

A Longitudinal Study of Perceived Ethics Among Business Students

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This study examines perceptions of ethical behavior based on surveys conducted over 35 years (1985 to 2020). The original research is based on questions presented to students in 1985 and 2001 (Emerson and Conroy, 2004). The authors used 25 vignettes in that study and surveyed at a large, private, religiously affiliated university. Several other researchers have used a subset of these same 25 vignettes to better understand student attitudes toward ethical issues within the corporate context. Our study compares a 10-question subset over time at multiple locations. These scenarios are divided into constructs for comparison to see if there is a time-based trend. The presupposed general trend is that students' ethics have improved. This study reports on statistical differences by year over time and on individual questions and themes. We find support for our hypothesis that ethics have improved in some instances, but the findings are mixed. The review of the constructs and individual questions should aid colleges and universities in identifying the strengths and weaknesses in their ethics curricula.

Keywords: ethical behavior, college students, perceptions, scenarios

A LONGITUDINAL STUDY OF PERCEIVED ETHICS AMONG BUSINESS STUDENTS

In 2004, Tisha Emerson and Stephen Conroy published a paper that addressed the issue of whether the ethical attitudes of college-aged students have changed over time. They found that the attitudes had changed, becoming better (2004). They concluded that the results were encouraging for the long term to the extent that current students would become future business leaders who will most likely act ethically.

The students were surveyed in 2001 amid the Enron scandals and preceding the passage of the Sarbanes-Oxley Act. Within ten years, another set of scandals was followed by the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Since these scandals, there is an even greater need

exists for ethical behavior by business leaders, recognizing that ethical conduct is indispensable for good business (Conroy and Emerson, 2004; Joyner and Payne, 2002).

This study is a continuation of the original studies undertaken to determine whether ethical attitudes have continued to progress. We evaluated the ethical perceptions/attitudes of college students over the period from 1985 to 2020. We determined that the attitudes of college students as to what is acceptable ethical behavior in corporate culture have generally improved, but not consistently.

REVIEW OF LITERATURE

According to the Oxford Dictionary (n.d.), ethics is defined as the moral principle that governs a person's behavior or how an activity is conducted. Ethics is typically "well-founded standards of right and wrong that prescribe what humans ought to do..." (Sorunke et al., 2014: 61).

There are many types of ethical sources. Personal ethics is a particular form of ethics that refers to the moral principles and rules that govern the action of an individual. Personal values may be regarded as deep-seated, pervasive, core principles that direct or propel human behavior and decisions (Alleyne, Cadogan-McClean, and Harper, 2013). Rokeach (1973) purported that personal values are central to an individual's thought processes and instrumental in the formation of attitudes in many circumstances or issues. Cheng and Fleischmann (2010) found a linkage between personal values and behavior. Personal ethics help define people's core thinking; what individuals love, hate, or to which they are just indifferent. From the above discussion, it is clear that personal values are crucial to human behaviors.

The study used vignettes to flesh out the students' attitudes toward various activities/actions. The vignettes were all written to express unethical conduct. The students were asked to express their acceptance or non-acceptance of the unethical activity. The activities covered a broad range of activities, from insider trading to tax fraud to copyright infringement.

Personal actions were examined including padding one's expense account, selecting a friend for promotion over other more qualified applicants, and hiring a man over a better-qualified woman.

The second construct, Global Impact, includes activities that can damage society. Exceeding environmental pollution limits, underreporting income for tax purposes, and covering up a design flaw in a product were the chosen vignettes.

The third grouping, Deceit, focused on insider trading, earnings manipulation, and deceptive advertising, and the fourth and final construct concerning infringement of copyrighted materials.

Sorunke (2016) argued that personal ethics is a key motivating factor in a fraudster's desire to commit fraud. The pressure/need to commit fraud is largely motivated by greed, not need. Greed is more evident in an individual with low personal ethics. Thus, personal ethics is more significant than pressure/need or capability regarding committing fraud or a crime (Sorunke, 2016).

METHODOLOGY

A set of ten vignettes has been used in various studies on the ethical perceptions of college students. This study conducts a comparison of five instances where these vignettes have been administered across different colleges and universities ... over 35 years (1985 – 2020). Using a Likert scale, the vignettes were assessed to determine if the instance was acceptable or not. Some assessments used a reverse score, and some used either a five or seven-point scale. Before analysis, all were converted to a five-point (1 to 5) scoring system where the larger the response value, the more the student felt the vignette was acceptable. The vignette topics are noted in Table 1.

**TABLE 1
VIGNETTES**

Q1	Adding personal expenses to the business expense account
Q2	To increase profits, exceed legal limits for environmental pollution
Q3	Small businesses underreporting cash receipts for income tax
Q4	Insider stock sale before announcing a product recall
Q5	Promotion of friends over other better-qualified managers
Q6	Safety design flaw cover-up
Q7	Legal accounting tricks to conceal embarrassing financial facts from the public
Q8	Hiring a man over an equally qualified woman due to being a supervisory role
Q9	Deceptive advertising as new and improved when only the color had changed
Q10	Obtaining free copyrighted software from a friend to avoid paying for multiple copies at work

During our analysis, we chose to organize these vignettes to better understand the results (Table 2). Questions 1, 5, and 8 indicate that a personal relationship makes the act more acceptable. We looked at questions 2, 3, and 6 as more global/world impact questions. Whereas questions 4, 7, and 9 are instances where lying (tricks/deception) is considered okay. Lastly, we considered question 10 on its own as there is a trend in recent years of accepting copyright violations for music and other digital media.

**TABLE 2
CONSTRUCTS**

Questions	Construct
1,5,8	Personal Actions
2,3,6	Global Impact
4,7,9	Deceit
10	Theft of Copywritten Materials

PERSONAL ACTIONS

Expense Account Fraud

Expense account padding is a prime example of where an individual exercises his or her ethics (Waters, 2010).

Favoritism / Nepotism

At its very core, favoritism is unprofessional personal behavior within the workplace. Hiring a friend puts a personal friendship or relationship above the interests of the organization. The person is hired or promoted not because of merit but due to the relationship. It can also lead to charges of discrimination (Eskill, 2019).

Hiring Discrimination

For hiring decisions, the choices individuals make are directed by their ethics. Sexual harassment and sexual discrimination are often, by their very nature, interpersonal. Thus, individuals are responsible for their behaviors (Keyton & Rhodes, 1997).

GLOBAL IMPACT

Environmental Pollution

Pollution stunts economic growth and exacerbates poverty and inequality in both urban and rural areas, and significantly contributes to climate change. The impoverished, who do not have the resources to protect themselves from the negative impacts of pollution, end up suffering the most. Pollution is the largest environmental cause of disease and premature death (World Bank, n.d.). Violations of the limits can cause physical harm, thus having an effect on society as a whole (Emerson & Conroy, 2004). Exceeding environmental limits and damaging the environment are also illegal.

Underreporting of Income

One method of measuring deceit is the underreporting of taxes. The IRS continues to show an increase in the tax gap (estimated underreporting of taxes) (IRS, 2016) as well as increases in the number of tax fraud offenses (Balancing Everything, 2021). This is an example of both cheating and lying.

Although the underreporting of taxes does have a direct impact on one's wealth by not having to pay as many taxes, in this vignette, it was a small business that was underreporting. As it was a business and not a person, we placed this vignette in the Global Impact category to reflect that fewer taxes are collected leading to less money in the government coffers.

Safety Design Flaw Cover-up

The cover-up of a safety design flaw can cause physical harm to the users of the product. This action thus has ramifications for society as a whole, not just individuals or financial harm (Emerson & Conroy, 2004).

DECEIT

Insider Trading

Trading on confidential, inside information is a "deceptive device" under securities laws. The trust which exists between the shareholders and inside stakeholders is violated when trading on such information occurs (Swartz Law Firm, n.d.).

Earnings Management

Fraudulent financial reporting can happen when managers and accountants practice "earnings management." Almost all fraudulent financial reporting could be characterized as earnings management (Grasso, Tilley, & White, 2009: 46). The accounting scandals of the 1990s and 2000s have caused many accountants to consider earnings management unethical (Grasso, Tilley, & White, 2009).

Deceptive Advertising

Deceptive advertising, or false advertising, is any advertising that is misleading and has the effect of deceiving customers. An ad can be deceptive in many ways, including the price of a product, the quality of the product, and its quantity. An activity that will likely mislead the public may be considered a "deceptive trade practice." Due to the negative effects on consumers, these deceitful practices are prohibited by law (LegalMatch, n.d.).

THEFT OF COPYWRITTEN MATERIALS

Copyright Infringement

Many argue for the fair use of digital material (Aufderheide & Jaszi, 2018). However, much of this is geared toward the creative arts of music, filmmaking, or photography (Copyright Litigation, 2018; Gibbs, 2014).

There are very clear laws about copyrighted materials and what people can or cannot do with purchased content. Generally, purchasing content means you are allowed to listen, play, read, or use that content yourself. It does not give you the right to copy it, share it, trade it, let others download it, or make money from it. (U.S. Copyright Office, n.d.)

Overall

The four unique instances of comparison were chosen to represent different points in time and various settings. Although some settings were public and some private, including religious universities, the authors reported no apparent bias based on the university or religious practices of the students taking the surveys. The settings for each of the surveys being administered are noted in Table 3. As some questions did not receive responses from all individuals, the count of responses noted in this table is the smallest response count for any given question.

**TABLE 3
SURVEYS**

Year	Location	Responses	Reference
1985	Private Religious	201	Emerson & Conroy (2004)
2001	Private Religious	213	Emerson & Conroy (2004)
2004	Public & Private	838	Conroy & Emerson (2004)
2009	Public	453 (2009)
2020	Public	945 (2020)

The data we had was not raw data for every participant and question. In some instances, we only had the count, mean, and standard deviation for each question. This limited our ability to analyze and compare the data using any of the ranked tests, such as Mann-Whitney. We were able to conduct Tukey HSD Post-hoc and ANOVAs. Also, 1985, 2001, and 2004 data used a 7-point Likert scale that was rescaled to a 5-point scale (“always” to “never acceptable”). The 2009 data used a reversed scale and had to be normalized before our comparisons. For this analysis, the larger the value, the more the respondent felt the activity described in the vignette was okay (larger is more acceptable).

As being ethical is deemed a positive trait, we can only hope that students become more ethical over time. Emerson and Conroy (2004) studied whether the ethical attitudes of college-aged students have changed over time. They found that, indeed, the attitudes had changed, becoming better over time (2004). Based on this research, we hypothesize that college students’ ethical perceptions are improving.

To answer this hypothesis, we broke the analysis down into two phases: (1) the Global average of all questions in each of the five time periods, and (2) the Analysis of each construct and supporting question in each of the five time periods.

NORMALITY

The first concern is that many statistical tests require that the Normality Assumption be satisfied. However, to conduct Chi-Square, Shapiro-Wilk, or Q-Q plots, we need the raw data, and, in some cases, we only had summary data. However, the Central Limit Theorem states that “when the sample size is sufficiently large (>200), the normality assumption is not needed at all as the Central Limit Theorem ensures that the distribution of residuals will approximate normality.” (Statistics Solutions, 2013). As each of our samples are at least 201 responders for each of the questions, we can conclude that the Normality requirement is met.

By the Numbers

In each of the five survey periods, not all questions were fully answered. This gave different counts (n) for many of the questions within each period. Some questions had up to 12 more responses than others in a

given period. Had we used their individual counts, this weighted averaging would allow some questions to influence the period mean more than other questions. So as not to bias any period with any of the questions, we did not use weighted means for the questions, only simple means so that each question's mean was given the same weight as the other questions when forming the mean for that period. The larger the count (n) one uses increases the likelihood of a statistically significant result. To use conservative results, the count used for each period was not the global sum of all respondents (sum of n for all questions in that period) but the minimum number of respondents on any of the questions e.g. in 2004 n = 838. To ensure this conservative process did not bias the results, we also compared constructs using a weighted mean, weighted standard deviation, and the average number of respondents – none of which impacted our findings.

Tukey Post-Hoc tests (Interactive Statistical Pages, 2021) were conducted to compare the differences between pairs of each of the five years. This website allows the testing using the summary statistics of mean, standard deviation, and count. The results are provided in an ANOVA table as well as the individual pairwise differences with confidence intervals and p-values. Only significant results are reported.

By Question and Construct

Our initial analysis evaluated each question over time using the Tukey HSD Post-Hoc test. We then combined each question using a weighted average into four construct groups. See Table 2. Within the sections discussing the constructs, we report the summary statistics to allow reuse and validation of our results as well as the significant differences.

This analysis used a weighted average of the responses to questions in the construct. As the individuals taking the questionnaire were the same people answering the questions in that construct each year, we used an average count rather than summing the count. When this was not a whole number (as some respondents did not answer all questions), we rounded down. This method allowed for a more conservative statistical result.

RESULTS

The ANOVA and Tukey HSD Post-hoc results are shown comparing the overall results by year and then further explored by each question compared for all five time periods. Summary calculations were conducted using MS Excel while the statistical calculations were conducted using <https://statpages.info/anova1sm.html>. The overall results are presented first then each construct is discussed along with the analysis of the questions used to create that construct. Although this may seem duplicative, it is done to allow the repeatability of the study.

Overall

The hypothesis is that students are becoming more ethical in general over time. The summary statistics for each of the vignette instances are shown in Table 4. As not all respondents answered every question, we note the counts as the average number of responses for each question during the survey for that year. The mean and standard deviation values are shown below as the weighted arithmetic mean. We also compared results using simple (not weighted) averages as well as using the harmonic means. Neither of these impacted our p-values more than 0.0002, so for ease of explaining the mathematics, we use weighted averages for means and standard deviations and simple averages for counts in all of our ANOVA and Tukey HSD tests.

Of note here, and in all but one instance, the mean values were less than 3 (the median) on a scale of 1 to 5. This indicates that the average responses were more ethical than unethical (smaller values are more ethical, and agreeing with the action in the vignette is acceptable). We hypothesize that these values will decrease over time and that the current values will be smaller than those in 1985.

**TABLE 4
OVERALL DATA**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	946	1.854	1.0091					1985 > 2020*
2009	455	1.981	1.0884	0.2302				
2004	847	1.861	1.0991	0.9998	0.3050			
2001	215	2.055	1.1459	0.0951	0.9204	0.1247		
1985	202	3.143	1.1344	0.0045	0.3795	0.0069	0.9177	

* p >= 0.01

The data appears to show a general trend in declining means (increasing ethics) since 1985. Of note is the increase in scores in 2009, which is further discussed in the different constructs and questions. An ANOVA (table 5) confirmed that there were differences (p = 0.0006). In Table 4, a Tukey HSD Post-hoc test reveals two significant results, with the most recent test (2020) having a smaller mean than 1985 (p=0.0045) as well as the 2004 test having a smaller mean than 1985 (p=0.0069). See Tables 4 and 5. When looking at the overall trend over the 35 years of testing, students are becoming more ethical (see Table 5).

**TABLE 5
ANOVA FOR OVERALL DATA**

Source of Variation	Sum of Squares	d.f.	Variance	F	p
Between Groups:	22.7263	4	5.6816	4.936	6E-04
Within Groups:	3061.536	2660	1.151		
Total:	3084.262	2664			

By Question and Construct

The four constructs are reported, and within each of these, the individual questions' statistical results are shown to allow the repeatability of the study. Tukey HSD allows the use of summary statistics to produce significance if the count, mean, and standard deviation are available. Therefore, those are provided in this paper. The ANOVA and significant Tukey HSD Post-hoc results are discussed sequentially. For ease of space, ANOVA tables are not displayed but the descriptive statistics and Tukey HSD Post-hoc significant p-values are noted. As mentioned earlier, lower means indicate a more ethical position. As was done with the overall data analysis, the weighted arithmetic means and weighted standard deviations are used with the average count (rounded down).

Personal (Q 1, 5, & 8)

This construct used questions 1, 5, and 8 as these questions have a direct impact on the person or personal relationship. There was an increase in the unethical position in 2009 (Table 6), but overall, a decrease in (more ethical) position from 1985 to 2020.

**TABLE 6
PERSONAL CONSTRUCT DATA**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	946	1.79	1.0307					1985 > 2020*
2009	455	2.027	1.0889	0.0017				
2004	845	1.848	1.1644	0.8056	0.0439			
2001	215	1.936	1.201	0.4075	0.8605	0.8360		
1985	203	2.167	1.1473	0.0001	0.5606	0.0021	0.2065	

* p >= 0.01

There is statistical support for our hypothesis. We show that students have been taking a more ethical position since 1985 as it relates to vignettes with personal relationships. To understand this trend in a bit more detail, we examined the three vignettes that make up this construct. This includes questions 1, 5, and 8. Each is discussed, their descriptive data provided, and statistically significant results shown.

Question 1: Pad Expense Account.

This vignette is personal in nature as the padding of an expense account directly impacts the person by increasing their wealth. The same trend is shown here with an increase in the unethical position in 2009 and a re-correction of this in 2020 to match the general overall trend. However, what is also noted here is a slight increase in 2004. See Table 7.

An ANOVA was used to test the differences (p-value 0.0000) leading us to use a Tukey HSD posthoc test to assess the pairwise differences. Although a significant difference was noted between 2009 and every other year, no other significant differences were noted. We can conclude that students were more ethical in 2020 than in 2009.

**TABLE 7
PAD EXPENSE ACCOUNT**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	1.9	1.129					1985 > 2020***
2009	454	2.434	1.2722	0.0000				
2004	938	1.79	1.0964	0.2469	0.0000			
2001	213	1.731	1.0429	0.2840	0.0000	0.9608		
1985	204	1.999	1.1086	0.7897	0.0000	0.1241	0.1122	

* p >= 0.01; *** = Not significant

Question 5: Promotion of Friends Over Others

The friendship relationship makes this vignette a personal issue. This construct showed a general aversion to violating this ethic with a steady trend toward being more ethical. Our ANOVA did not support a statistical difference in the data (p=0.112). The apparent decline in the means remained ever so slight as to not show a statistically significant change from any period (using Tukey HSD) except from 1985 to 2020 (p=0.0313). This supports our hypothesis. See Table 8.

**TABLE 8
PROMOTE FRIEND**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	945	1.97	1.055					1985 > 2020**
2009	455	1.989	1.014	0.9983				
2004	850	2.067	1.1943	0.3511	0.7487			
2001	216	2.163	1.2421	0.1486	0.3263	0.7937		
1985	203	2.22	1.1457	0.0313	0.1025	0.4026	0.9850	

** p >= 0.05

Question 8: Hire a Man (Sexual Discrimination)

In this vignette, the supervisor is hiring a man because the supervisor feels that a man is better suited for a supervisory role as the employees will accept a man supervisor more than they will a woman supervisor. The relationship value is what causes this to be classified in the personal construct. See Table 9. The ANOVA showed that there were statistically significant differences (p-value = 0.0000). There was a downward trend in the results from 1985 to 2020 with almost every pairwise Tukey HSD result being significant. This strongly supports our hypothesis.

**TABLE 9
HIRE MAN (SEXUAL DISCRIMINATION)**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	1.5	0.9080					1985 > 2020*
2009	454	1.652	0.9814	0.0130				
2004	938	1.685	1.2014	0.0000	0.9629			
2001	213	1.911	1.3157	0.0000	0.0018	0.0038		
1985	204	2.284	1.1879	0.0000	0.0000	0.0000	0.0001	

* p >= 0.01

Global Impact (Q 2, 3, & 6)

This construct uses three vignettes that are more general and have a broader impact. Whether it be pollution, avoiding taxes, or safety issues, each of these impacts society as a whole rather than a specific person or the person themselves directly. Although each of these vignettes individually shows a trend towards being viewed as unethical (all scores below the median of three), they also show fluctuations rather than a general upward or downward trend. This is also true of the composite average means. Of note is the increase in the mean in 2009 and again in 2020. See Table 10.

**TABLE 10
GLOBAL IMPACT**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	1.766	0.8646					2020 > 1985 *
2009	454	1.576	0.8996	0.0011				
2004	938	1.274	0.9695	0.0000	0.0000			
2001	213	1.285	0.8091	0.0000	0.0005	0.9996		
1985	204	1.373	0.8546	0.0000	0.0433	0.5918	0.8418	

* p >= 0.01

Overall, there is a general trend of students believing these vignettes are more ethical than they did in 2004 and prior. Thus, the vignettes provide mixed support for our hypothesis that students are becoming more ethical.

Question 2: Exceed Pollution Limit

Pollution is a global issue with individual persons and companies contributing to the overall pollution levels, thus, it fits with the Global Impact construct. This question also has fluctuating means over time, with the most recent means larger than they were in 1985. Only two pairwise comparisons showed statistically significant differences (2020 and 2009 compared to 2004 and 2009 to 2001). This shows that students in the more current periods are more unethical. See Table 11.

**TABLE 11
EXCEED POLLUTION LIMIT**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	945	1.36	0.8310					2020 > 1985 ***
2009	455	1.433	0.7815	0.3442				2009 > 1985 ***
2004	850	1.18	0.7657	0.0000	0.0000			
2001	216	1.234	0.7093	0.2038	0.0109	0.8982		
1985	203	1.281	0.7114	0.6921	0.1044	0.4595	0.9710	

*** = not significant

Question 3: Underreport Income for Tax

The anomaly of the increase in 2009 means which we have seen in other vignettes is also noted in Table 12. Although the mean in 2020 has decreased from 2009, it is larger than the prior periods. This fluctuation between smaller and larger means is present in this vignette as we have seen with others. We conclude there was a statistical increase in 2009 (students becoming unethical) and a decrease in 2020 from 2009 (more ethical). With these mixed results, we recommend holding off on our conclusions for this vignette until a future study can shed more insight.

TABLE 12
UNDERREPORT INCOME FOR TAX (TAX FRAUD)

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	1.45	0.8970					1985 > 2020 ***
2009	454	1.8	1.0737	0.0000				2009 > 1985 *
2004	938	1.413	0.9929	0.9292	0.0000			2009 > 2020 *
2001	213	1.442	0.9743	0.9999	0.0001	0.9949		
1985	204	1.491	1.0329	0.9819	0.0016	0.8396	0.9856	

* $p > 0.01$; *** = not significant

Question 6: Safety Design Flaw Cover-up

In this question, a person reported what they believed to be a safety flaw. The business chose not to act on the report and the original person chose not to go outside the business to make the safety report. The student reading this vignette may see several things in this vignette to lead them to one position or another. They may conclude there was not a safety issue as the company chose not to act on it or that there was an issue and the person reporting chose not to create any waves. Although it is hard to tell why the students answered how they did, it is quite apparent that in 2020 there was a significant shift in students believing that not reporting the incident further was significantly more acceptable. See Table 13.

The ANOVA confirmed that there were differences (0.000). The Tukey HSD also confirmed that there were statistically significant differences of $p=0.0001$ or smaller from 2020 to all other years and 2009 with all except 1985. As the means increased from 2001 to the present, we conclude that there is statistical evidence failing to support our hypothesis.

TABLE 13
SAFETY DESIGN FLAW COVER-UP

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	946	2.49	0.8660					2020 > 1985*
2009	454	1.483	0.8427	0.0000				
2004	850	1.23	0.8500	0.0000	0.0000			
2001	216	1.181	0.7436	0.0000	0.0001	0.9402		
1985	203	1.344	0.8186	0.0000	0.2897	0.4136	0.2747	

* $p \geq 0.01$

Deceit (Q 4, 7, & 9)

This construct combines three questions (4, 7, & 9) directly related to deceit (lying). Although 2009 created a fluctuation (increase) in the means, there is a general decline in the means from 1985 to 2020 shown in Table 15. With decreases noted in the 2020 instance decreasing from all other instances (see Table 14), we note that these results statistically significantly support our hypothesis. Students believe that being deceitful is more unethical than they did previously.

**TABLE 14
DECEIT**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	2.023	1.1153					1985 > 2020 *
2009	455	2.21	1.2094	0.0444				
2004	849	2.186	1.1784	0.0302	0.9966			
2001	216	2.536	1.3119	0.0000	0.0079	0.0010		
1985	201	2.594	1.3514	0.0000	0.0012	0.0001	0.9879	

* p >= 0.01

Question 4: Insider Stock Purchase

When someone with inside knowledge (knowledge that the public does not know and thus cannot use to purchase stocks) personally purchases stock, they are gaining an unfair advantage over the public. This is why this practice is a felony and included in the Deceit construct. A larger mean here indicates unethical behavior. Although the trend is not consistent (see 2004), there is a general trend of decreasing means (more ethical) from 1985 to 2020. This is why we conclude that students are more ethical.

**TABLE 15
INSIDER STOCK PURCHASE (INSIDER TRADING)**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	948	1.59	1.0460					1985 > 2020 *
2009	456	1.694	1.0642	0.0000				
2004	849	1.44	0.8500	0.0000	0.0000			
2001	216	2.163	1.2421	0.0000	0.0000	0.0003		
1985	201	2.69	1.5450	0.0000	0.0000	0.0223	0.4130	

* p >= 0.01

Question 7: Accounting Tricks (Earnings Management)

This vignette presents a legal trick to conceal embarrassing information from the public. This ethics vignette questions whether it is right to meet the letter of the law even if it is not the full truth. As this deals with deceiving the public, we included it in the Deceit construct. As we have seen with other vignettes, there is variability in the means (see Table 16) over time. The ANOVA (p=0.0000) showed pairwise differences with the Tukey HSD showing statistically significant differences between the most recent two years (2020 and 2009) and all other years except between themselves at p= 0.0000. So, we can say that statistically, there have been smaller means since 1985. This somewhat supports our hypothesis.

**TABLE 16
ACCOUNTING TRICKS TO CONCEAL INFORMATION (EARNINGS MANAGEMENT)**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	945	2.41	1.1310					1985 > 2020 *
2009	457	2.304	1.2223	0.5701				
2004	850	2.734	1.3536	0.0000	0.0000			
2001	216	2.96	1.3593	0.0000	0.0000	0.1216		
1985	203	2.91	1.2650	0.0000	0.0000	0.3696	0.9941	

* p >= 0.01; *** = Not Significant

Question 9: Deceptive Advertising.

This vignette discussed an advertising campaign for a new and improved product when only the color was changed. This is a deceptive tactic and rightly belongs in the Deceit construct. This vignette also shows fluctuations over time with the most unethical position being in 2009 (see Table 17). And although there was no statistical difference between 2020 and 1985, there are statistically significant differences between 2020 and 2009, 2004 and 2001 (p-value 0.001 and smaller) with students taking a more ethical position in 2020 than previously. This supports our hypothesis.

**TABLE 17
DECEPTIVE ADVERTISING**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	948	2.07	1.1690					1985 > 2020 ***
2009	454	2.634	1.3420	0.0000				
2004	849	2.384	1.3314	0.0000	0.0058			
2001	216	2.486	1.3343	0.0001	0.6187	0.8233		
1985	201	2.179	1.2450	0.8036	0.0002	0.2349	0.0944	

*** = Not Significant

Question 10: Copyright

This vignette consisted of just one question, a violation of software copyright where a small business used a borrowed copy for multiple uses in their company. This was unique and belonged in its construct, for the parallels it has too many forms of digital copyright violations. There is a steady downward trend in these means (see Table 18). Of note is that in 1985 the mean was neutral as to whether this was ethical or not. This is the only time on any of the vignettes in any of the years that this instrument was employed when students did not respond with a mean less than 3 (the vignette is not acceptable).

**TABLE 18
COPYRIGHT INFRINGEMENT DATA**

	N	Mean	StDev	Tukey HSD p-values				Paired Comparisons
				2020	2009	2004	2001	
2020	947	1.8	1.0590					1985 > 2020*
2009	452	2.371	1.2908	0.0000				
2004	845	2.69	1.3564	0.0000	0.0001			
2001	213	2.847	1.2800	0.0000	0.0000	0.4595		
1985	202	3.055	1.2929	0.0000	0.0000	0.0015	0.4256	

* p >= 0.01

Overall, students agree that copyright violations are not acceptable. With the mean response being a 3 and all means steadily getting smaller from 3.055 in 1985, students generally do not believe that violating copyright is an ethical decision. As this value has decreased in each subsequent (newer) sample, this shows that students are becoming increasingly more ethical in this area. Although it has been reported that creative copyright violations are not seen as an ethical violation in prior studies, it appears that software copyright is being viewed more and more as something to which you should adhere. This could be a response to the increase in cybercrime and known vulnerabilities of software that is not kept up to date with security patches.

In summation, the general trend is that students' ethics have generally improved, but not evenly. 2009 was a year when there were quite a few reversals. Except for a few reversals in 2009 and 2020, the hypothesis that ethics is improving was supported.

The paper is not without limitations. Religion and religiosity have been found to influence ethical behavior (Hunt & Vitell, 1986; Conroy and Emerson, 2004). Some of the schools where the surveys were collected were religiously-affiliated universities, and others were not. Given religion's recognized influence, is it proper to compare religious-affiliated and non-affiliated schools?

Within ten years of the Enron scandals and the passage of the Sarbanes-Oxley Act, yet another set of scandals occurred, including the Financial Crisis of 2007. The great recession (Financial Crisis of 2007) has been described as the complete collapse of ethics within an entire industry (Trautman, 2017; Greycourt & Co., Inc, 2008). Fiduciary responsibility disappeared, and short-term self-interest trumped the long-term impact on the industry's stakeholders (Greycourt & Co., Inc, 2008). Did this lack of ethics pervade society, affecting one's perceptions of ethics and explaining the bumps in the overall intolerance of unethical behavior?

CONCLUSIONS

We hypothesized that students have become more ethical over the last four decades. Personal actions were examined. Padding one's expense account; selecting a friend for promotion over other, more qualified applicants, and hiring a man over a better-qualified woman were the vignettes presented. The results for the Personal construct show an increase in the responders' intolerance toward the activities. Except for spikes in 2009, which disappeared in 2020, each vignette demonstrated an improvement in ethical perceptions during the time frame of the study.

Global Impact comprises societal impact, including increased profits by exceeding legal limits for environmental pollution, underreporting cash receipts for income tax purposes, and covering up safety design flaws. The results for Global Impact showed improvement in ethics in 2001 and 2004. However, this changed in 2009 when responders became more tolerant /accepting of the actions. Tax evasion (underreporting income) became more acceptable in 2009 but this did not carry over to 2020, 2020 was lower than 1985 indicating an overall improvement. Tax evasion was ultimately frowned upon. The vignette for pollution showed a pattern of growing tolerance of unethical behavior in the latter years. Covering up safety flaws showed a pattern of growing tolerance.

Deceitful actions were the focus of three vignettes: insider trading, earnings manipulation, and deceptive advertising. Insider trading followed a similar pattern to other actions including growing intolerance with a spike in 2009. The crash of the stock market bubble (2000-2004) and the government regulations on stocks and trading may have had an impact on this particular issue (Q4). Earnings management exhibited growing intolerance but then had a reversal in 2020. Deceptive advertising showed growing tolerance of unethical behavior until a sudden reversal in 2020. The timing and the significant increase in ethical perception are at least suspect. It should be noted that the situation indicated significant differences, but practically the perceptions have not changed a great deal since 1985 (2.179 vs. 2.070). Copyright infringement was less and less tolerated by the students.

Overall, the perceptions of the students were improved. The means went from 3.143 to 1.854 which was a significant difference and positive ("never acceptable" was coded as 1; "sometimes acceptable," as 2; and "often acceptable," as 3). In 2020, the perceptions ranged from 1.180 to 3.143. The numbers rarely exceeded 3.00. Thus while there were significant differences in the means, there were in many cases from a practical aspect truly minor differences between 1985 and 2020. The students in 1985 were not radically different from the students in 2020. All were in the 2-3 range.

Even with the overall trend of improving ethics, some anomalies might warrant further research. In most of the questions and most of the constructs, there were inconsistent trends for the 2004 and/or 2009 time periods. If these periods were removed, there is a consistent trend of improving ethics, but something was occurring (especially in 2009) that resulted in unethical behavior being more acceptable in these survey

responses. Although we can speculate as to its cause, further research is warranted to substantiate the rationale for the deviation.

There is considerable support for the idea that ethical perceptions of college students continue to improve, but it is not without its ups and downs. This line of research that has been undertaken for over four decades should continue. Universities and colleges need to know where their curriculum may be failing and through research of this kind, the shortfalls can be identified.

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