

Ethics and the Dampening Effects of Pressure: The Moderating Role of Employment Level, Tenure, and Company Size

Pamela J. Harper
Marist College

John C. Cary
Marist College

William S. Brown
Marist College

Pablo Rivas
Baylor University

This study examines the relationship between a spectrum of employment-related variables (i.e., employment level, tenure, and company size) and Ethicality. A sample of 370 business employees of varying tenure and employment levels at companies of various sizes were surveyed to fill an important gap in the behavioral ethics literature. The survey included twenty-two questions, was both age (18 to 100 years) and gender-balanced, and well represented the United States of America. We have examined the role of a pressurized environment on employees in organizations to understand the extent to which they may be conducive or debilitating to ethical conduct. As hypothesized, we find a non-linear relationship between employment factors and Ethicality and a dampening effect of pressure across these key relationships.

Keywords: ethics, business employees, pressure

INTRODUCTION

Ethical decision-making and behavior within organizations have received increasing attention over the past couple of decades. Some of the most recent examples of questionable business ethics include corporate scandals (i.e., Enron, Volkswagen, Lehman Brothers, BP, Uber, Facebook, Purdue Pharma, WellsFargo, Theranos, Volkswagen, HealthSouth, Parmalat). As a result, numerous studies have attempted to elucidate the characteristics of organizations that correlate with the right vs. wrong actions of employees. The field of business ethics is largely concerned with predicting individuals' behavior (Donaldson and Dunfee, 1994; Trevino and Weaver, 1994). Researchers have tested a wide variety of constructs that influence this decision-making process, including individual factors such as gender and cognitive moral development (e.g., Bass et al., 1999; Cohen et al., 2001), organizational factors such as codes of ethics and ethical climate/culture (e.g., Trevino et al., 1998). The business ethics literature has certainly benefited from these

theoretical and empirical studies. It has made significant strides in describing how individuals think and act when faced with ethical situations. However, there is a gap in the literature regarding understanding the antecedents to business employees' Ethicality and the impact of perceived pressure. Notable is research concluding that subjects consciously conform to unethical behavior in the presence of social pressure from a dominant group (Solomon Asch, 1951). In addition, Barsky 2011 and Tepper 2010 have found that "pressure to perform" is an antecedent to unethical conduct.

This research seeks to fill a gap in the behavioral ethics literature by making a tentative step toward explaining the relationship between employment characteristics and Ethicality. Further, the study examines the extent to which "perceived pressure" alters the relationship between employment-related variables and Ethicality. The remainder of the paper is organized as follows. The first section presents a brief review of the relevant literature. In the second section, we develop the hypotheses that are tested. The third section contains a description of the data and presents summary statistics. In the next section, we present our empirical results. The last section contains a summary and discussion of future research opportunities.

LITERATURE REVIEW

The history of human thinking is filled with examinations of ethical conduct or proper behavior in the context of others. At its most basic level, it can be described as "...the general study of goodness and the general study of right action..." (Audi 2005, p. 285). Many examples can be cited, but most prominently are Socrates (as in Vlastos, 1991 or Roshotko, 2006), Plato (2006), Aristotle (1897), and Immanuel Kant (2002), Friedrich Nietzsche (1998), and Adam Smith (1817) among many others. The broad sweep of thinking of ethical conduct can be traced in numerous panoramic histories of the field, such as MacIntyre (2002), Becker and Becker (2002), and Star and Crisp (2020). Honderich (2005, p. 271) succinctly summarizes this millennia-long intellectual pursuit: "...philosophers from Socrates to Bernard Williams, use 'ethics' in a broad sense to refer to reflective answers to the question 'How should I live?'"

This sweeping arc of intellectual inquiry over the ages has seen an articulation into several sub-fields in the study of ethics. One such sub-field is that of business ethics. The history of the field of business ethics is traced in many publications such as Ciulla (2011), Freeman (1991), and De George (1987). Many studies of the origins of the concept of corporate social responsibility (CSR) point to the seminal work by Howard Bowen (1953) as a major theoretical starting point. The key point in all of these is that there is a growing awareness among executives that ethical conduct and corporate social responsibility are significant factors to consider in corporate training programs and formulating overall organizational strategy.

Many moderating factors may influence organizational ethical conduct. For example, Harper, Cary, Brown, and Rivas (2019) examined gender, religion, income, and perceived pressure in certain situations. This particular study focuses on the moderating effect of employment level, tenure with the organization, and the organization's size on ethical conduct. The overall effect that perceived pressure may have on each of these variables is also examined.

Generally, the impact of pressure on human behavior and how that pressure may distort ethical responses in the workplace has been the subject of a number of different studies. Perhaps noteworthy are the classic experiments run by Solomon Asch (1951). The findings of these experiments is that pressure from a dominant figure or group causes research subjects to knowingly perform incorrect behaviors 75% of the time. In another study, 60% of a large sample of workers found that those workers felt a substantial amount of pressure that lead to ethical dilemmas (Petry, Mujica, and Vickery, 1998). In an examination of what organizational factors created ethical or unethical work climates, Cohen (1993, p. 346) found that organizational climates that lead to unethical conduct tend to be ones where "...the ends justify the means. These situations create a 'normlessness'... ignoring the rules and regulations to achieve desired outcomes."

Further, Pool (2000) conducted a study investigating the role of stressors and their impact on job tension. The findings of the study indicate that organizations with what the author calls a "constructive culture" will significantly reduce role stressors, decreasing job tension and increasing job satisfaction, job performance, and job commitment. This constructive culture is rooted in the organization's beliefs and philosophy about how it conducts its business. However, when these beliefs do not support an

organization's strategy, organizations find it difficult to implement it successfully. In a study of Australian executives, Soutar, McNeil, and Molster (1994) found a high incidence of demands by superiors being the cause of ethical conflicts felt by subordinates. Management superiors were also found to be the primary influence on employee ethical decision-making.

In an early analysis of the state of research in the field, Connor and Becker (1975) assert that few researchers have focused on values and organizational processes. They specifically raised the question of how values relate to upward mobility (among other factors). In examining ethical conduct among top-level executives, Lincoln, Pressley, and Little (1982) attempted to answer the questions "Do business executives sell their souls to the corporation? Is the organization a 'paramour' in the executive's life? Is backstabbing the only way to climb the corporate ladder?" (p. 475). They surveyed Fortune 500 executives in the marketing, finance, and production areas of the organizations. Their findings were unclear as various executives exhibited different behaviors regarding the three types of ethical concern. Hodgkinson (1970) attempted to study the organizational influence on value systems among school organizations. In examining the effect of the organization on the value systems of those in the organizational hierarchy, they used the OCDQ (Organization Climate Description Questionnaire) to assess the intensity of influence on the value systems of employees. Their results found some evidence of a shift in value orientation with a promotion in the hierarchy. Individuals began to approximate more closely the organization espoused values as they ascended the hierarchy of the organization. Harris (1990) examined the ethical values of individuals at different levels within the organizational hierarchy of a single company. He found that while there were differences in ethical values by hierarchical level, significantly more differences were observed by the length of tenure with the organization.

Schaubroeck et al. (2012) tested a model of ethical leadership and its effect on the ethical culture of sub-units within the organization. Data were collected from over 2,500 U.S. Army soldiers comprising three organizational levels deployed in combat. The study found that ethical leadership influences occur not only directly with immediate subordinates but also cascades down the organizational hierarchy reflecting senior leader behavior. Trevino, Weaver, and Brown (2008) studied whether senior managers are more likely to have a more positive perception of organizational ethics than lower-level employees due to their role, the need to protect the organization's image, their identification with the organization, and their need to protect their own identity. They found that perceptions of ethics in the organization differed across levels, with senior managers' perceptions being significantly more positive and lower-level employees' perceptions being more harmful. Harris (1990) found evidence that an employee's placement in the hierarchy of the organization has a significant impact on their ethical values. He also found that employees in positions higher in the organization were more concerned with ethical conduct than those at lower levels. The study also reported that high-level managers felt less pressure to compromise their personal ethical values to achieve success within the organization.

At the opposite end of the employment level spectrum are entry-level employees, many of whom enter the workforce directly upon graduation from college. Business schools are increasingly requiring students to study ethics, thus intentionally preparing entry-level students to respond appropriately to ethical dilemmas (Dean et al., 2010; Adams, et al., 1998). Perhaps in response to the many visible business scandals, business ethics has become a major growth industry in academia (Salmans, 1987; Vogel, 1987). Academic institutions are increasingly integrating business ethics throughout the business school curriculum in response to unethical business practices. Institutions of higher learning may impart such knowledge in the form of separate business ethics courses and/or through discussions within courses (Arlow, 1991). It is reasonable to assume that instruction within the academic setting will provide those under such tutelage with greater exposure to a range of firms' activities, including business scandals. Such irresponsible behavior by large corporations that might be presented via case studies, articles, presentations, guest speakers, etc., range from check-kiting and money laundering to foreign political payoffs and price-fixing schemes. Hemmingway and Maclagan (2004) argue that managers' personal values are prime motivators of their corporate social responsibility behaviors. Given the extant literature, the following hypothesis is offered:

Hypothesis 1: *There is a non-linear relationship between employment level and Ethicality, such that low and high employment levels have higher levels of Ethicality than mid-range employment categories.*

Regarding the dampening effect pressure has on employment level and ethicality, studies considering the pressure to perform in an organizational setting, as a catalyst for unethical conduct, include the work of Barsky 2011, Tepper 2010, and Boyd 1997, among others. The research of Selart and Johansen (2011), found that 58% of respondents felt unethical conduct was caused by workplace pressures. Several studies on how the pressure to perform has contorted ethical conduct have been conducted using business school students as study subjects (see, for example, Smith, Davy, and Easterling 2004). Werhane (2005, p.44) purported that the dynamics of human nature and self-interest in organizations are at the root of unethical conduct: “By definition, people are enmeshed in a collection of overlapping social, professional, cultural, and religious roles, each of which makes moral demands. This overlap becomes problematic when demands clash.”

Thus:

Hypothesis 1a: *The relationship between employment level and Ethicality is dampened by pressure.*

Studies of the length of employment and Ethicality have mixed results. Harris (1990) found that while there were differences in ethical values by hierarchical level, significantly more differences were observed by the length of tenure with the organization (reflecting more concern on ethical matters). Callan (1992) found different results in a study of 226 state government employees. He concluded that the length of service of survey respondents (along with other factors) did not substantially influence either employee ethical values or perceived ethical training needs. Contrasting the results of Callan, Pelletier and Bligh (2006) also in a study of public managers, surveyed 1,000 employees of a California government agency using the Perceptions of Ethical Climate Questionnaire. The researchers found that older employees having more organizational tenure perceived ethics programs as more effective than younger workers with less time in the organization. Similar results were found by Veit and Murphy (1996) in the investment industry. In a survey of 3,600 investment analysts, the study found that those with longer organizational tenure were more likely to be concerned with perceived declining ethical standards in the industry than employees with less organizational tenure. Keith, Pettijohn, and Burnett (2008), in a study of ethical perceptions among advertising professionals and students about to enter the workforce in the field, examined the respondents’ perceived likelihood to engage in any of the 20 unethical behaviors described in the study. The results showed that advanced professionals in the field felt more strongly than students, that ethical behavior is essential in advertising; in fact, students were more likely to engage in unethical conduct than the advertising professionals. For the advertising professionals, the longer employees were employed at the advertising agency, the more important they perceived ethical conduct and the less likely they were to engage in perceived unethical conduct. Taken together, previous research has yielded competing results regarding the role of tenure on ethicality.

Thus:

Hypothesis 2: *There is a non-linear relationship between tenure and Ethicality, such that short-term and long-term employment tenure periods have higher levels of Ethicality than mid-range tenure categories.*

Similar to the previously posited expectation that pressure impacts ethicality with regard to employment level, this phenomenon is also expected to relate to time employed.

Thus:

Hypothesis 2a: *The relationship between time employed and Ethicality is dampened by pressure.*

Concerning company size and ethicality, Spence (1999), in a study of ethics in small businesses, found she could draw no firm conclusions on the area after reviewing all the extant literature at the time. However,

she did suggest using a Micro/Meso/Macro perspective in further research endeavors into the topic. In a later study done by Spence (2014) regarding social responsibility and small businesses, she concluded that an ethic of care and the concept of social responsibility have broader relevance, value, and implications beyond the small firm context. In fact, Baumann-Pauly et al. (2013), in a study of Swiss small- and medium-sized enterprises, concludes that smaller organizations are not necessarily less advanced in CSR (a subset of Ethics) initiatives than large firms.

Fulop, Hisrich, and Szegedi (2000) found in a study of Hungarian companies that there was a relationship between the size of the organization and overall views on ethics and the company's attitudes toward ethical issues. Davies and Crane (2010) found that employee buy-in was a critical factor in the engagement of small- and medium-sized enterprises (SMEs) with corporate social responsibility efforts. A key method identified in the study in increasing the "moral intensity" of the employees was formal socialization programs that improve employee knowledge and familiarization with beneficiaries of organizational CSR efforts. The role of senior management is critical to both the support of the formal socialization programs and ultimately to the buy-in of the rank-and-file employees.

Soutar, McNeil, and Molster (1995), in a study of Australian companies, also found a relationship between company size and the likelihood of formal initiatives introducing ethics into business decision making. Table III of the study (p. 605) indicates a definite relationship between the size of the company and reported institutionalization initiatives of ethics into the culture of the company: 38% of companies with 1-99 employees reported institutionalization initiatives for ethics, while 48% of companies with 100-499 employees, 40% of companies with 500- 999 employees, 85% of companies with 1,000- 4,999 employees, and 100% of companies of 5,000 or more workers reported institutionalization of ethics initiatives. Previous research results have been mixed; however, we expect a non-linear or curvilinear relationship between an organization's size and its Ethicality.

Thus:

Hypothesis 3: *There is a non-linear relationship between company size and Ethicality, such that employees at small and large companies have higher levels of Ethicality than mid-sized companies.*

Similar to the previously posited expectation that pressure impacts ethicality with regard to employment level and tenure, this phenomenon is also expected to relate to company size such that:

Hypothesis 3a: *The relationship between company size and Ethicality is dampened by pressure.*

METHODS

Data Source

A survey questionnaire was designed and administered through the SVMK services, a research and design website used by researchers to collect and analyze data from selected and targeted demographics (www.SurveyMonkey.com, 2020). The data was collected from all regions of the USA during March of 2020. The instrument was sent out through the portal to random participants, and they were given the choice to opt-out of the survey on a volunteer basis. They were given no compensation for their participation. The responses were aggregated with each respondent's identity remaining unknown to the research team. The survey was sent online, and respondents could choose to answer the questions using either a mobile device or computer (Weber 2015).

The instrument was a 3-part survey including demographics, Ethicality, and stress-related questions, respectively. The demographics section included eleven questions on the respondent's demographics, including age, gender, employment status, zip code, and others, and allowed for multiple-choice responses. The pressure section included eleven questions as well and considered respondents' sensitivity to pressurized situations at the workplace. The final section examined potential stress-inducing scenarios and events. In total, the survey included 26 questions. The data coverage area was the contiguous United States and was automatically stratified into nine regions. A total of 52% of the data was drawn from the Middle

Atlantic, South Atlantic, and Pacific areas (see Appendix 2). Additionally, the gender was moderately balanced, with 43% males and 57% females.

A total of 658 responses were collected, with incomplete response data being removed after careful review. Additionally, the category titled “Retired” was removed from the survey because of its irrelevance to the study. Because the study involved white-collar and professional workers, the category “Tradesman” was also removed due to irrelevance to the research focus. After a thorough review, the resulting number of respondents was $n=469$. Subsequently, as the data was organized and codified, additional data anomalies were discovered, e.g., including erroneous data in the form of text instead of a number or vice-versa, and use of foul language. Such data was not suitable for the analysis and was, therefore, removed. The size of the data after the removal was $n=370$.

The study involved one dependent variable, Ethicality, and three predictors or independent variables, namely, employment level, employment tenure, and company size. Employment level was a hierarchical ordinal measurement starting with entry-level and proceeding up the “company ladder” to the executive. Employment tenure was a ranking of years of service with a company. Finally, company size was interval data starting at 100 employees or less and capping at 100,000 and greater. Further details regarding these independent variables are provided in later sections of the paper. These predictors, i.e., independent variables, are paired with the dependent variable, and corresponding moderators as illustrated in Table 1. A moderator, pressure, was subsequently introduced to examine the effects on Ethicality and was the defining component in our research.

We tested the hypotheses using a linear regression model, and the data was processed using the Python programming language for statistical analysis purposes. Each hypothesis was tested for statistical significance at the $p \leq .05$, $p \leq 0.01$, and $p \leq 0.001$ levels. Table 1 shows the hypotheses tested and their respective subordinate hypothesis. Details regarding the specific treatment of variables can be found in the next section.

**TABLE 1
HYPOTHESIS TESTING**

Hypothesis	Dependent Variable	Independent Variable (Predictor)	Moderator
H1	Ethicality	Employment Level	N / A
H1a	Ethicality	Employment Level	pressure
H2	Ethicality	Employment Tenure	N / A
H2a	Ethicality	Employment Tenure	pressure
H3	Ethicality	Company Size	N / A
H3a	Ethicality	Company Size	pressure

Ethicality

Ethicality was the “dependent variable” in this study, and respondents were asked a series of questions to understand their degree and tolerance to Ethicality under circumstances of pressure typical to their demographics. The response data were codified within Part II of the survey and listed as questions 12-22. The questions were designed using a 5-point Likert scale system with an answer of 1) indicating “strongly disagree” (Less pressure) and 5) suggesting “strongly agree” (More pressure). The questions were used to determine if those conceding to pressure perceived a dampening effect on their Ethicality.

Demographics

The first section of the survey instrument allowed for the collecting a combination of nominal and interval data from the anonymous data sourced from survey monkey. There were eleven questions in Part

I, including age, gender, marital status, level of education, employment level, employment status, employment tenure, company size, religiosity, zip code, gross annual household income. Religiosity introduces the behaviors of those attending religious services.

Question 1 used demographic range data as follows: under 30, 30-49, 50-64, & 65 and older. These pre-determined ranges have been used and validated by researchers such as San and Bhattacharya (2001).

Questions 9, 10, and 11 were not considered relevant to the current research study and therefore eliminated. Questions 5, (employment level), 7 (employment tenure), and 8 (size of the company) thus became the three predictor variables that were regressed with Ethicality and then pressure, as a moderator, to determine statistical significance. All others were held as control variables.

The second section included questions related to a perception of pressure in the workplace. There were six questions in total numbered from Q12 – Q17. Question 12 was removed from the study as it was deemed not essential to our study. All the remaining questions were developed based on a Likert scale with a “1” indicating “strongly disagree” and “5” indicating “strongly agree” to the question.

The third section included questions related to Ethicality in the workplace and mirrored the questions regarding pressure, except that the survey asked respondents to document actual outcomes to situations based on their experiences. In other words, rather than asking how the respondents felt about the situation (perception of pressure or not), the questions inquired about resulting behavior in the workplace. There was a total of five questions numbered from Q18 – Q22. The questions were again based on a Likert scale with a “1” indicating “very often” and “5” indicating “Never” to the question.

The fourth section included questions related to stress (external factor) in the workplace and was later discarded from the study as it was not the central focus of the research. There was a total of four questions numbered from Q18 – Q22. The questions were built on a Likert scale with a “1” indicating “very often” and “5” indicating “Never” to the question. The questions were designed as the pressure questions.

By default, the survey produced two sets of categories that were not part of the survey design, namely, regional response numbers and devices used to answer the survey. The survey showed stratified data from nine regions of the country, including the Pacific coast to the New England area. Just over 50% of respondents were from the Pacific (21.8%), South Atlantic (18.20%), and Middle Atlantic (12.60%) areas of the country.

Pressure

Part II of the survey included questions Q12–17 and designed as a 5- point Likert scale using ordinal data for the responses. Question 12 was later removed as it was deemed inappropriate for this study and rhetorically inconsistent with the other questions. The remaining questions, Q13-Q17, permitted the development of the variable representing “pressure”. The relevant questions attempted to solicit responses from the participants ranging from 1) strongly disagree to 5) strongly agree. A “1” response indicated a tendency toward less pressure, and a “5” indicated a tendency toward greater pressure.

Employment Level

Employment level was an independent variable and appeared as categorical data in Part 1 of the survey under question number five. Most of the responses (>50%) identified as entry-level workers and middle managers.

Employment Tenure

Employment tenure was a second independent variable and appeared as interval data in Part 1 of the survey under question number seven. This question required disclosure of the number of years the respondent had worked at their current employer. The intervals included: a) less than a year b) up to 3 years c) up to 10 years d) up to 25 years e) greater than 25 years. Most of the respondents (>50%) were in the 0-1 year (27%) and 3-10 years (25%).

Company Size

Company size was a third independent variable or predictor and appeared as interval data in Part 1 of the survey under question number eight. This question asked about the number of employees currently at the respondents' organization. The intervals included: a) up to 100 employees b) up to 1,000 employees c) up to 10,000 employees d) up to 50,000 employees e) up to 100,000 employees f) greater than 100,000 employees. Most of the respondents (>50%) were in the less than 100 (44%) and between 100-1000 (22%).

Control Variables

The control variables are those variables that remain the same through each of the trials in the study, and these included: age, gender, marital status, level of education, religiosity, zip code, and annual income. Most of the respondents were between 30-49 years of age (38%). There were 58% females and 42% males in the survey. The largest category under marital status included those married (46%). Fifty percent of the respondents listed some college and bachelor's degrees, with 16% showing graduate degrees. The other variables were of less significance to the study.

RESULTS

Summary Statistics

The descriptive statistics of the full dataset is shown in Table 2 below. The variable pressure is assessed as a continuous variable, which results from averaging responses to pressure-related questions. The variables of relevance to our hypothesis are further moderated, as suggested in the literature (C. M. Judd et al. 2001); the moderation is introduced by pressure. We also process the data by removing columns that are not relevant in this particular study, for example, dates and arbitrary response I.D. strings associated with the survey delivery control mechanism and not relevant to our study.

TABLE 2
DESCRIPTIVE STATISTICS FOR THE ENTIRE DATASET

Variable	Count	Min	Mean	Max	Std Dev
Age	370	1	1.96	4	0.85
Gender	370	1	1.55	2	0.50
Marital Status	370	1	2.81	5	1.85
Level Education	370	1	4.15	7	1.47
Employment Level	370	3	4.25	8	1.60
Entry Level		0	0.43	1	
Middle Manager		0	0.34	1	
Upper Manager		0	0.13	1	
Executive Level		0	0.10	1	
Employment Status	370	1	1.82	4	1.10
Time Employed	370	1	2.49	5	1.24
0 - 1 years		0	0.30	1	
1 - 3 years		0	0.19	1	
3 - 10 years		0	0.29	1	
10 - 25 years		0	0.16	1	
> 25 years		0	0.06	1	

Company Size	370	1	2.18	6	1.38
Less than 100 employees		0	0.43	1	
100 - 1000 employees		0	0.24	1	
1000 - 10,000 employees		0	0.20	1	
10,000 - 50,000 employees		0	0.06	1	
50,000 - 100,000 employees		0	0.03	1	
> 100,000 employees		0	0.05	1	
Religiosity	370	1	2.35	5	1.18
Income	370	1	3.22	6	1.47
Pressure	370	1	1.78	5	0.95
Ethicality	370	1	4.36	5	0.87
Regions*	370				
East North Central		0	0.11	1	
East South Central		0	0.07	1	
Middle Atlantic		0	0.12	1	
Mountain		0	0.09	1	
New England		0	0.06	1	
Pacific		0	0.22	1	
South Atlantic		0	0.17	1	
West North Central		0	0.05	1	
West South Central		0	0.10	1	

Univariate Correlation

All variables are then centered following the recommended practices of data analytics and machine learning (Asparouhov, T., & Muthén, B., 2019). Once this is done, correlations and p-values between variables are calculated and reported in Table 3. To make a clear distinction, we will refer to this as univariate regression analysis. Then, we perform a multivariate regression analysis where Ethicality is the control variable, pressure is the independent variable, and the rest of the columns are control variables.

TABLE 3
UNIVARIATE CORRELATION MATRIX

<i>Variables</i>	Age	Gender	Marital Status	Level Education	Emplymnt Level	Emplymnt Status	Time Employed	Company Size	Religiosity	Income	Pressure
Gender	-0.0121										
Marital Status	-0.4707 ***	-0.0802 ***									
Level Education	0.2069 ***	-0.0239 ***	-0.2110 ***								
Employment Level	0.3546 ***	-0.0806 ***	-0.2432 ***	0.2625 ***							
Employment Status	-0.2666 ***	0.0918 ***	0.1763 **	-0.2044 ***	-0.1473 ***						
Time Employed	0.4942 ***	-0.0216 ***	-0.3666 ***	0.2787 ***	0.3719 ***	-0.3203 ***					
Company Size	0.0030	-0.1401	0.0240 *	0.0501	-0.1097 ***	-0.1828 ***	0.0873 ***				
Religiosity	0.0926	-0.0157 ***	-0.1750	0.0344 **	0.0133 ***	-0.0180 ***	0.1354 ***	0.1251 ***			
Income	0.2627 ***	-0.1282 ***	-0.3130 ***	0.3721 ***	0.3383	-0.2792 ***	0.2875 ***	0.0756 ***	0.0968 ***		
Pressure	-0.2212 ***	-0.1228	0.0483 *	-0.0295	-0.1049	0.1601 ***	-0.0701 ***	0.0485 ***	-0.0278 ***	-0.0330 ***	
Ethicality	0.1156 *	0.1469	0.0601	-0.0400	0.0516	-0.0306 ***	-0.0526 ***	0.0003 ***	-0.0046 ***	0.0221 ***	-0.5768 ***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Our univariate and multivariate analysis is done using the python language; the univariate analysis uses Pearson-correlation methods, and the multivariate analysis solves an ordinary least squares problem. The former uses Pandas libraries (W. McKinney 2011), and the latter uses the Statsmodels library (S. Seabold et al. 2010).

Univariate correlation analysis points to some significant findings that support our hypothesis. First, there is a clear negative correlation between pressure and ethicality -0.5768 with great statistical significance $p < 0.001$; this suggests that the more pressure there is, the more likely it is to find evidence of unethical behavior.

Second, Ethicality grows positively along with employment level with a correlation of 0.0516 and, while the p -value does not achieve statistical significance in this particular measure, it is significant when analyzed in an itemized way, i.e., when employment level is broken down into ‘Entry-Level,’ up to ‘Executive Level,’ in which case there is a u-shaped curve that fits the correlation values suggesting that lower levels of employment are less likely to show evidence of Ethicality. In comparison, higher levels of employment will show more evidence of ethical behavior. This can be seen visually in Appendix 1. This supports Hypothesis 1.

Third, regarding employment tenure at a particular company, the correlation matrix in Table 2 suggests there is a slightly negative correlation, -0.0526 with $p < 0.001$, between Ethicality and the time an employee has been in a company. Upon closer inspection, if decompose the employment tenure by the number of years, evidence suggests that only the upper and lower bounds tend to behave ethically. In contrast, most employees in the middle stages of their tenure tend to behave unethically. For a visual inspection, see Appendix 1, where a u-shape curve can fit the correlation data easily. This supports Hypothesis 2.

Lastly, the correlation between company size and Ethicality is nearly zero, 0.0003 with $p < 0.001$; however, and similarly to our previous findings, a u-shaped curve can fit a correlation by company size, as shown in Appendix 1, suggesting that small-size and larger-size companies are associated with ethical behavior. This supports Hypothesis 3.

However, we must note that this correlation analysis is directly associated with the dependent variable with no control variables whatsoever. Therefore, in the next step, we examine the relationship between all variables described in Table 2 with Ethicality as the dependent variable, and we discuss the role of pressure with Ethicality. We will control for other possible determinants of variation in Ethicality in a multivariate regression analysis.

Multivariate Regression Results

Next, we performed a multivariate regression analysis in which several variables remained as control variables while Ethicality remained the dependent variable, and then we introduce independent variables one by one as we test our hypothesis. We approach this problem using the standard multivariate linear regression model aiming to solve the following problem:

$$y_i = \mathbf{w}^T \mathbf{x}_i + w_0 \tag{1}$$

where y is the independent variable to be modeled as a function of parameters \mathbf{w} on dependent variables \mathbf{x} . The problem is solved for $i = 1, 2, \dots, N$ data points. In the case of multivariate linear regression, a model prediction, \hat{y} , should ideally be equal to the true target independent variable, y , if the dependent variables, \mathbf{x}_i , can explain the dependent variable. To estimate the model parameters, we use the averaged sum of all squared errors, also known as the mean squared error (MSE):

$$E(\mathbf{w}) = \frac{1}{N} \sum_{i=1}^N (\hat{y}_i - y_i)^2 \tag{2}$$

This can be simplified in terms of the ℓ_2 -norm (also known as the Euclidean norm, $\|\cdot\|_2$) by first defining a matrix of data \mathbf{X} , whose elements are data vector \mathbf{x} , and a vector of corresponding targets, as follows:

$$X = \begin{bmatrix} \mathbf{x}_1^T \\ \mathbf{x}_2^T \\ \vdots \\ \mathbf{x}_N^T \end{bmatrix} \text{ and } \mathbf{y} = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_N \end{bmatrix} \quad (3)$$

The simplification of the error is then as follows:

$$E(\mathbf{w}) = \frac{1}{N} \| X\mathbf{w} - \mathbf{y} \|_2^2 \quad (4)$$

This can then be expanded into the following important equation:

$$E(\mathbf{w}) = \frac{1}{N} \| \mathbf{w}^T X^T X \mathbf{w} - 2\mathbf{w}^T X^T \mathbf{y} + \mathbf{y}^T \mathbf{y} \|_2^2 \quad (5)$$

This is important because it facilitates the calculation of the derivative of the error, $E(\mathbf{w})$, which is necessary for adjusting the parameters, \mathbf{w} , in the direction of the derivative and in proportion to the error. Now, following the basic properties of linear algebra, we can say that the gradient is the following:

$$\nabla E(\mathbf{w}) = \frac{2}{N} (X^T X \mathbf{w} - X^T \mathbf{y}) \quad (6)$$

Because we want to find the parameters that yield the smallest error, we can set the gradient to 0 and solve for \mathbf{W} . By setting the gradient to 0 and ignoring constant values, we arrive at the following:

$$\begin{aligned} X^T X \mathbf{w} &= X^T \mathbf{y} \\ \mathbf{w} &= (X^T X)^{-1} X^T \mathbf{y} \end{aligned} \quad (7)$$

These are well-known in statistics as normal equations and are usually found in ordinary least squares methodologies (Krein 1982). We use this analytical solution to choose the best parameters, \mathbf{W} , using the Python programming language with standard libraries.

Our three hypotheses were tested and shown in Tables 4, 5, and 6. We used the following naming convention on the Tables for clarity: H_i refers to the i -th hypothesis with variables that are numerically coded; H_i^{\wedge} refers to the i -th hypothesis with the same variables but broken down categorically; $H_{i\alpha}$ refers to the sub-hypothesis of adding pressure into the list of control variables under the i -th hypothesis; S.E. stands for standard error. Variables were converted from categorical variables to dummy variables, using the one-hot encoding scheme (see Appendix 3).

The multivariate analysis for Hypothesis 1 is shown in Table 4. From the table, we can confirm that there is a non-linear relationship between Ethicality and the four different employment levels, all of which are significant with $p < 0.001$; particularly employees at the Entry Level and Executive Level show the highest regression coefficient with ethical behavior with 0.5907 and 0.6892, respectively. However, when pressure is introduced, the dynamic changes indicating that only people at the Entry Level remain ethical (1.1268) while at the Upper and Executive Levels, ethicality drops, which supports Hypothesis 1 and 1a, showing a non-linear relationship after pressure is introduced. Further, when Ethicality is moderated by pressure, the regression coefficient for the moderated variable shows a positive non-zero value (0.1015) with $p < 0.001$. The R^2 value is higher, > 0.4 , when pressure is introduced than without it, suggesting that Ethicality is better explained with pressure being a part of the control variables.

TABLE 4
MULTIVARIATE REGRESSION ANALYSIS: EMPLOYMENT LEVEL

Results of Moderated Regression Analysis		Ind. Variable:		Employment Level		H1a^	
Dependent Variable: Ethicality		H1	SE	H1a	SE	H1a^	SE
Control Variables:							
<i>Constant</i>		2.8793 ***	0.480	2.3987 ***	0.384	5.0406 ***	0.443
Age		0.1937 **	0.064	0.1996 **	0.065	0.0389	0.053
Marital Status		0.0904 **	0.029	0.0884 **	0.029	0.0586 *	0.024
Level Education		-0.0393	0.034	-0.0369	0.034	-0.0283	0.027
Income		0.0317	0.036	0.0335	0.036	0.0454	0.029
Religiosity		0.0046	0.04	0.0052	0.040	0.0053	0.032
Emplymnt Status		-0.0209	0.044	-0.0267	0.044	0.0384	0.036
Regions:							
	East North Central	0.3867	0.378	0.3633	0.380	0.3748	0.307
	East South Central	0.5674	0.391	0.5519	0.393	0.4344	0.317
	Middle Atlantic	0.4376	0.379	0.4126	0.381	0.4374	0.307
	Mountain	0.5693	0.383	0.5546	0.386	0.4946	0.311
	New England	0.4103	0.399	0.3934	0.401	0.3141	0.324
	Pacific	0.3408	0.368	0.3173	0.370	0.4374	0.299
	South Atlantic	0.2810	0.372	0.2545	0.375	0.3257	0.302
	West North Central	0.3325	0.411	0.3207	0.413	0.3155	0.334
	West South Central	0.2016	0.381	0.1874	0.383	0.1205	0.310
Gender		0.3100 ***	0.093	0.3055 ***	0.093	0.1387	0.077
Pressure						-0.9425	0.116
Employment Level		0.0200	0.031			-0.1619	0.050
	Entry Level			0.5907	0.121		
	Middle Manager			0.5319	0.116		
	Upper Manager			0.5868	0.145		
	Executive Level			0.6892	0.159		
Interactions:							
	Employment Level x Pressure					0.1015	0.026
	Entry Level x Pressure						
	Middle Manager x Pressure					-0.2630	0.060
	Upper Manager x Pressure					-0.2959	0.066
	Executive Level x Pressure					-0.1356	0.096
						0.3761	0.115

R ² -value	0.082	0.083	0.400	0.409
Adjusted R ²	0.037	0.033	0.367	0.370
F-statistic	1.842	1.673	12.260	10.410
Degrees of Freedom	352	350	350	346

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 5
MULTIVARIATE REGRESSION ANALYSIS: TIME EMPLOYED

Results of Moderated Regression Analysis		Ind. Variable:		Time Employed			
Dependent Variable: Ethicality	H2	SE	H2 [^]	SE	H2a	SE	H2a [^]
Control Variables:							
<i>Constant</i>	2.9445 ***	0.479	2.0233 ***	0.336	4.3101 ***	0.419	3.0627 ***
Age	0.2368 ***	0.066	0.2206 ***	0.068	0.0777	0.057	0.0602
Marital Status	0.0829 **	0.029	0.0753 *	0.030	0.0503 *	0.024	0.0392
Level Education	-0.0311	0.034	-0.0263	0.034	-0.0287	0.028	-0.0247
Income	0.0330	0.036	0.0365	0.036	0.0409	0.030	0.0514
Religiosity	0.0138	0.040	0.0113	0.040	0.0015	0.033	-0.0030
Emplymnt Status	-0.0409	0.044	-0.0508	0.046	0.0203	0.037	0.0236
Regions:							
East North Central	0.4175	0.376	0.4273	0.379	0.3348	0.313	0.3224
East South Central	0.5822	0.389	0.5724	0.391	0.4116	0.323	0.4323
Middle Atlantic	0.4642	0.377	0.4263	0.379	0.3641	0.314	0.3137
Mountain	0.5948	0.381	0.5920	0.384	0.4333	0.317	0.3963
New England	0.4518	0.397	0.4659	0.400	0.2414	0.331	0.2497
Pacific	0.3903	0.366	0.3760	0.370	0.3603	0.305	0.3494
South Atlantic	0.3098	0.370	0.2828	0.374	0.2908	0.308	0.2449
West North Central	0.3861	0.409	0.4223	0.413	0.2569	0.340	0.2776
West South Central	0.2274	0.379	0.2028	0.381	0.0233	0.316	-0.0096
Gender	0.3133 ***	0.092	0.3033 ***	0.093	0.1849 *	0.077	0.1610 *
Pressure					-0.4298 ***	0.090	-0.4415 ***
Employment Level	0.0342	0.032			0.0112	0.027	
Entry Level			0.4388 ***	0.116			0.7343 ***
Middle Manager			0.4360 ***	0.108			0.7819 ***
Upper Manager			0.5273 ***	0.138 ***			0.7703 ***
Executive Level			0.6212 ***	0.150			0.7761 ***

Time Employed	-0.1006 *	0.045			-0.0058	0.070			
0 - 1 years	0.6323 ***		0.114					0.5337 ***	0.157
1 - 3 years	0.4458 ***		0.114					0.7961 ***	0.183
3 - 10 years	0.2727 **		0.106					0.7234 ***	0.160
10 - 25 years	0.2752 *		0.123					0.2810	0.185
> 25 years	0.3973 *		0.190					0.7285 *	0.333
Interactions:									
Time Employed x Pressure									
0 - 1 years x Pressure						-0.0363	0.033	0.0489	0.074
1 - 3 years x Pressure								-0.1834 *	0.091
3 - 10 years x Pressure								-0.2192 ***	0.076
10 - 25 years x Pressure								0.0429	0.090
> 25 years x Pressure								-0.1306	0.188
R ² -value	0.095							0.405	
Adjusted R ²	0.048							0.357	
F-statistic	2.040							8.306	
Degrees of Freedom	351							349	341

p*<0.05, *p*<0.01, ****p*<0.001

Table 5 displays the multivariate analysis for Hypothesis 2. From column H2, we can observe that when the tenure at employment is introduced as the independent variable, there is a small negative regression coefficient (-0.1006), suggesting that as an employee tenure increases, Ethicality decreases with $p < 0.05$. When we use the categorical variables in column H2[^], we can see that this is true, in particular, for employees between 3 and 25 years of tenure, while newer employees tend to be more ethical (0.6323 with $p < 0.001$). However, when pressure is added, the dynamics change, and newer employees' ethicality regression coefficient decreases (0.5337 with $p < 0.001$). Interestingly, employees with a long tenure beyond 25 years came to have a higher coefficient (0.7285 with $p < 0.05$) after pressure was introduced, while without pressure, their coefficient was 0.3973 with $p < 0.05$, suggesting employees with seniority tend to behave more ethically under pressure in comparison with newer employees, implying a non-linear relationship. All these findings support Hypothesis 2 and 2a.

The size of the company provides another interesting way to analyze Ethicality and pressure. The multivariate analysis for testing Hypothesis 3 is shown in Table 6. For small-size companies with less than 100 employees, its ethicality regression coefficient seems above the median with 0.2722 and $p < 0.05$, and also larger companies, e.g., with more than 100,000 employees, having a higher regression coefficient as well with 0.5121 and $p < 0.01$. This suggests a non-linear relationship where, under normal conditions, smaller and bigger companies tend to behave more ethically. However, when pressure is introduced, the dynamics change, and companies with employees between 1,000 and 50,000 tend to behave more ethically (0.6713 with $p < 0.001$ and 0.9114 with $p < 0.01$, respectively). A non-linear relationship still exists, although it seems to be inverted after pressure is introduced, suggesting that in the presence of pressure, only mid-size companies behave ethically; this might not be true for start-ups or significantly large enterprises. These findings support Hypothesis 3 and 3a.

TABLE 6
MULTIVARIATE REGRESSION ANALYSIS: COMPANY SIZE

Results of Moderated Regression Analysis		Ind. Variable:		Company Size		Company Size	
Dependent Variable: Ethicality	H3	H3a	H3a^	H3a	H3a^	SE	SE
Control Variables:							
<i>Constant</i>	2.8590 ***	1.8168 ***	3.9046 ***	2.7481 ***	0.440	0.440	0.263
Age	0.2381 ***	0.2198 ***	0.0798	0.0494	0.056	0.056	0.058
Marital Status	0.0819 **	0.0732 *	0.0454	0.0402	0.024	0.024	0.025
Level Education	-0.0315	-0.0214	-0.0262	-0.0260	0.028	0.028	0.028
Income	0.0321	0.0389	0.0405	0.0419	0.030	0.030	0.030
Religiosity	0.0107	0.0116	0.0013	0.0058	0.033	0.033	0.033
Emplmmt Status	-0.0363	-0.0493	0.0429	0.0360	0.037	0.037	0.039
Regions:							
East North Central	0.4327	0.377	0.4136	0.4629	0.309	0.309	0.316
East South Central	0.6043	0.391	0.5525	0.5067	0.321	0.321	0.328
Middle Atlantic	0.4750	0.377	0.4095	0.4015	0.309	0.309	0.316
Mountain	0.6092	0.382	0.4757	0.4948	0.313	0.313	0.318
New England	0.4670	0.398	0.3095	0.3091	0.327	0.327	0.334
Pacific	0.4111	0.368	0.4431	0.4569	0.301	0.301	0.309
South Atlantic	0.3197	0.371	0.3616	0.3797	0.304	0.304	0.313
West North Central	0.3988	0.410	0.3072	0.3712	0.336	0.336	0.345
West South Central	0.2458	0.381	0.0857	0.0756	0.312	0.312	0.319
Gender	0.3219 ***	0.3082 ***	0.1937 *	0.1973 *	0.077	0.077	0.078
Pressure			-0.3429 ***	-0.4874 ***	0.079	0.079	0.052
Employment Level			0.0224		0.027	0.027	
Entry Level	0.0380	0.3951 ***		0.6216 ***			0.095
Middle Manager		0.3813 ***		0.6969 ***			0.089
Upper Manager		0.4811 ***		0.7260 ***			0.112
Executive Level		0.5593 ***		0.7037 ***			0.124
Time Employed							
0 - 1 years	-0.1034 *		-0.0712		0.037	0.037	0.094
1 - 3 years		0.5864 ***		0.6911 ***			0.092
3 - 10 years		0.4124 ***		0.5739 ***			0.087
10 - 25 years		0.2372 *		0.4660 ***			0.102
> 25 years		0.2301		0.4609 ***			0.154
Company Size							
	0.0236	0.1820 **		0.5563 ***	0.061	0.061	

Less than 100 employees	0.2722 *	0.107	0.1218	0.165
100 - 1000 employees	0.2016	0.115	0.0154	0.184
1000 - 10,000 employees	0.2304	0.123	0.6713 ***	0.187
10,000 - 50,000 employees	0.2010	0.176	0.9114 **	0.304
50,000 - 100,000 employees	0.3995	0.252	0.3499	0.367
> 100,000 employees	0.5121 **	0.184	0.6783	0.395
Company Size x Pressure				
Less than 100 employees x Pressure		-0.0786	**	0.003
100 - 1000 employees x Pressure			0.0684	0.076
1000 - 10,000 employees x Pressure			0.0912	0.085
10,000 - 50,000 employees x Pressure			-0.2438 **	0.084
50,000 - 100,000 employees x Pressure			-0.2934 *	0.131
> 100,000 employees x Pressure			0.0032	0.157
R ² -value			-0.1131	0.216
Adjusted R ²	0.110		0.420	
F-statistic	0.037		0.361	
Degrees of Freedom	1.508		7.131	
	341		335	
			348	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

CONCLUSION

Bazerman & Tenbrunsel (2001, p. 4) have defined behavioral ethics as “a field that seeks to understand how people actually behave when confronted with ethical dilemmas.” It seems apparent that beyond simply attempting to understand how people behave when confronted with ethical dilemmas, it is productive to try to understand what factors influence individual employees’ responses to these dilemmas.

The research reported in this paper attempts to understand how pressure can impact the behavioral ethics of individuals. We have examined the role of a pressurized environment on employees in organizations to understand the extent to which they may be conducive or debilitating to ethical conduct. Hypothesis 1 tested Employment Level as the independent variable and Ethicality as the dependent variable. Hypothesis 1a then regressed Employment Level with Ethicality while introducing the moderator, pressure, to the model. Likewise, the same process was tested with the other two predictors (independent variables), Employment Tenure (H2 and H2a) and Company Size (H3 and H3a), respectively. In each case, the moderator, pressure, was introduced to measure its impact on Ethicality with Employment Level, Employment Tenure, and Company Size.

As hypothesized, we find a non-linear relationship between employment factors and Ethicality and a dampening effect of pressure across these key relationships. Specifically, the results indicate there is a non-linear relationship between employment level and Ethicality, such that persons with low and high employment levels have significantly higher Ethicality. This phenomenon was supported by a univariate correlation analysis in which the continuum of employment levels (entry, middle, upper, and executive-level) resulted in a “U-shaped” relationship with Ethicality. Further, a multivariate regression similarly supported this relationship. The dampening impact of pressure on Ethicality was supported based on the regression in which stratified employment levels were modified by pressure.

Separately, the research resulted in a non-linear relationship finding between time employed and Ethicality, such that persons with short (0-1 year) and long (>25 years) employment tenure have significantly higher Ethicality than other tenure categories. Again, this hypothesis was supported by a univariate correlation analysis in which the continuum of employment tenure resulted in a “U-shaped” relationship with Ethicality. The following multivariate regression similarly supported this relationship. The dampening impact of pressure on Ethicality was slightly significantly supported at both -- and 3 - 10 years tenure categories, based on the regression in which stratified tenure levels were modified by pressure.

Lastly, we hypothesized a non-linear relationship between company size and Ethicality, such that employees at small and large companies have significantly higher levels of Ethicality. This hypothesis was supported by univariate correlation analysis based on the range of company (size less than 100 to greater than 100,000 employees) resulted in a “U-shaped” relationship with Ethicality. The following multivariate regression analysis similarly supported this relationship at the very smallest and largest employment sizes. The dampening impact of pressure on Ethicality was significantly supported for mid-range sized (1,000 to 50,000 employees) companies, based on the regression in which stratified company employee sizes were modified by pressure. Perhaps this research demonstrates the varied nature of pressure and its impact on Ethicality. pressure to survive and pressure to reach new and higher income levels may push the boundaries of Ethicality and ethical conduct.

While this study examines a pressurized environment on employees in organizations to understand the extent to which they may be conducive or debilitating to ethical conduct, we believe a fruitful future investigation can be had by examining perceptions of entrepreneurs and those of market-oriented (Sales) vs. operations-oriented (Manufacturing) employees. As the body of this type of research builds, the practical applications of these results may assist organizations in understanding how to address behavioral ethics within their corporate environment. An interesting further investigative step might be to examine how stress and perceptions of pressure are or are not related as contributory factors in behavioral ethics within organizations. In addition, an exploration of the extent to which “healthy” pressure impacts ethical behavior would be helpful in advancing the behavioral theory literature and practitioners’ understanding of behavior within organizations. While the results of this research are insightful, a limitation is that all data are cross sectional in nature and therefore not reliable in making causal conclusions. Future research would benefit

from the use of longitudinal data to draw stronger conclusions regarding causality. The study of behavioral ethics is simultaneously rich and extraordinarily important. One that will improve the functionality of organizations and improve the quality of life for those who work in these organizations.

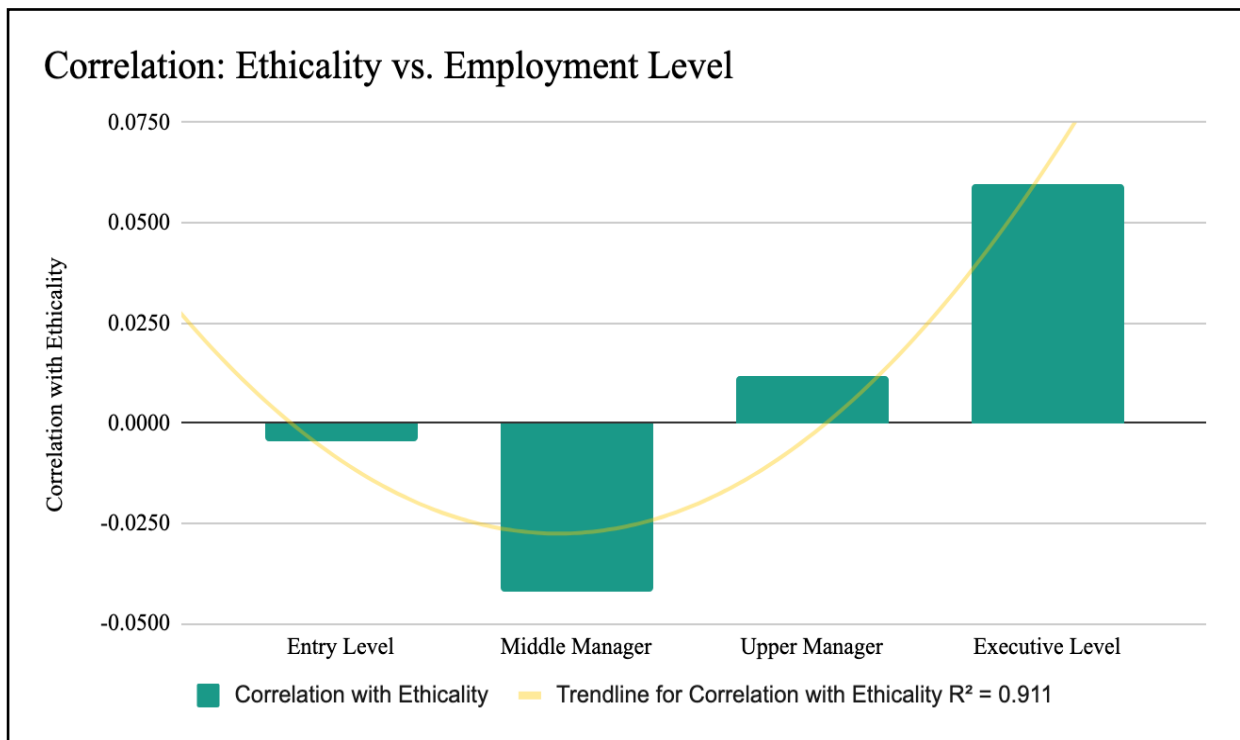
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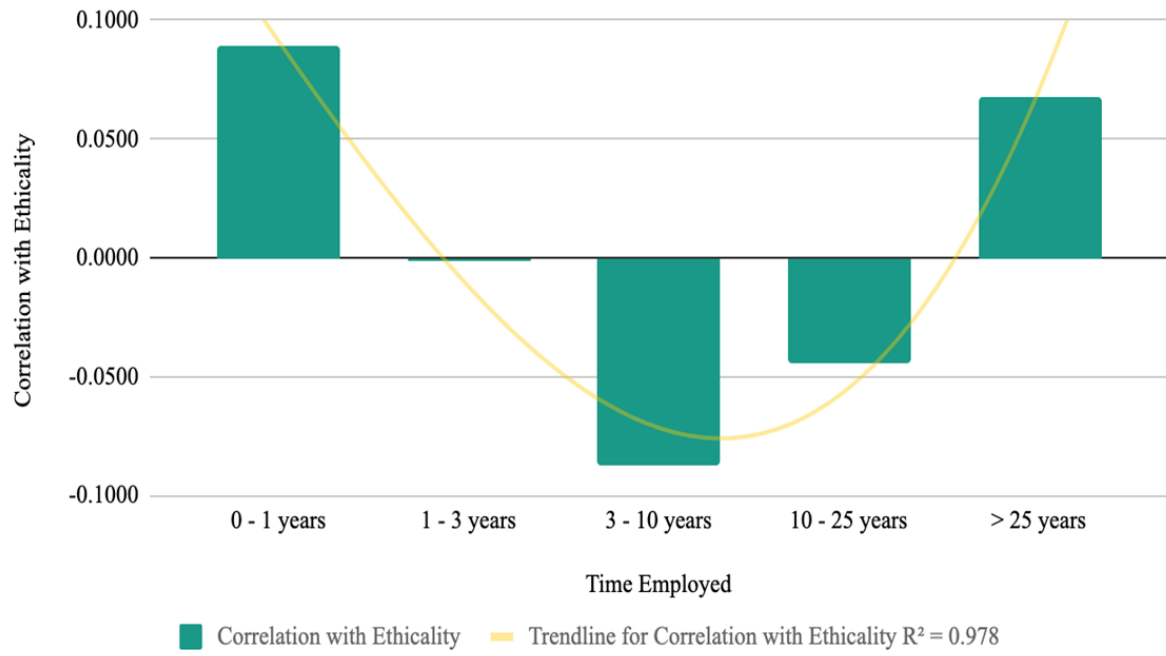
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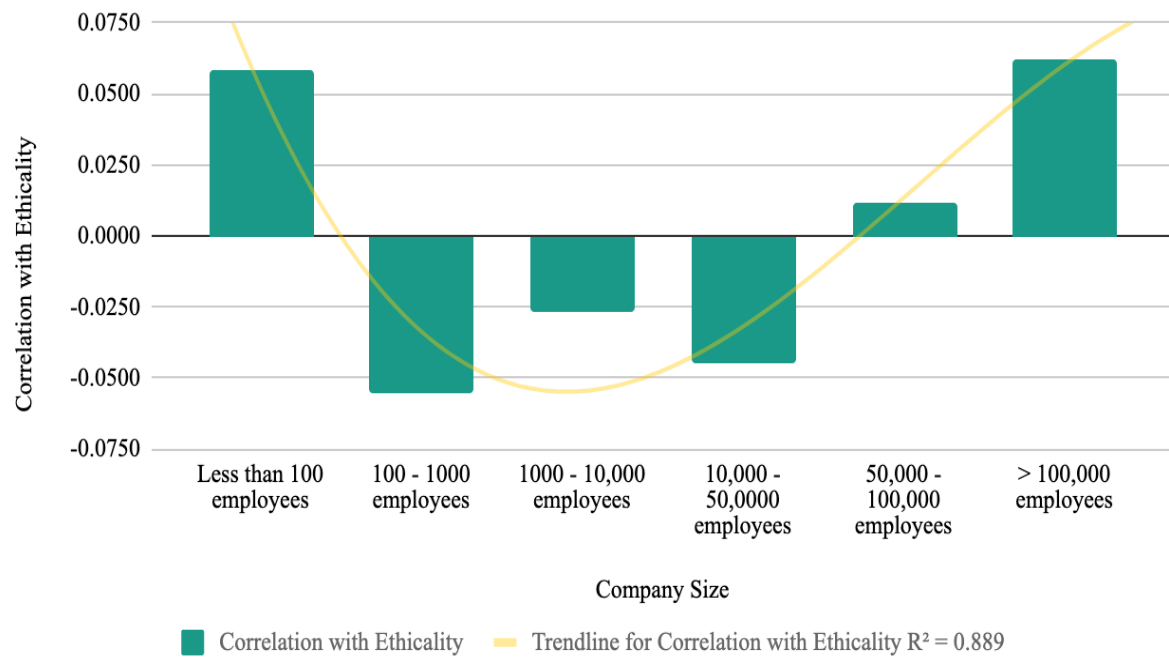
APPENDIX 1



Correlation: Ethicality vs. Time Employed



Correlation: Ethicality vs. Company Size



APPENDIX 2

Region	Percentage %
New England	5
Middle Atlantic	13
East North Central	11
West North Central	5
South Atlantic	18
East South Central	7
West South Central	10
Mountain	9
Pacific	22
Total	100%

APPENDIX 3: DUMMY VARIABLE CREATION

The following variables were converted from categorical variables to dummy variables, using the one-hot encoding scheme [S. Jolly et al., 2020]: age, gender, Marital status, employment level, employment status, time employed, company size, religious attendance, annual income, region, stress, and pressure. An example of converting the variable gender from categorical to dummy is as follows:

Gender	< Before After >	Gender_Female	Gender_Male
F		1	0
M		0	1

It should be noted that there is no column left out, and there is always a *zero* or a *one* value in every row regardless of gender. This is in contrast to other approaches that leave a column out when converting to dummy variables. The one-hot encoding used here is necessary to embrace multiple categorical values and provide insight into (univariate) cross-correlations.