serves as a mediator in the connection between the work environment and innovative work behavior. The substantial mediating effect indicates that a favorable work environment indirectly promotes innovative work behavior by affecting employee engagement. Organizations should prioritize enhancing both the work environment and employee engagement to foster innovation among employees. Hypothesis 3b where employee engagement serves as a mediator in the connection between the work environment and the intention to resign. Moreover, the substantial mediation effect suggests that a favorable work environment can diminish turnover intentions by promoting elevated levels of employee engagement. This highlights the significance of establishing conducive work environments to retain skilled individuals and decrease employee turnover rates.

The study examines the moderating role of Machiavellianism in the link between work environment and employee engagement in H4. The notable moderation effect indicates that the connection between the work environment and employee engagement is subject to variation based on levels of Machiavellianism. When developing strategies to enhance employee engagement, organizations should take into consideration the variations in personality traits such as Machiavellianism among individuals. While hypothesis 5, where Machiavellianism acts as a moderating factor in the link between work environment and both innovative work behavior and intention to resign, via influencing employee engagement. The presence of a significant moderating effect indicates that the influence of the work environment on both innovative work behavior and intention to resign, which is facilitated by employee engagement, depends on the levels of Machiavellianism. This underscores the need to take into account individual variations in personality features when devising tactics to foster innovation and diminish inclinations to leave a job.

Next, the following is the influence of exogenous variables on endogenous variables:

Table 7. Influence of Variables

			Estimate
EE	<---	MCH	,260
EE	<---	WE	,655
EE	<---	Interaction	,002
IWB	<---	EE	,533
ITQ	<---	EE	-,109

Source: Amos Calculation Results, 2023

Based on Table 7, the work environment influences employee engagement, namely 0.655. These findings support hypothesis 1. Employee engagement influences innovative work behavior by 0.533. These findings support hypothesis 2a. Employee engagement influences the intention to quit by -0.109, which means the higher the employee engagement, the lower the intention to quit. These findings support hypothesis 2b. Apart from that, employee engagement mediates the relationship between the work environment and intention to quit. This research supports hypotheses 3a and 3b. As a moderating variable, Machiavellianism affects employee engagement, namely 0.260. Machiavellianism has a positive influence, but its value is small. Thus, Machiavellianism is needed in the relationship between the work environment and employee engagement. These findings support hypotheses 4a and 4b.

In general, these findings highlight the significance of promoting favorable work conditions and improving employee engagement as crucial factors for achieving organizational success. Organizations can improve employee outcomes and establish durable competitive advantages in today's dynamic business landscape by tailoring interventions based on the interplay between circumstances and individual qualities such as Machiavellianism.

5. Discussion

The primary objective of this research is to determine the significance of employee involvement in the process of a professional environment. This study establishes a noteworthy correlation between the workplace atmosphere and employee involvement. An atmosphere that provides support and encouragement is directly associated with increased levels of employee engagement. The results are consistent with other research (May et al., 2004; Potoski & Callery, 2018; Saks, 2006; Soane et al., 2012), highlighting the significance of a supportive work environment in promoting employee engagement.

Moreover, the study demonstrates that employee engagement acts as a mediator between the work environment and both innovative work behavior and intention to quit. Employees in conducive work environments that encourage proactivity and effective communication are more inclined to demonstrate innovative job behavior and have reduced inclinations to resign. The results align with the theories of work adjustment and engagement, indicating that employees flourish in settings that acknowledge and incentivize achievement (May et al., 2004; Potoski & Callery, 2018; Saks, 2006; Soane et al., 2012).

This study also explores the ethical ramifications of Machiavellianism in corporate environments. The current study builds upon prior research conducted by Schepers in 2003, which explored the concept of Machiavellianism concerning ethical challenges. However, this study specifically investigates the impact of Machiavellianism on ethical behavior, considering both individual and group dynamics. The findings indicate a complex relationship, suggesting that Machiavellian individuals may use deceitful strategies for their benefit, potentially playing a role as moderators (Hawley, 2003).

Moreover, the study emphasizes the indispensability of Machiavellianism in the workplace, specifically concerning employee objectives and conduct. Individuals who are Machiavellian have a high level of adaptability and employ strategic conduct to accomplish their goals (Day et al., 2002). This study enhances the current body of knowledge by clarifying the impact of Machiavellianism on the relationship between the work environment, employee engagement, and behavioral outcomes, such as innovative work behavior and intention to resign. The results of these studies support the idea of the dark triad personality, specifically highlighting the impact of Machiavellianism on the dynamics of the workplace (Harms & Spain, 2015; O'Boyle et al., 2015; Pilch & Turska, 2014; Davies & Stone, 2003; Dahling et al., 2008).

6. Conclusion

This study provides valuable insights into the factors that influence innovative work behavior and intentions to resign among millennial employees, both in terms of theory and practical applications. The study examines the complex interactions among the work environment, Machiavellianism, employee

engagement, innovative work behavior, and quitting intentions to understand how these factors influence workplace outcomes in the millennial workforce.

An important theoretical contribution is the identification of Machiavellianism as a critical moderating variable. It impacts the connection between the work environment and employee engagement, as well as the indirect connections between the work environment and innovative work behavior and intent to quit, through employee engagement. It is crucial to take into account individual personality qualities, namely those linked to the “dark triad,” when trying to comprehend how employees react to organizational procedures and their resulting work behaviors and goals.

Moreover, the study highlights the crucial importance of employee involvement as a mediating factor. The study establishes a connection between the work environment and both innovative work behavior and intentions to quit, highlighting the importance of cultivating a supportive and engaging work environment to enhance desirable work outcomes and retain highly skilled millennial employees.

Nevertheless, the study acknowledges its limitations. The utilization of non-probability purposive sampling and the cross-sectional design of the study may restrict the ability to generalize the findings and prevent the identification of causal links. Further studies could overcome these limitations by utilizing more inclusive sampling methods and longitudinal study designs.

Furthermore, future research should investigate additional factors that moderate or mediate the relationship between Machiavellianism and employee engagement. These elements may include other personality traits, company culture, or leadership styles. Integrating qualitative methodologies could offer more profound insights into the actual experiences and perspectives of millennial employees, enhancing the comprehension of the issues that impact their work behaviors and goals.

In conclusion, this study adds to the expanding body of knowledge on effectively managing and keeping the millennial workforce. Organizations can develop customized strategies to promote innovative work behaviors, decrease turnover intentions, and cultivate a flourishing work culture that aligns with the values and aspirations of millennial employees by thoroughly understanding the relationship between the work environment, personality traits, engagement, and work outcomes.

7. Limitations and Future Research

This research is not exempt from its limitations. The study was restricted to employees in West Java, hence constraining the geographical extent of the findings. Furthermore, the utilization of a cross-sectional research design may require additional inquiry to get more thorough assessments. It is crucial to recognize that the data may not provide a comprehensive comprehension of innovative work behavior and intention to resign, as exogenous circumstances that are beyond the control of employees can impact both elements. Furthermore, while conducting research on employee engagement, specifically regarding creative workplace behavior and intention to quit, there are difficulties concerning subjectivity. Hence, future study initiatives should go deeper into these features, taking into account external influences and extra variables that might influence employee attitudes. Moreover, it is recommended that further investigate the preceding factors in various sectors to develop a more thorough comprehension of the phenomena being investigated.

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