

# Differences in Corporate Social Responsibility Sensitivity Between Business and STEM Students

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## Abstract

**Purpose:** The prominence of Corporate Social Responsibility (CSR) within the international business environment has permeated higher education wherein it has been incorporated alongside the study of business ethics in curricula across many majors. This study is unique in the literature of CSR education in that it sought to determine if CSR sensitivity differed between undergraduate business majors and undergraduates majoring in the fields of science, technology, engineering, and mathematics (STEM). **Research Design:** A Mexican university was analyzed using demographic and attitudinal variables in a self-administered survey. **Findings:** The results indicated that students with STEM majors showed a higher CSR sensitivity than business majors – a unique finding in CSR literature. In general, female students had a higher sensitivity to CSR than male students. Students, regardless of their major, with little or no work experience expressed a higher sensitivity to CSR. The year of study was significant in that seniors expressed a higher sensitivity than freshmen. Finally, there was a significant positive association with CSR sensitivity and belief in socialism but no significant association with CSR sensitivity and a personal sense of religiosity.

**Keywords:** Business Ethics, Corporate Social Responsibility, Higher Education, México, STEM

**JEL Classification Code:** I21, M14, Z13

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## 1. Introduction

The implementation of Corporate Social Responsibility (CSR) programs within the international business community is now mainstream. KPMG (2017), an international auditing firm that conducts regular global surveys to track CSR programs, indicated that of the top 100 companies (by revenue) in forty-nine researched countries, 75% engaged in CSR reporting with a majority including CSR information in their annual financial reports. For the world's 250 largest companies (by revenue), based on the Fortune 500 ranking at the time of KPMG's analysis, 93% engaged in CSR reporting, including a majority in their annual financial reports. Latin America saw an increase in CSR reporting, particularly in Mexico where reporting rose from 58% in 2015 to 90% in 2017, partly driven by regulatory changes as well as a number of high-profile corporate scandals that occurred throughout the Latin American region (KPMG, 2017).

Despite suffering from significant ambiguity as to its definition (Aupperle et al., 1983; Carroll & Brown, 2018; Dahlsrud, 2008; Reich, 2008; Sheehy, 2015), CSR has generally been accepted as enacting legal, ethical, philanthropic, and environmentally-sensitive initiatives in response to an array of stakeholders and beyond the traditional focus of maximizing profit for shareholders. (Carroll & Shabana, 2010). CSR has been successfully transferred into higher education with a belief that proactively engaging students, in general, and specifically business students regarding social responsible behavior will aid in developing future managers to combine profitability with social and environmental notions of sustainability and equity (Avery & Bergsteiner, 2011; Balotsky & Steingard, 2006; Doh & Tashman, 2014; Hulsart & McCarthy, 2009; Nicholson & DeMoss, 2009; Schneider, 2014; Wang & Calvano, 2015). In many cases, the concept of CSR has been embedded as an essential element of

business ethics courses as well as classes that examine contemporary business issues.

There has been a growing academic interest in the attitudes of students in higher education as to sensitivity towards corporate social responsibility (Arroyave et al., 2021; Baglione & Zimmerer, 2003; Ibrahim & Angelidis, 1993; Moyes & Cortés, 2004). Though the preponderance of the literature on student attitudes toward CSR has involved the United States, there have been studies involving other countries, for example: **Australia** (Poulton & Barnes, 2012; Rundle-Thiele & Wymer, 2010), **Belgium** (Ceulemans et al., 2011), **Brazil** (Sánchez-Hernández & Mainardes, 2016; Silva Junior et al., 2018), **Bulgaria** (González-Rodríguez et al., 2013), **China** (Wong et al., 2010), **Croatia** (Ham et al., 2015), **Finland** (Amberla et al., 2011; Patari et al., 2017), **France** (Belyaeva et al., 2018), **Greece** (Walker et al., 2003), **Hong Kong** (Danon-Leva et al., 2010; Fitzpatrick & Cheng, 2014), **Hungary** (Berenyi & Deutsch, 2017), **India** (Verma & Singh, 2016; Wong et al., 2010), **Italy** (Belyaeva et al., 2018), **Iran** (Gholipour et al., 2012), **Malaysia** (Rahman et al., 2019), **New Zealand** (Eweje & Brunton, 2010), **Nigeria** (Ugwuozor, 2020), **Poland** (Mazur & Walczyna, 2021; Tormo-Carbo et al., 2016), **Portugal** (Galvao et al., 2019; Teixeira et al., 2018), **Russia** (Belyaeva et al., 2018), **Saudi Arabia** (Murphy et al., 2019), **Spain** (Larrán & Andrades, 2014; Rodríguez-Gómez et al., 2020), **Switzerland** (Zizka, 2017), **Turkey** (Ozdemir & Sarikaya, 2009), **United Arab Emirates** (Ankit & El-Sakran, 2020), **United Kingdom** (Cowton & Cummins, 2003), and **Uruguay** (Vázquez et al., 2013).

### 1.1 Civil Society in Mexico

Modern theoretical discussions of CSR originated in the United States, beginning in the 1950s with an extension into stakeholder theory in the 1980s (Becker-Olsen et al., 2011). In addition, ethics education has been more explicit in the U.S. than the rest of the world (Larran-Jorge et al., 2015). As a consequence, corporate policies in the U.S. are more likely to assume and articulate responsibility for some societal interests. A corporation's role in the U.S. is considered wider than business and, therefore, CSR practices and the idea of corporate philanthropy are widely reflected in the business culture of the U.S. and its higher education system (Welford, 2005).

In contrast, Mexico has suffered from a lack of widespread discussion and application of CSR, in part, based on a historical lack of cultural development regarding alliances among different segments of Mexican society due to systemic corruption and the

consequential loss of societal trust. As a result, this has prevented the right conditions for stakeholder engagement or the recognition of the legitimacy of alternative points of view (Lawrence, 2000; Weyzig, 2006).

Another handicap in the spread of CSR is the limitation of actual Mexican corporations. The International Labour Organization (2014) estimates the country's informality rate at 58.79% of total national employment and at 44.9% in Queretaro, the state where this study was conducted. Mexican companies remain privately owned with little desire to undergo public initial offerings. Within these private companies, altruism is exercised as private charity and not within the context of CSR programs.

Mexico has been associated with a low level of corporate philanthropy and a weak stakeholder perspective (Barkin, 2003; Welford, 2005). Within the majority of its small and medium-sized enterprises, employers do not provide their employees with the social security benefits they are legally entitled (Weyzig, 2006). Much of what is operationalized specifically as CSR programs are performed by large U.S. multinational enterprises (MNEs) in Mexico regarding CSR (Sarvide et al., 2002), which account for almost 6% of employees in the formal economy of the country (International Labour Organization, 2018). Environmental standards are often imposed by foreign customers (Brown, 2000; Mercado, 2000) and environment protection is more often a CSR issue in MNEs and larger enterprises in Mexico (Barkin, 2003; Mercado, 2002). In addition, Becker-Olsen et al. (2011) found that U.S. consumers are more likely than Mexican consumers to expect firms to be involved with CSR programs. Where corporate Mexican implementation of CSR exists, it is usually from the top-down, thus limiting the fostering and stimulation of internal and external communications especially through the supply chain management operations and down to the local level as well as with stakeholder consultation. (Weyzig, 2006).

The Mexican Centre for Philanthropy's Civil Society Index Survey (2015) found that participation in Mexican civil society organizations primarily focused on sports and recreation activities with a major of active members either indicating they did not dedicate any time for volunteer work or chose not to respond. Among active members in political organizations, only 2.3% engaged in humanitarian and charity-based activities. The survey also indicated that 60.4% of active members in Mexican civil society organization had little to no confidence in large companies.

## 2. Literature Review

The literature on student sensitivity to CSR has focused on a number of variables that have produced conflicting results. One variable is whether a student's major will indicate greater sensitivity. Arlow (1991) found no significance in perception of CSR between business and non-business students (the major of which were studying engineering and applied sciences). Galvao (2019) indicated that economics, business, engineering majors had greater sensitivity to CSR than life science and healthcare students. McCarthy et al. (2017) found that those with non-accounting majors (specifically management and marketing) showed slightly more statistically significant in favor of CSR than accounting majors. Finally, Li et al. (2011) found no statistical significance among the four majors tested, listed in order of greatest awareness and sensitivity: economics, marketing, finance, and accounting.

**H<sub>1</sub>:** Undergraduate students in a business program will not express different sensitivity to CSR than undergraduates in a STEM program. (Note: Because there are nine hypotheses in this study, they are stated as null for uniformity in analyzing the results as presented in Table 1.

Eweje and Brunton (2010) found that those who had more work experience tended to be more ethically oriented than younger students. This is consistent with other research (Fitzpatrick, 2013; Haski-Leventhal et al., 2017; Jazani & Ayoobzadeh, 2012; Weeks et al., 1999). However, other research found no significant difference between those who had work experience, whether full or part-time, and those with little or no work experience (Alonso-Almeida, 2015; Arlow, 1991; Ng & Burke, 2010; Teixeira et al., 2018).

**H<sub>2</sub>:** Students who have work experience of at least one year will not express different sensitivity to CSR than students with little (i.e., under one year) or no work experience.

The literature found that having prior education on ethics was significant to sensitivity to CSR social responsibility (Claver-Cortés et al., 2020; Jazani & Ayoobzadeh, 2012; Rúa-Palomino et al., 2019; Tormo-Carbo et al., 2019; Ugwuozor, 2020). Chirieleison and Scrucca (2017) found a positive but limited impact. However, other research found that ethics knowledge had no effect on students' perceptions of CSR or social responsibility (Li et al., 2011; Tanner & Cudd, 1999; Tormo-Carbo et al., 2019).

**H<sub>3</sub>:** Students who have some education regarding business ethics will not express different sensitivity to CSR than students with no business ethics education.

Regarding gender, most of the literature indicates that women are more ethically aware and sensitive to CSR than men (Alonso-Almeida et al., 2015; Arlow, 1991; Borkowski & Ugras, 1998; Droms-Hatch & Stephen, 2015; Eweje & Brunton, 2010; Galvao et al., 2019; Gammie & Gammie, 2009; Haski-Leventhal et al., 2017; McCarthy et al., 2017; Ugwuozor, 2020). However, other research indicated no significant differences in responses between males and females (Burton et al., 2000; Harris, 1989; Kidwell et al., 1987; Kolodinsky et al., 2010; Li et al., 2011; Stanga & Turpen, 1991; Teixeira et al., 2018).

**H<sub>4</sub>:** There is no difference in sensitivity regarding CSR between male and female undergraduate students.

The literature review did not provide studies focusing on social-economic self-perception which, nevertheless, is a variable that merits analysis.

**H<sub>5</sub>:** There is no difference in sensitivity regarding CSR based on a student's self-perceived socio-economic status of his/her family.

Regarding a student year of attendance in higher education, most studies found that students at higher levels (juniors and seniors) had more sensitivity to CSR and ethics awareness (Alonso-Almeida et al., 2015; Ham et al., 2015; Ugwuozor, 2020). Borkowski and Ugras (1998) conducted a meta-analysis of thirty-five studies which used age as a demographic influence factor of sensitivity to CSR and found that student age was not significant in nineteen studies while the rest of the studies showed equivocal results. However, they found that, overall, older student exhibit stronger ethical values than younger students.

**H<sub>6</sub>:** There is no difference in sensitivity regarding CSR based on year of attendance at the university (i.e., freshman, sophomore, junior, and senior).

Almost no research has analyzed the relationship between CSR sensitivity and association to an ideological identification. The closest was Larrán and Andrades (2014), who found no statistical significance regarding the implementation of CSR programs based on the political orientation of the environment/region of the higher education institutions examined.

**H<sub>7</sub>:** There is no association between in CSR sensitivity and a student's strong belief in socialism.

**H<sub>8</sub>:** There is no association between CSR sensitivity and a student’s strong belief in capitalism.

The literature on the impact of religiosity and CSR sensitivity is mixed. A sample of 17,000 individuals drawn from twenty nations, exploring the relationship of religious denominations and individual attitudes to CSR, found that the more religious individuals held broader conceptions of the social responsibilities of business, although this was not true of all the religious groups examined and was not true for all aspects of CSR (Brammer et al., 2007). Religiosity was considered to be a positive predictor for ethical behavior and CSR sensitivity (Angelidis & Ibrahim, 2004; Fitzpatrick & Cheng, 2014; Galvao et al., 2019; Griffin & Sun, 2018; Ham et al., 2015; Poulton & Barnes, 2012; Verma & Singh, 2016). However, other research indicated that religiosity was not significant (Ibrahim et al., 2007; Kolodinsky et al., 2009).

**H<sub>9</sub>:** There is no association between CSR sensitivity and a student’s sense of religiosity.

### 3. Research Design and Method

A review of the total undergraduate student population of the university examined indicated that 51% were business students and 49% were STEM undergraduate students. As per the Krejcie and Morgan’s (1970) table for tabulating sample sizes, an inferential sample size of 276 was calculated. To make the analysis more robust, the sample population was increased to 400 (or 41% of the total undergraduate population), which followed the same breakdown percentages and resulted in 204 business students (51%) and 196 STEM students (49%). The gender breakdown for the undergraduate program also contained the same original percentages of 51% female and 49% male to comprise the inferential sample.

#### 3.1 Research Instrument and Data Collection

#### 3.2 Research Findings and Discussion

The percentage of responses per question are displayed in Table 1.

**Table 1.** Percentage of Responses Per Question

Question	Strongly disagree	Somewhat disagree	Not sure	Somewhat agree	Strongly agree	Total
Q 1: I believe that the primary function of a business is to maximize profits for its owners, including stockholders.	3.5	14.1	7.7	51.4	23.3	100

A self-administered questionnaire, consisting of a 5-point Likert scale was given to students in a classroom setting during a one-semester period. The 5-point Likert scale ran from “Strongly Disagree” (weighted as 1) to “Strongly Agree” (weighted at 5) with a middle choice of “Not sure” (weighted at 3). Students were informed beforehand that the survey was administered in an anonymous fashion with no specific identification data requested. All scales had a Cronbach alpha internal reliability score of .84, thus indicating consistency and high internal reliability (Hair et al., 2010; Nunnally & Berstein, 1994; Sekaran & Bourgie, 2016). The questionnaire was translated from English to Spanish and then translated back to assure accuracy and no loss in understanding as a result of the translation process (Behling and Law, 2000; Domyei and Taguchi, 2009). The questionnaire consisted of six demographic variables: gender, year in college, socioeconomic status of family, work experience, exposure to ethics education, and major (business v. STEM). Age was not operationalized as a demographic variable because the age range of the student population only ran from 17 to 23 years of age. However, the year in college (Hypothesis 6) serves somewhat as a proxy for age. In addition to the demographic variables, there were fourteen attitudinal questions consisting of seven pairs of two questions with each pair expressing the same question but in contrasting language. The hypotheses regarding CSR sensitivity as associated to a strong belief in socialism, capitalism, and the impact of religiosity were extracted from the attitudinal questions. Nationality was not used as a variable since 97% of the student population consisted of Mexican citizens. Race was not used due to sensitivity and hybridity factors among indigenous, mestizo, and Caucasians regarding racial self-identification in a country that does not view race dichotomously (Nieves-Delgado, 2020). In fact, with regard to migration to the U.S., many native and foreign-born Mexicans abandon a *mestizaje* identification and identify as white, especially if assimilating into suburbs (Massey & Denton, 1992).

<b>Q 2:</b> I believe in socialism and that society should strive to achieve equity through redistribution of income.	24.1	25.2	21.0	22.5	7.2	100
<b>Q 3:</b> A business has a responsibility to solve major social problems (such as pollution, discrimination, and public safety) even if such problems are not directly caused by the business itself.	4.80	31.0	12.0	33.2	19.0	100
<b>Q 4:</b> My religious beliefs affect my behavior on a daily or frequent basis.	44.0	19.3	6.8	22.5	7.4	100
<b>Q 5:</b> If you are a manager, you would rather have your business earn a modest profit with strong ethics than earn a high profit with low ethics.	2.8	12.8	25.5	28.1	30.8	100
<b>Q 6:</b> I believe in capitalism and the free enterprise system.	3.5	6.3	24.2	40.8	25.2	100
<b>Q 7:</b> A business has a responsibility to conserve natural resources even if doing so means a reduction in profit.	0.5	2.5	5.8	35.0	56.2	100
<b>Q 8:</b> Religious beliefs should not be the basis for business ethics.	3.3	5.2	8.2	23.7	59.6	100
<b>Q 9:</b> If the survival of your business is threatened, then you should forget about ethics and social responsibility.	40.8	30.3	17.1	10.9	0.9	100
<b>Q 10:</b> A business does not have to promote conservation of natural resources if this results in a reduction in profits.	45.3	34.1	10.5	6.8	3.3	100
<b>Q 11:</b> If you are a manager, you would prefer to have your business earn a profit with weak ethics than obtain a loss with high ethics.	24.0	31.5	25.5	16.8	2.2	100
<b>Q 12:</b> I believe that being ethical and socially responsible is the most important thing a business should do.	1.3	7.4	7.0	45.8	38.5	100
<b>Q 13:</b> Even when there are strong challenges from competitors threatening your business, your business should maintain ethics and social responsibility.	0.3	2.3	9.4	46.5	41.5	100
<b>Q 14:</b> A business only has a responsibility to clean up or avoid causing any damages that result from its operations.	1.5	2.0	3.5	37.6	55.4	100

The first set of hypotheses explored group differences in sensitivity to CSR. The mean scores for sensitivity by group are presented in Table 2. The 5-point Likert scale ran from “Strongly Disagree” (weighted as 1) to “Strongly Agree” (weighted at 5) with a middle choice of “Not sure” (weighted at 3).

**Table 2.** Descriptives for CSR Sensitivity by Group\*

Variable	Factor	Frequency	Mean	Standard Deviation
Program of study	Business	204	4.01	0.561
	STEM	196	4.13	0.533
Gender	Male	196	3.77	0.546
	Female	204	4.21	0.451
Year in college**	Freshman	101	3.89	0.580
	Sophomore	117	4.02	0.631
	Junior	109	4.12	0.457
	Senior	73	4.29	0.451
Socioeconomic status***	Poor	2	3.67	1.673
	Lower middle class	40	3.96	0.557
	Middle class	309	4.09	0.543
	Upper middle class	49	4.06	0.522
Work experience	At least 1 year	182	4.01	0.594

	Under 1 year	218	4.08	0.501
Ethics education	Some ethics education	83	4.11	0.457
	No ethics education	317	4.09	0.573

\*Where 1 = Low level of CSR sensitivity and 5 = High level of CSR sensitivity

\*\*The university examined for this study is five years old. Therefore, the evolution of the student population indicates a senior year cohort smaller than subsequent years.

\*\*\*No student identified as "wealthy," an option presented on the questionnaire.

To test the first hypothesis (business v. STEM regarding CSR sensitivity), an ANOVA was performed to determine if there were significant differences in the mean sensitivity by program. The Levene's test was conducted to test for violations of the assumption of homogeneity of variance. The results indicated that the variances of the groups were equal at:  $F(1, 398) = 0.436, p > 0.509$ . The results also indicated that there were statistically significant differences between the mean scores for these two groups:  $F(1, 398) = 7.126, p = .008$ . STEM students exhibited more sensitivity to CSR compared to their business counterparts. See Table 2.

To test whether a significant difference existed between students with work experience against no work experience, an ANOVA was performed. The Levene's test was conducted to test for violations of the assumption of homogeneity of variance. The results indicated that there was a violation of the assumption of homogeneity:  $F(1,398) = 4.317, p > .038$ . As a result, a Welch test was employed to minimize any possible associated Type-1 error

(Mendes and Akkartal, 2010). The result of the Welch test indicated that the estimations were sufficient as to the assumption of homogeneity. An ANOVA was then performed to test differences between students with work experience and program. The homogeneity of variance assumption was satisfied:  $F(3,396) = 7.699, p < 0.071$ . The results indicated that students with less than a year of experience or no work experience had a higher CSR sensitivity than those with more than a year of work experience. When the analysis was broken down by gender, female students with and without work experience had a higher CSR sensitivity than male students with or without work experience.

To test for differences regarding CSR sensitivity by gender, an ANOVA was performed. There was sufficient evidence to suggest that there are significant differences in CSR sensitivity by gender:  $F(1,398) = 79,213, p = .001$ . Specifically, female students had a higher CSR sensitivity than male students. An ANOVA was estimated to test whether any significant differences existed by program and gender. The mean scores by program and gender are in Table 3.

**Table 3.** Comparison of CSR sensitivity by Program and Gender\*

	Frequency	Mean	Standard Deviation
Business and male	97	3.68	0.535
STEM and male	99	3.73	0.541
Business and female	107	4.34	0.467
STEM and female	97	4.41	0.492

\*Where 1 = Low level of CSR sensitivity and 5 = High level of CSR sensitivity.

The results of the Levene's test indicated that the variances of the groups were equal at:  $F(3, 396) = 30.351, p < .001$ . Post hoc comparisons using a Tukey test indicated that there were no significant differences between male students in both business and STEM programs. Female students in both programs also showed no significant differences.

However, female STEM students exhibited a significant higher CSR sensitivity than males in both STEM and business. Additionally, female business students exhibited a statistically significant higher CSR sensitivity than males in both the study programs. The mean scores by experience, gender, and study program are presented in Table 4.

**Table 4.** Comparison of CSR Sensitivity by Experience, Gender, and Program\*

<b>Work Experience by Gender</b>	<b>Frequency</b>	<b>Mean</b>	<b>Standard Deviation</b>
Male with experience	102	3.71	0.586
Male with no experience	94	3.88	0.490
Female with experience	78	4.21	0.463
Female with no experience	126	4.35	0.447
Total by frequency number or average mean	400	4.04	0.496
<b>Work Experience by Program</b>			
Business with experience	95	3.78	0.625
Business with no experience	109	3.92	0.482
STEM with experience	87	4.01	0.557
STEM with no experience	109	4.21	0.505
Total by frequency number or average mean	400	3.98	0.542

The results of an ANOVA yielded enough evidence to suggest differences in CSR sensitivity between students with work experience and no work experience. Specifically, students with less than one year of work experience had a higher CSR sensitivity relative to students with more than a one year experience. When the analysis was broken down by gender and program, differences were also found. Male students with and without work experience had lower CSR sensitivity relative to female students with and without work experience. Finally, STEM students, regardless of gender, had a higher CSR sensitivity than business students.

The results of higher scores for STEM over business runs contrary to the literature review regarding the variable of work experience. This may be due to the lack of CSR environments in most Mexican corporations, including small and medium-sized enterprises. Perhaps, the lack of operationalized CSR made an impression on those who had acquired

actual work experience that CSR was not deemed important or necessary in the business world.

To test the hypothesis on ethics education, an ANOVA was performed. The results of the Levene's test indicated a violation of the homogeneity of variances assumption. Due to unequal sample sizes, a Welch test was used and the test results were not robust to the violation of the assumption. As a robustness check, a Mann–Whitney U test ANOVA was performed which indicated no significant differences for both groups. Finally, the results of the ANOVA showed no significant differences for both groups:  $F(1,398) = 0.018, p > 0.893$ ). Specifically, students with some education on ethics exhibited no significant differences relative to students without ethics education.

The sample was then broken down by gender and program regarding ethics education. Descriptive statistics are provided in Table 5.

**Table 5.** Comparison of CSR Sensitivity by Ethics Education, Gender, and Program\*

<b>By Gender</b>	<b>Frequency</b>	<b>Mean</b>	<b>Standard Deviation</b>
Male with ethics education	40	3.81	0.451
Male and with no ethics education	156	3.79	0.572
Female with ethics education	43	4.06	0.438
Female with no ethics education	161	4.21	0.452
Total	400	3.97	0.478
<b>By Program</b>			
Business with ethics education	50	3.98	0.511

Business with no ethics education	154	3.91	0.562
STEM with ethics education	33	4.02	0.373
STEM with no ethics education	163	4.11	0.562
Total	400	4.00	0.502

\*Where 1 = Low levels of CSR Sensitivity and 5 = High levels of CSR Sensitivity.

A Levene's test was performed for the ANOVA that estimated differences between the interaction terms of ethics education by gender. The results indicated that there was a violation of the assumption of homogeneity. A Welch test was performed and it was statistically significant. Therefore, there was confidence as to the results of the ANOVA which yielded significant differences. The administered post hoc indicated a higher CSR sensitivity for female students with no ethics education in contrast to female students with some ethics education. Additionally, female students in general (with or without ethics education) had higher CSR sensitivity than male students with or without ethics education. Finally, male students with some ethics education had a slightly higher CSR sensitivity than males who had no education in ethics.

An ANOVA was performed to test the hypothesis that CSR sensitivity is based on self-perceived socioeconomic status. The results of both the Levene's and Welch test in Table 6 indicated a violation of the homogeneity of variance. Therefore, a Kruskal-Wallis

test was performed and the result yielded no significant differences with a p-value of 0.633. The analysis indicated that there was insufficient evidence to suggest significant differences in CSR sensitivity based on the student's self-perceived socioeconomic status.

To test the hypothesis of CSR sensitivity based on year of attendance at the university, an ANOVA was performed which was found to be statistically significant:  $F(3,394) = 4.01, p > .008$ . Results of the Levene's test indicated a violation of the homogeneity of variance:  $F(3,394) = 4.426, p > .004$ . Since the sample sizes for the four groups were unequal, a Welch test was employed and was significant. As a robustness check, a Kruskal-Wallis ANOVA was performed which indicated sufficient confidence. The only significant results of the post hoc indicated a higher CSR sensitivity for senior students relative to freshmen as indicated in Table 6, with a detected gradual increase in CSR sensitivity from freshman to senior year

**Table 6.** Comparison of CSR Sensitivity by Year at College

		Mean Difference	Significance
Freshman	Sophomore	-0.10876	0.458
	Junior	-0.13062	0.308
	Senior	-.28998*	0.003
Sophomore	Freshman	0.10876	0.458
	Junior	-0.02186	0.991
	Senior	-0.18121	0.118
Junior	Freshman	0.13062	0.308
	Sophomore	0.02186	0.991
	Senior	-0.15936	0.217
Senior	Freshman	.28998*	0.003
	Sophomore	0.18121	0.118
	Junior	0.15936	0.217

\* The mean difference is significant at the 0.05 level.



Hypotheses 7, 8, and 9 examined whether significant associations existed between CSR sensitivity and belief in socialism, capitalism, and

religiosity, respectively. The mean scores for each of these variables are indicated in Table 7.

**Table 7.** Descriptives for CSR Sensitivity, Socialism, Capitalism, and Religiosity

	Frequency	Mean	Standard Deviation
CSR Sensitivity*	400	4.04	0.492
Socialism	400	2.65	1.258
Capitalism	400	3.77	1.007
Religiosity	400	1.99	1.004

Where 1 = Low level of CSR sensitivity and 5 = High level of CSR sensitivity.

\*Averaged from Table 3.

The results of a Pearson correlation indicated a significant positive association between CSR sensitivity and students that have a strong belief in socialism:  $r(400) = .162$ ,  $p = .001$ . A significant *negative* association between CSR sensitivity and

students that have a strong belief in capitalism was determined:  $r(400) = -.09$ ,  $p = .074$ . There was no significant association between CSR sensitivity and religiosity.

**Table 8.** Summary of Study Findings

	Hypothesis	Findings
H <sub>1</sub>	Undergraduate students in a business program will not express different sensitivity to CSR than undergraduates in a STEM program.	<b>Rejected.</b> There was enough evidence to suggest that STEM students have higher CSR sensitivity than business students. When a broken down was performed by gender, female students in both STEM and business exhibited a higher CSR sensitivity than their male counterparts.
H <sub>2</sub>	Students who have work experience of at least one year will not express different sensitivity to CSR than students with little (under one year) or no work experience.	<b>Rejected.</b> There was enough evidence to suggest that students with less than a year or no work experience had a higher CSR sensitivity relative to students with more than a year work experience. However, when the analysis was broken down by gender, female students with and without work experience had a higher CSR sensitivity than male students with and without work experience. STEM students without work experience had a higher CSR sensitivity than business students with work experience.
H <sub>3</sub>	Students who have some education regarding business ethics will not express different sensitivity to CSR than students with no business ethics education.	<b>Supported.</b> There was enough evidence to suggest that students with some ethics education exhibited no significant differences relative to students without ethics education. However, when the analysis was split by gender, female students with no ethics education had a higher CSR sensitivity relative to male students with ethics education. Additionally, female students with and without ethics education exhibited a higher CSR sensitivity than male students without ethics education. Regarding students with some ethics education by program, the results showed higher CSR sensitivity for STEM students with no ethics education than business students with no ethics education.
H <sub>4</sub>	There is no difference in sensitivity regarding CSR between male and female undergraduate students.	<b>Rejected.</b> There was enough evidence to suggest that female students had a higher CSR sensitivity relative to male students.
H <sub>5</sub>	There is no difference in sensitivity regarding CSR based on a student's self-perceived socio-economic status of his/her family.	<b>Supported.</b> There was not enough evidence to suggest differences in CSR sensitivity based on a student's self-perceived socioeconomic status.

<b>H<sub>6</sub></b>	There is no difference in sensitivity regarding CSR based on year of attendance at the university (i.e., freshman, sophomore, junior, senior).	<b>Rejected.</b> There was enough evidence to suggest a higher CSR sensitivity for senior students relative to freshmen.
<b>H<sub>7</sub></b>	There is no association between CSR sensitivity and a strong belief in socialism.	<b>Rejected.</b> There was enough evidence to suggest a significant <i>positive</i> association between students that believe in socialism and CSR sensitivity.
<b>H<sub>8</sub></b>	There is no association between CSR sensitivity and a strong belief in capitalism.	<b>Rejected.</b> There was enough evidence to suggest a significant <i>negative</i> association between students that believe in capitalism and CSR sensitivity.
<b>H<sub>9</sub></b>	There is no association between CSR sensitivity and a student's sense of religiosity.	<b>Supported.</b> No evidence of a significant association found.

#### 4. Conclusion and Suggestions for Future Research

This was a pioneering work in that it examined university students in Mexico. It was also unique in providing a quantitatively robust study with a clear delineation between business majors and STEM majors. The finding that STEM students were more sensitive to CSR than business students, suggests the possible weakness in the overall exposure to CSR education and its corresponding social discussion in Mexican civil society. Finally, this study added to the literature in the field of CSR research by exploring the variable of socioeconomic status, as well as examining strong associations regarding capitalism and socialism with CSR sensitivity. Such associations had never been empirically analyzed before.

Conclusions from this study are limited by the fact that only one Mexican university was examined. Future research should expand to other Mexican universities and should include graduate students. Unlike the Mexican population, where those classified as middle class make up only about 45% of the population, (Organisation for Economic Co-operation

and Development, 2019), the student population of this institution was mostly middle class. Therefore, future research can examine Mexican universities with a socioeconomic profile that is closer to that of the nation. In addition, more international research should be conducted to provide more validation regarding the differences between business majors and STEM majors. This study's finding that work experience does not necessarily lead to more CSR sensitivity suggests that further CSR studies of this nature should incorporate more discussions relative to how much CSR is being incorporated and practiced in the business culture of the respective nation being examined. Finally, research that examines the strong associations with capitalism or socialism with CSR sensitivities should be pursued but by avoiding linguistic usage of the left-right paradigm terms since such verbiage varies in substance by country. The less malleable terms of "capitalism" and "socialism" would allow for better international comparisons.

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