Scientific Research Publishing

Open Journal of Business and Management, 2026, 14(2), 1248-1264
https://www.scirp.org/journal/ojbm
ISSN Online: 2329-3292
ISSN Print: 2329-3284

The Perceived Intensity of Workplace Toxicity by Demographics and the Mitigating Effects of Organizational Support, Engagement, and Employee Well-Being

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How to cite this paper: Belanger, K. (2026). The Perceived Intensity of Workplace Toxicity by Demographics and the Mitigating Effects of Organizational Support, Engagement, and Employee Well-Being. *Open Journal of Business and Management, 14,* 1248-1264.
https://doi.org/10.4236/ojbm.2026.142071

Received: February 7, 2026
Accepted: March 24, 2026
Published: March 27, 2026

Abstract

Workplace toxicity remains a significant organizational challenge for companies, negatively impacting performance, increasing turnover, and harming the psychological well-being of employees. Prior research has examined the outcomes of toxic environments; however, there is a lack of understanding regarding the individual characteristics of employees who may experience workplace toxicity more intensely, as well as whether company support can help mitigate these perceptions of toxicity. This study examined employees by demographic to evaluate whether there are differences in perception of toxicity by demographic and whether organizational support, employee engagement, and employee well-being have any impact in mitigating the effects of perceived toxicity. Data was collected from 176 U.S. private sector employees through SurveyMonkey, an online survey platform. Toxicity perception was measured across seven components, with the analysis performed using the composite-based linear regression models to assess demographic differences in age, sex, and education. The impacts of engagement, organizational support, and well-being were then tested. The findings suggest that toxicity may be structurally embedded within an organization. The analysis did not directly test mitigation mechanisms, rendering an urging of caution regarding conclusions drawn as to the buffering effects of organizational impacts.

Keywords

Toxic Workplace, Employee Engagement, Organizational Support, Organizational Culture, Human Resources

1. Introduction

Toxic workplace culture is a well-recognized organizational issue. Toxicity in the workplace can be characterized by acts, such as hostility, abusive behavior, aggression, exclusion, and incivility that erode employee morale and reduce the organization's effectiveness, as noted by Amoadu et al. (2024). Prior research has examined the consequences of toxicity, but not much research has been done to determine who is most vulnerable to feeling the effects of workplace toxicity.

Demographics such as age, biological sex, and education may affect the employees' perception of toxicity and cause an increased effect. For example, younger workers may feel more vulnerable to abusive behaviors due to a lack of experience, while women may have more intense responses to toxicity due to working in a male-dominated industry. Educational backgrounds, too, may have an impact due to expectations of workplace culture. Empirical evidence on the factors of age, biological sex, and education is limited and inconsistent.

Not much is known about whether organizational support, employee engagement, or employee well-being can mitigate the effects of toxicity. Examining the Job Demands-Resources model, factors such as employee engagement, well-being, and organizational support may mitigate the negative impacts of toxicity.

This study focuses on the gaps in research by examining whether there are differences among demographic groups in terms of perceived toxicity and whether mitigating factors are present in the workplace.

2. Literature Review

2.1. Organizational Climate

These differences between positive and hostile environments can severely change the climate. Workplace toxicity includes actions that are uncivil, harassing, untrusting, negative, and at times, aggressive. Kong et al. (2024) conducted a study on Chinese workers and found that the effects of bullying in the workplace caused employees to gatekeep knowledge, making them feel as though they had no sense of belonging.

Multiple factors within the organizational climate can have either a positive or negative impact on the environment. Cultures blend various aspects throughout the company that personnel can perceive in numerous ways. Agarwal (2019) listed leadership and management style, pay, benefits, working conditions, employee welfare, human relations, corporate image, and organizational climate as key factors in organizational climate.

The employee perception of the organizational climate impacts other areas of the company. Rasool et al. (2021) noted that organizational climate is directly related to organizational commitment and performance. The better the relationship with the company is, the more positive the employees' view will be. The climate controls the emotional and mental atmosphere of business. If the environment is hostile, the atmosphere will respond in kind.

2.2. Organizational Performance in a Toxic Environment

By understanding the human element, businesses can gain a deeper insight into how the company operates, rather than just how they envision it to work on paper. Without employees, there is no management, as there is no one to oversee and direct. Sun et al. (2025) found that negative acts in the workplace, such as bullying, increased the victim's intention to leave the company. No matter how many policies and procedures are in place, the human touch will always be a significant variable. Positive approaches and messages can be undermined by negative messengers, rendering any intended positive statement ineffective.

Organizational performance differs from corporate culture. Culture is the company's belief shared among and throughout the firm. Masoomzadeh et al. (2019) defined organizational performance as the actual output of an organization compared to its intended results, goals, or objectives, with organizational culture directly relating to organizational performance. The organization will perform positively when the culture is positive and fosters growth. The correlation between the effort input in employer-employee relationships and work output must be addressed. Employers must strive to eliminate negative behaviors within the company culture to minimize the potential for turnover, enhance performance, and maintain a stable output.

The culture of the organization can influence the intention to leave. Very few people want to work in a toxic environment in the long term. Masoomzadeh et al. (2019) noted that 71.6% of the variance in the relationship between toxic leadership and turnover intention is related to the organization's culture, indicating that a toxic culture increases the desire to leave the organization. A lack of loyalty and the desire to remain will result in reduced organizational performance as toxicity drains the employees' energy.

3. Theoretical Analysis and Hypotheses

3.1. Theoretical Analysis

Two theories were selected to frame the assumed negative impacts of toxic workplace behavior on business outcomes. McLeod (2023) explained that the Equity Theory developed by J. Stacey Adams is based on the belief that employees balance the work input with the work output to determine whether their efforts are worth the reward. If employees feel they need more benefits from the position, such as their morale, motivation, and performance, they will likely feel the position is not worth staying for. Workplace toxicity can significantly impact productivity, as it creates a negative and toxic environment. Negatively charged environments require extra rewards that the company may need help to provide.

The other theory involves job satisfaction and emotion. Weiss and Cropanzano (1996) developed the Affective Event Theory, which shows that an employee's emotional state could influence job satisfaction. The "affective events" in the workplace trigger emotional responses that impact relationships in the workplace. Both negative and positive emotions triggered can impact workplace behaviors.

These theories do not attribute demographics as direct mechanisms of causality, but they do provide a framework for understanding how employees respond to both negative and positive interactions in the workplace. This study treats demographics as boundaries that may shape the perceptions of toxicity and the extent to which organizational resources, such as support and culture, may mitigate these perceptions. Age, Biological Sex, and Education are not theorized to be causes of toxicity, but rather as contextual factors that may influence perception.

3.2. Research Hypotheses

The hypotheses of this article focus on the demographic characteristics of employees, including age, biological sex, and educational attainment, to determine whether organizational support, employee well-being, and employee engagement have any impact on the perceived toxicity. This study is not designed as a confirmed causality analysis, but as a structured exploratory approach. The hypotheses are limited to specific demographics to avoid post hoc model building while acknowledging the limitations of the analysis due to sample size. These limitations allow for testing without over-complicating the analysis or introducing of additional variables that would cause unsupported control.

Hypothesis 1: Does the age of the employee correlate with employee engagement?

H_01: The employee's age is not associated with employee engagement.

H_a1: The employee's age is associated with employee engagement.

Hypothesis 2: Does the biological sex of the employee correlate with employee engagement?

H_02: The employee's biological sex is not associated with employee engagement.

H_a2: The employee's biological sex is associated with employee engagement.

Hypothesis 3: Does the education level of the employee correlate with employee engagement?

H_03: The employee's education level is not associated with employment engagement.

H_a3: The employee's education level is associated with employment engagement.

Hypothesis 4: Does the age of the employee correlate with employee well-being?

H_04: The age of the employee is not associated with employee well-being.

H_a4: The age of the employee is associated with employee well-being.

Hypothesis 5: Does the biological sex of the employee correlate with employee well-being?

H_05: The biological sex of the employee is not associated with employee well-being.

H_a5: The biological sex of the employee is associated with employee well-being.

Hypothesis 6: Does the education level of the employee correlate with employee well-being?

$H_0 6$: The education level of the employee is not associated with employee well-being.

$H_a 6$: The education level of the employee is associated with employee well-being.

Hypothesis 7: Does the age of the employee correlate with perceptions of organizational support?

$H_0 7$: The employee's age is not associated with perceived organizational support.

$H_a 7$: The employee's age is associated with perceived organizational support.

Hypothesis 8: Does the biological sex of the employee correlate with perceptions of organizational support?

$H_0 8$: The biological sex of the employee is not associated with perceived organizational support.

$H_a 8$: The biological sex of the employee is associated with perceived organizational support.

Hypothesis 9: Does the education level of the employee correlate with perceptions of organizational support?

$H_0 9$: The education level of the employee is not associated with perceived organizational support.

$H_a 9$: The education level of the employee is associated with perceived organizational support.

4. Model and Variables

4.1. Model

The target audience for this study was workers from the U.S. private sector who had experienced toxic behavior in the workplace. The U.S. Census Bureau (2023) counted 134.1 million private sector workers in the United States in 2020.

The sample was drawn from the target audience by soliciting participants through a third-party data collector, Survey Monkey. The screening of participants included the requirement that participants have experienced toxicity in the workplace. The sample reflects the U.S private sector employees who were exposed to prior toxic behavior rather than the broader workforce. While efforts were made not to restrict the demographics, the design constitutes a nonprobability panel sample and may have been affected by selection effects. Due to these parameters, the result reflects perceptions among exposed employees and may not be applicable to workers without such experiences. McLeod (2023) defined convenience sampling as a sampling method that involves selecting from an available and willing group of people. The sampling method was used due to financial constraints and the need for a minimum target sample size. The survey was distributed to potential participants through an online link at the SurveyMonkey site. The link was active until the minimum target sample size was collected. The participants were asked to complete the survey based on their work history and prior work in the United States. The participant's work history must have included current or previous in-

stances of toxicity for them to complete the survey. Participants who attempted to complete the study with no negative instances of targeted or specific toxicity were not counted. Additionally, incomplete surveys that included non-response items were not counted to avoid skewed results from the data.

Aside from a minimum age requirement (18 years of age or older), the other demographic characteristics of the respondents were not restricted to reduce the potential bias from convenience sampling. Age, biological sex, and education were the only demographic questions asked to prevent confidentiality issues and to protect the respondent's identity. Additionally, the respondents were limited to workers in the U.S. private sector, with no restrictions on industry or firm size applied to the target audience. The instrument was divided into four subcategories: Toxic Work Environment (TWE) questions, Organizational Support (OS) questions, Employee Well-Being (EWB) questions, and Employee Engagement (EE) questions. The responses were then composited to reduce measurement error, improve reliability, and prevent multicollinearity in the regression models. Structural Equation Modeling (SEM) was considered as an alternative method of analysis, but it was ultimately disregarded due to the small sample size and instability within the SEM analysis.

4.2. Framework

Based on the survey design described earlier, the instrument contained multiple questions that collected information about the dependent variables, and the results were then composited by subcategory. Aggregating items provided a single indicator for each sub-category, thereby facilitating the accuracy of the regression analysis. Accordingly, a composite test of each research question required a strategy for testing multiple component hypotheses. One way to implement this testing strategy was to use linear regression to examine whether there were any significant relationships between demographics, perceived toxicity, and potential mitigators.

Through the lens of Affective Events Theory and Equity Theory (Hattangadi, 2019), there are arguments that organizational support may serve to mitigate the toxicity felt in the workplace. Demographic characteristics of age, biological sex, and education level are theorized to shape the sensitivities to toxicity felt in a workplace.

This study models perceptions of toxic environments as the antecedent outcomes of demographic characteristics and workplace resources, allowing for the possibility that resources operate as protective factors. All study variables were measured using multiple questions administered through a SurveyMonkey Questionnaire. Unless otherwise noted, such as demographic questions, the responses were recorded using a five-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Scores were calculated as the means of the respective questions to preserve the response metric. Higher scores reflected higher perceptions with internal consistency being assessed using Cronbach's alpha. The point of estimate of Cronbach's alpha for this sample was the midpoint of the interval

(0.797) with a lower bound interval of 0.754 and an upper bound interval of 0.834. Values of alpha that are 0.70 or higher indicate that the survey questions were reliable within the scientific parameters of reliability.

The TWO was assessed using multiple questions to capture toxic behaviors such as incivility, hostility, aggression, and exclusion. These questions reflected toxic organizational climate traits that are consistent with workplace mistreatment and bullying (Rasool et al., 2021). The TWE included such questions as, "My colleague, supervisor, or subordinate never answers my greeting" or "My colleague, supervisor, or subordinate often tries to talk about my personal and sexual life." The TWE alpha was measured as (0.935).

The OS was measured using questions to show the degree to which employees measured the organizational value of the employee's work. Questions were adapted from established perceptions of organizational support frameworks (Rasool et al., 2021). The questions included, "The organization always helps me whenever I am facing a bad time" and "The organization attaches great importance to my work goals and values. The OS alpha was within acceptable parameters of reliability (a = 0.784).

The EWB was measured using questions about organizations' emotional and psychological views of employee well-being. Questions were adopted from established perceptions of employee well-being (Rasool et al., 2021). Questions included, "My supervisor and co-worker regularly check in to see how I am doing" and "When I am stressed, I feel that I have the support available for help." The consistency reliability was within acceptable parameters for EWB (a = 0.843).

The EE was assessed with questions about the involvement, energy, and commitment of the employee toward work tasks and goals. The EE questions included "I always complete the duties specified in my job description" and "I fulfill all responsibilities required at my job." The EE had a consistency reliability within the acceptable parameters (a = 0.59).

4.3. Findings

The analysis examined item-level differences in seven workplace toxic traits across demographic factors and organizational indicators. A series of linear regression analyses was conducted to examine the demographic differences in perceived toxicity in the workplace. The variables of age, biological sex, and education were tested separately as predictors of TWE, OS, EWB, and EE. Ultimately, education and biological sex were associated with perceived toxicity, while age had no association.

The employee's age had an association with employee engagement. The education level of the employee did have a supported relationship with the perception of organizational support. The Education level had a somewhat significant relationship with the impacts of the TWE. Education positively predicted TWE with $\beta = 0.149$, $p = 0.049$, which suggested that those with more advanced degrees reported slightly higher TWE.

Table 1. Regression of Toxic Work Environment (TWE) on demographics.

Predictor	B (Unstandardized)	SE	β (Standardized)	t	*p*
Education	0.254	0.128	0.149	1.986	0.049
Age	−0.095	0.088	−0.081	−1.074	0.284
Sex	−0.493	0.224	−0.164	−2.199	0.029

Model Fit:

Education: $R^2 = 0.022$, Adjusted $R^2 = 0.017$, RMSE = 1.440

Age: $R^2 = 0.007$, Adjusted $R^2 = 0.001$, RMSE = 1.451

Biological Sex: $R^2 = 0.027$, Adjusted $R^2 = 0.021$, RMSE = 1.436

As shown in Table 1 above, Sex has a stronger association with TWE felt than education. Biological sex predicted TWE (β = −0.164, $p = 0.029$). Sex was coded with Females = 1 and Male = 0. Males reported slightly lower levels of perceived toxicity, while higher-educated employees perceived toxicity more. Age was not a significant predictor (β = −0.081, $p = 0.284$). The findings indicate that women reported slightly lower levels of perceived toxicity than men. This suggests that toxicity may be influenced more through occupational factors than biological sex alone and confirms the importance of avoiding overgeneralizations in toxicity research as to demographics.

Additionally, Education positively predicted OS (β = 0.150, $p = 0.047$), though the effect size was small ($R^2 = 0.022$). This suggests that respondents with higher education levels reported slightly higher perceptions of OS ($R^2 = 0.022$). Neither Age nor Sex predicted organizational support. Age (β = 0.023, $p = 0.766$) and Sex showed (β = −0.021, $p = 0.782$). While Sex did not show OS, there was some negative prediction of TWE with Sex (β = −0.164, $p = 0.029$), with females reporting lower TWE scores than males.

Table 2. Regression of Occupational Support (OS) on demographics.

Predictor	B (Unstandardized)	SE	β (Standardized)	t	*p*
Education	0.124	0.062	0.150	1.999	0.047
Age	0.013	0.043	0.023	0.298	0.766
Sex	−0.031	0.111	−0.021	−0.277	0.782

Model Fit:

Education: $R^2 = 0.022$, Adjusted $R^2 = 0.017$, RMSE = 0.700

Age: $R^2 = 0.001$, Adjusted $R^2 = -0.005$, RMSE = 0.708

Sex: $R^2 = 0.000$, Adjusted $R^2 = -0.005$, RMSE = 0.708

As seen in Table 2, Education was the only demographic with a relationship that predicted perceptions of organizational support, indicating that higher educational attainment was associated with slightly higher perceptions of organizational support.

None of the demographics predicted employee well-being. Education (β =

0.105, $p = 0.165$), age ($\beta = 0.034$, $p = 0.659$), and biological sex ($\beta = -0.060$, $p = 0.433$), indicating that the demographics were not statistically significant predictors of well-being.

It must be noted that the demographic variables have limited explanatory power across the models. There were modest associations between the variables of education and biological sex with toxic workplaces. Education was associated with organizational support perceptions; however, age did not show a tendency to predict. The effects across the models were small, indicating that there is a limited proportion of variance of perceptions with workplace perceptions.

5. Conclusions and Implications

This study examined whether demographic characteristics are associated with perceptions of workplace toxicity and organizational indicators. These findings suggest that while demographics may have modest ties to perceived toxicity and organizational resources, their relationships are limited and cannot conclusively confirm that workplace toxicity is not a construction inherent in organizational cultures. This reduces the effectiveness of self-mitigation strategies.

Education and sex indicated modest predictability of OS and TWE, while age showed no measurable effect. EWB and EE are not significantly associated with Sex, Age, or Education Level. While demographics play a minor role in perceptions of the workplace, they only explain a small portion of variance. Toxicity may be more strongly influenced by the organization itself through climate, culture, leadership, and employee dynamics than by demographics. Organizations may benefit from targeted stress management programs and overarching improvements to workplace culture, rather than attempting to find specific programs that benefit demographics.

The findings suggest that general training may be more effective than focused training targeted to specific groups. Companies should focus on culture, leadership behaviors, and support to effect true change. Future research should utilize probability-based sampling or longitudinal studies that would strengthen causality and external validation of the findings.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Agarwal, P. K. (2019). Effect of Organisational Climate Factors on Job Satisfaction of Academic Staff: Evidence from a Private University in India. *AKGIM Journal of Management, 3,* 24-34.

Amoadu, M., Ansah, E. W., & Sarfo, J. O. (2024). Preventing Workplace Mistreatment and Improving Workers' Mental Health: A Scoping Review of the Impact of Psychosocial Safety Climate. *BMC Psychology, 12,* Article No. 195. https://doi.org/10.1186/s40359-024-01675-z

Hattangadi, V. (2019). Adam's Equity Theory: What Employees Do When They Notice

Inequity in the Workplace. *Financial Express, 1*.

Kong, F., Zhao, L., Tao, X., & Wu, G. (2024). The Effect of Workplace Bullying on Knowledge Sharing of the Employees in Scientific and Technological Enterprises: A Moderated Mediation Model. *BMC Psychology, 12,* Article No. 546. https://doi.org/10.1186/s40359-024-02056-2

Masoomzadeh, A., Zakaria, N., Masrom, M., Streimikiene, D., & Tavakoli, R. (2019). Organizational Innovation Factors, Capabilities and Organizational Performance in Automotive Industry. *Montenegrin Journal of Economics, 15,* 83-100. https://doi.org/10.14254/1800-5845/2019.15-3.6

Mcleod, S. (2023). *Convenience Sampling: Definition Method and Examples.* Simply Psychology. https://www.simplypsychology.org/convenience-sampling.html#Limitations

Rasool, S. F., Wang, M., Tang, M., Saeed, A., & Iqbal, J. (2021). How Toxic Workplace Environment Effects the Employee Engagement: The Mediating Role of Organizational Support and Employee Wellbeing. *International Journal of Environmental Research and Public Health, 18,* Article 2294. https://doi.org/10.3390/ijerph18052294

Sun, S., Chen, H., He, Y., Yu, F., Yang, Y., Chen, H. et al. (2025). Workplace Bullying and Turnover Intentions among Workers: A Systematic Review and Meta-Analysis. *BMC Public Health, 25,* Article No. 2394. https://doi.org/10.1186/s12889-025-23339-2

The U.S. Census Bureau (2023). *Business Dynamics Statistics: 2020 Data Release.* https://bds.explorer.ces.census.gov/?year=2020&xaxis-id=sector&xaxis-selected=31-33,44-45,54,72&group-id=fage&group-selected=010,065,070,075,150&group-group=2&measure-id=job_creation&chart-type=bar

Weiss, H. M., & Cropanzano, R. (1996). Affective Events Theory: A Theoretical Discussion of the Structure, Causes, and Consequences of Affective Experiences at Work. In B. M. Staw, & L. L. Cummings (Eds.), *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews* (pp. 1-74). Elsevier.

Appendix

Linear Regression

Model Summary - OS_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.706
M_1	0.150	0.022	0.017	0.700

Note. M_1 includes ED.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	1.957	1	1.957	3.996	0.047
	Residual	85.227	174	0.490		
	Total	87.184	175			

Note. M_1 includes ED; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.723	0.053		51.181	<0.001
M_1	(Intercept)	2.461	0.141		17.436	<0.001
	ED	0.124	0.062	0.150	1.999	0.047

Linear Regression

Model Summary - OS_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.706
M_1	0.023	0.001	−0.005	0.708

Note. M_1 includes AGE.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	0.044	1	0.044	0.089	0.766
	Residual	87.140	174	0.501		
	Total	87.184	175			

Note. M_1 includes AGE; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.723	0.053		51.181	<0.001
M_1	(Intercept)	2.681	0.152		17.610	<0.001
	AGE	0.013	0.043	0.023	0.298	0.766

Linear Regression

Model Summary - OS_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.706
M_1	0.021	0.000	−0.005	0.708

Note. M_1 includes SEX.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	0.038	1	0.038	0.077	0.782
	Residual	87.146	174	0.501		
	Total	87.184	175			

Note. M_1 includes SEX; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.723	0.053		51.181	<0.001
M_1	(Intercept)	2.773	0.188		14.752	<0.001
	SEX	−0.031	0.111	−0.021	−0.277	0.782

Linear Regression

Model Summary - TWE_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.452
M_1	0.164	0.027	0.021	1.436

Note. M_1 includes SEX.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	9.968	1	9.968	4.834	0.029

Continued

	Residual	358.848	174	2.062
	Total	368.816	175	

Note. M_1 includes SEX; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	3.590	0.109		32.808	<0.001
M_1	(Intercept)	4.394	0.381		11.520	<0.001
	SEX	−0.493	0.224	−0.164	−2.199	0.029

Linear Regression

Model Summary - TWE_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.452
M_1	0.081	0.007	0.001	1.451

Note. M_1 includes AGE.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	2.428	1	2.428	1.153	0.284
	Residual	366.388	174	2.106		
	Total	368.816	175			

Note. M_1 includes AGE; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	3.590	0.109		32.808	<0.001
M_1	(Intercept)	3.904	0.312		12.508	<0.001
	SEX	−0.095	0.088	−0.081	−1.074	0.284

Linear Regression

Model Summary - TWE_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.452
M_1	0.149	0.022	0.017	1.440

Note. M_1 includes ED.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	8.176	1	8.176	3.945	0.049
	Residual	360.640	174	2.073		
	Total	368.816	175			

Note. M_1 includes ED; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	3.590	0.109		32.808	<0.001
M_1	(Intercept)	3.055	0.290		10.521	<0.001
	ED	0.254	0.128	0.149	1.986	0.049

Linear Regression

Model Summary - EWB_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.738
M_1	0.105	0.011	0.005	0.736

Note. M_1 includes ED.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	1.054	1	1.054	1.944	0.165
	Residual	94.375	174	0.542		
	Total	95.429	175			

Note. M_1 includes ED; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.623	0.056		47.118	<0.001
M_1	(Intercept)	2.431	0.149		16.363	<0.001
	SEX	0.091	0.065	0.105	1.394	0.165

Linear Regression

Model Summary - EWB_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.738
M_1	0.034	0.001	−0.005	0.740

Note. M_1 includes AGE.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	0.107	1	0.107	0.196	0.659
	Residual	95.322	174	0.548		
	Total	95.429	175			

Note. M_1 includes AGE; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.623	0.056		47.118	<0.001
M_1	(Intercept)	2.557	0.159		16.060	<0.001
	SEX	0.020	0.045	0.034	0.442	0.659

Linear Regression

Model Summary - EWB_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.738
M_1	0.060	0.004	−0.002	0.739

Note. M_1 includes SEX.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	0.338	1	0.338	0.619	0.433
	Residual	95.091	174	0.547		
	Total	95.429	175			

Note. M_1 includes SEX; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.623	0.056		47.118	<0.001

Continued

M_1	(Intercept)	2.771	0.196		14.111	<0.001
	SEX	−0.091	0.115	−0.060	−0.787	0.433

Linear Regression

Model Summary - EE_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	0.412
M_1	0.009	0.000	−0.006	0.413

Note. M_1 includes SEX.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	0.002	1	0.002	0.014	0.906
	Residual	29.685	174	0.171		
	Total	29.687	175			

Note. M_1 includes SEX; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	2.937	0.031		94.616	<0.001
M_1	(Intercept)	2.950	0.110		26.889	<0.001
	SEX	−0.008	0.065	−0.009	−0.118	0.906

Linear Regression

Model Summary - TWE_composite

Model	R	R^2	Adjusted R^2	RMSE
M_0	0.000	0.000	0.000	1.452
M_1	0.164	0.027	0.021	1.436

Note. M_1 includes SEX.

ANOVA

Model		Sum of Squares	df	Mean Square	F	*p*
M_1	Regression	9.968	1	9.968	4.834	.029
	Residual	358.848	174	2.062		
	Total	368.816	175			

Note. M_1 includes SEX; The intercept model is omitted, as no meaningful information can be shown.

Coefficients

Model		Unstandardized	Standard Error	Standardized	t	*p*
M_0	(Intercept)	3.590	0.109		32.808	<0.001
M_1	(Intercept)	4.394	0.381		11.520	<0.001
	SEX	−0.493	0.224	−0.164	−2.199	0.029