

May 2010

Employee Perceptions of Individual and Organizational Commitment to the Green Movement and Their Perceived Impacts Between Male and Female Subjects

Susan M. L. Zee
Southwestern Louisiana University

Lillian Y. Fok
University of New Orleans

Sandra J. Hartman
University of New Orleans

Follow this and additional works at: <https://digitalcommons.coastal.edu/cbj>



Part of the [Advertising and Promotion Management Commons](#), [Curriculum and Instruction Commons](#), [E-Commerce Commons](#), [Economics Commons](#), [Higher Education Commons](#), [Hospitality Administration and Management Commons](#), [Marketing Commons](#), [Real Estate Commons](#), [Recreation Business Commons](#), and the [Tourism and Travel Commons](#)

Recommended Citation

Zee, Susan M. L.; Fok, Lillian Y.; and Hartman, Sandra J. (2010) "Employee Perceptions of Individual and Organizational Commitment to the Green Movement and Their Perceived Impacts Between Male and Female Subjects," *The Coastal Business Journal*: Vol. 9 : No. 1 , Article 3.
Available at: <https://digitalcommons.coastal.edu/cbj/vol9/iss1/3>

This Article is brought to you for free and open access by the Journals and Peer-Reviewed Series at CCU Digital Commons. It has been accepted for inclusion in The Coastal Business Journal by an authorized editor of CCU Digital Commons. For more information, please contact commons@coastal.edu.

EMPLOYEE PERCEPTIONS OF INDIVIDUAL AND ORGANIZATIONAL COMMITMENT TO THE GREEN MOVEMENT AND THEIR PERCEIVED IMPACTS BETWEEN MALE AND FEMALE SUBJECTS

Susan M. L. Zee, Southeastern Louisiana University
Lillian Y. Fok, University of New Orleans
Sandra J. Hartman, University of New Orleans

ABSTRACT

In this research, we find support for a proposed set of linkages among employee perceptions of organizational green orientation, individual green orientation, and impacts of the green movement on organizational performance among male and female subjects. We report significant MANOVA results indicating differences between male and female subjects, with female subjects showing a general pattern of higher alignment with the green movement. Moreover, our examination of relationships among the scales used in this study indicates that the patterns are not consistent for males and females. Females consistently report more and more positive relationships. We discuss differences, consider possible causes, and suggest future research.

INTRODUCTION

In this research, we examine male and female employees and their perceptions of their own and the organization's commitment to the "green" movement. We also consider gender differences in employee perceptions that the organization has implemented the green movement and their perceptions of extent of implementation on their beliefs about outcomes.

The Green Movement

Recent events, and especially rising gasoline prices, a depressed housing market, and instabilities in the world economy, have led to considerable discussion of the current status of the "green movement", a phenomenon that has appeared over the past 20 years (Stafford, 2003). It encompasses areas such as "green buying" by consumers (Mainieri, et al., 1997), Environmentally Preferable Purchasing (EPP) by government agencies and ultimately by organizations in the private sector (Elwood & Case, 2000), Environmentally Benign Design and Manufacturing (EBDM) (Newsdesk, 2006), and Socially Responsible Investing (SRI) (Blodget, 2007). In each case, discussion has centered on purchasing, manufacturing, and investing in ways, which are environmentally beneficial. Historically, emphasis has been placed on insuring that EPP products are attractive to consumers (Ottman, Stafford & Hartman, 2006; Dale, 2008) and insuring that organizations have sufficient incentives to behave in environmentally-constructive ways (Elwood & Case, 2000).

In contrast, a second stream in the literature has suggested that the “green movement” may be in decline. Specifically, one of the “Current Issues in the Greening of Industry” (July 2007) suggests that the current “new-found environmental ethic” may be somewhat ephemeral and that “... corporate greening could go bust” in ways analogous to other recent fad-like phenomena. Moreover, Stafford (2003) points out that “... green issues as a whole appear to be taking a back seat to concerns of terrorism, war, and the economy.” In view of the current recession, these trends could quickly be exacerbated. However, Dale (2008) points out that, with soaring energy prices pushing up the price of mainstream goods, green products are becoming just as -- or even more -- affordable these days. Stafford also notes that concerns about oil could lead to a movement to reduce dependence on oil in the U.S., and thus foster this aspect of the green movement.

Environmental friendliness and sustainability are the major concerns of green products, green manufacturing and service, and green organizations (Liu & He, 2005). All of the green activities, such as reducing waste, using harmless materials, and providing organic food can be placed under the umbrella of greening. Providing a clean, ethical and safe environment to human beings and all creatures is the goal of green movement, and is one which potentially requires the efforts of all the people, industries and governments on the earth (Grewe 2002; Holden 2004; Patulny & Norris, 2005; Tiemstra, 2003).

Organizational Culture and Sustainability

In this research, we also speculate that *organizational culture* may impact employee perceptions of the green movement and its importance to the organization and to them personally. Moreover, culture may impact perceptions about outcomes as well. Note, however, that the impacts between the culture and the perceptions may move in two directions. Specifically, as organizations become *greener*, we should see a move toward a more empowered, employee-centered, and customer-centered culture. Additionally, however, a culture, which is supportive of the green movement, should lead to better outcomes and, perhaps in part through self-selection, to employees who, themselves, are more supportive of the green movement.

Centering on quality practices, recent in-depth discussion by Zairi (2002) can illustrate what is being considered:

The concept of sustainable development has been touted as a new planning agenda (Beatley & Manning, 1998). As such, it becomes a fundamental concept that should be an important aspect of all further policy developments (Loffler, 1998). Sustainable development is based on a perceived need to address environmental deterioration and to maintain the vital functions of natural systems for the well being of present and future generations. *Sustainability* is defined as 'the ability of an organization to adapt to change in the business environment to capture contemporary best practice methods and to achieve and maintain superior competitive performance' (Zairi & Liburd 2001). This concept implies that

sustainability is a means for an organization to maintain its competitiveness. Quinn (2000) has a similar idea on *sustainability*. He describes it as the development that meets present needs without compromising the ability of future generations to meet their own needs. Gladwin et al. (1995), on the other hand, define it as 'development, which meets the needs of the present, without compromising the ability of future organizations to meet their own needs'. **Total Quality Management** (TQM) represents an integrative approach for the pursuit of customer satisfaction (Chin et al., 2001). However, facing intense pressure of global competition, organizations need to consider incorporating the idea of *sustainability* in TQM in order to sustain their competitive advantage and performance improvement. In addition, the interest of organizational survival, growth and prosperity has therefore got to be concerned with not just the present, but also the future.

See also similar ideas by Hitchcock and Willard (2002), Jonker (2000), and McAdam and Leonard (2003).

Gender Differences

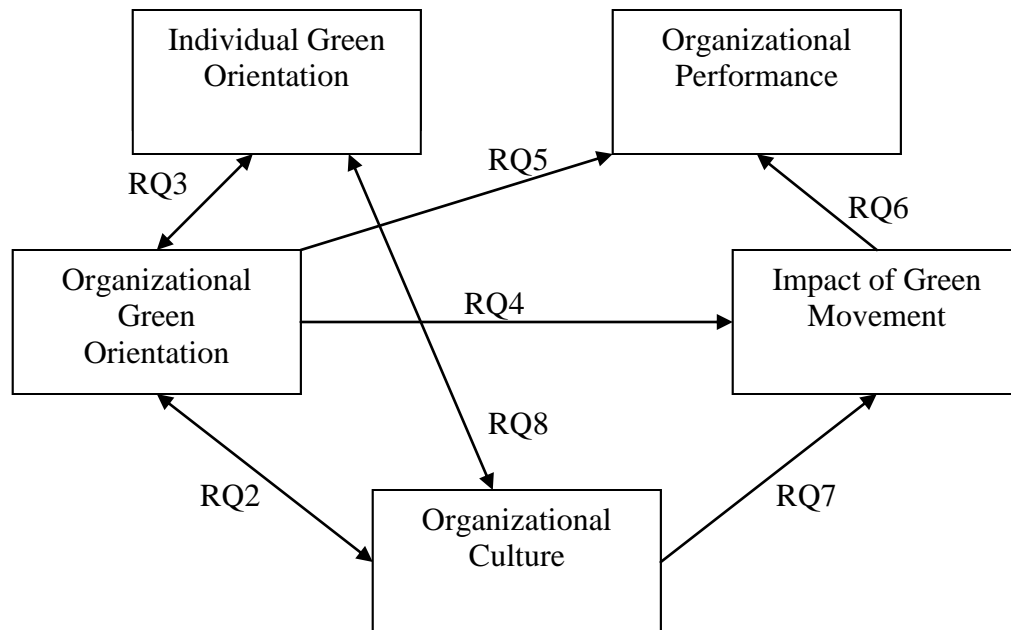
We examine differences that may be occurring for male vs. female subjects. Within the management literature, research has pointed to a number of differences between males and females, with continuing discussion over whether what is seen is the result of nature, nurture, or both (Tannen, 1990). Men and women communicate somewhat differently (Guzman, et al., 2007; Tannen, 1994); women appear to be at a disadvantage in some mixed group situations (Ott, 1989), men's and women's leadership styles differ, with most research finding that women's styles are more participative and supportive (Shelly & Munroe, 1999; Eagly, Karau & Johnson, 1992). Women, over time, are participating more in higher education (Peter & Horn, 2005). Women appear to exhibit behavioral inhibitory control more readily than men (Yuan, et al., 2008). In recent years, women have reported feeling more rushed than men (Mattingly & Sayer, 2006). Finally, in terms of power, women and men appear to have similar needs for power and personalized power but women have a preference for socialized power (Chusmir & Koberg, 1988). In this research, we consider whether men and women have differing views on the *green movement*. A stimulus for our work has been widespread recent discussion of the need for a shift in green movement attention to issues of *sustainability*, a concept that is central to the green movement.

In this research, we consider how employee perceptions of their own and the organization's commitment to the "green" movement and employee perceptions that the organization has implemented perceptions of outcomes. We examine differences that may be occurring among male and female subjects. In this study, we develop nine research questions to explore the possibilities.

Figure 1 shows the linkages we expect and relates linkages to the corresponding research questions. Our first research question suggests that male and female subjects would have different levels of organizational green orientation, organizational culture,

organizational performance, and impacts of the green movement. We also believe that organizations with more desirable organizational culture should be more supportive of the green movement (Research Question 2 labeled as RQ2 in Figure 1). Furthermore, subjects' personal green orientation should be related to or affected by the green movement within the organization (Research Question 3 labeled as RQ3 in Figure 1). Additionally, as organizations become more green-oriented, the organization itself will be seen as "doing better" in general and the impact of the green movement will be more positive (Research Questions 4 and 5 labeled as RQ4 and RQ5 in Figure 1). We also believe that as the organization is "doing better," the subjects will perceive the impact of the green movement even better (Research Question 6 labeled as RQ6 in Figure 1). We expect that organizational culture is related to the impact of the green movement and will be shaped by subjects' individual green orientation (Research Questions 7 and 8 labeled as RQ7 and RQ8 in Figure 1). Finally, our ninth research question suggests that subjects' demographic background will influence their individual green orientation.

FIGURE 1
Research
Model



Research Question 1: Male and female subjects will have different levels of green orientation, reactions to organizational culture, organizational performance, and impacts of the green movement.

Research Question 2: Organizational Green Orientation is related to Organizational Culture.

Research Question 3: Organizational Green Orientation is related to Individual Green Orientation.

Research Question 4: Organizations that are described by subjects as higher in Organizational Green Orientation will also be ones where employees report more positive feelings about the impact of the green movement.

Research Question 5: Organizations that are described by subjects as higher in Organizational Green Orientation will also have employees who report more positive feelings about the organization's performance.

Research Question 6: Organizations that are described by subjects as higher in Organizational Performance, they will also report more positive feelings about the impact of the green movement.

Research Question 7: Organizational Culture is related to subjects' feelings about the impact of the green movement.

Research Question 8: Organizational Culture is related to Individual Green Orientation.

Research Question 9: Subjects' demographic background is related to Individual Green Orientation.

METHODOLOGY

Subjects of the Current Study

Subjects in the sample were approximately 323 managers from a wide variety of industries in the South. There were approximately 73 managers who work in the manufacturing industry, 83 managers who work in the healthcare industry and 124 managers who work in the non-healthcare industries (4 in financial services, 10 in high technology, 19 in government, 27 in retail, and 19 in education). There were 185 male and 138 female. Of the 185 male managers, their average age was 41.46 years (Table 1) and they had an average of 20.38 years working experience with 12.18 years in management positions. Of the 138 female managers, their average age was 41 years and they had an average of 20.38 years working experience with 9.68 years in management positions. In this study, we will concentrate on the relationships among perceptions of support for the organizational green movement, organizational culture, organizational performance, and the impact of green movement and how gender can affect these relationships.

TABLE 1
Subjects' Demographic Information

Industry of your organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Manufacturing	28	8.7	8.7	8.7
Utilities	45	13.9	13.9	22.6
Health Care	83	25.7	25.7	48.3
Financial Services	4	1.2	1.2	49.5
High Technology	10	3.1	3.1	52.6
Government	19	5.9	5.9	58.5
Retail	27	8.4	8.4	66.9
Education	19	5.9	5.9	72.8
Other	88	27.2	27.2	100.0
Total	323	100.0	100.0	

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	185	57.3	57.3	57.3
Female	138	42.7	42.7	100.0
Total	323	100.0	100.0	

Descriptive Statistics^a

	N	Minimum	Maximum	Mean	Std. Deviation
Age	184	20	85	41.46	12.650
Number of years working experience	182	2	78	20.83	12.144
Number of years managerial experience	182	2	54	12.18	9.644
Valid N (listwise)	181				

a. Gender = Male

Descriptive Statistics^a

	N	Minimum	Maximum	Mean	Std. Deviation
Age	137	20	68	41.00	11.887
Number of years working experience	138	2	70	20.38	11.555
Number of years managerial experience	137	1	40	9.68	7.626
Valid N (listwise)	136				

a. Gender = Female

Instrument

Organizational Green Orientation

Based on previous research (Fok, Zee, & Hartman, 2009; Hartman, Fok & Zee, 2009), we developed nineteen survey questions to measure the Organizational Green Movement. Table 2 provides the items and shows the results of our factor analysis.

TABLE 2
Factor Analysis on Organizational Green Orientation
Rotated Component Matrix^a

	Component		
	1	2	3
Produce environmentally friendly goods and services	.222	.900	.054
Design environmentally friendly goods and services	.214	.900	.067
Reuse or refurbish a product's components	.247	.615	.257
Provide a safe and healthy workplace for employees	.108	.109	.841
Make ethical and socially responsible decisions	.169	.145	.717
Make an effort to preserve the natural environment	.680	.274	.277
Lead and support corporate responsibility activities	.606	.202	.261
Encourage employees to conserve energy/resources.	.725	.083	.242
Set goals to conserve energy/resources.	.848	.194	.108
Commit to be environmentally friendly at all levels	.806	.312	.082
Preserve employees' physical and emotional well-being	.355	.043	.690

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.796	43.597	43.597	4.796	43.597	43.597	3.046	27.693	27.693
2	1.447	13.157	56.754	1.447	13.157	56.754	2.291	20.828	48.521
3	1.088	9.890	66.644	1.088	9.890	66.644	1.994	18.123	66.644
4	.770	7.001	73.644						
5	.635	5.776	79.420						
6	.610	5.549	84.969						
7	.447	4.066	89.035						
8	.422	3.834	92.869						
9	.368	3.343	96.212						
10	.263	2.394	98.606						
11	.153	1.394	100.000						

Extraction Method: Principal Component Analysis.

As Table 2 indicates, we obtained a three-factor solution with 66.644% of the variance explained in the case of the organizational green orientation items. We have labeled Factor 1 as “Green Leadership”, Factor 2 as “Green Products/Services”, and Factor 3 as “Green Workplace.”

Individual Green Orientation

In this study, we developed twenty survey questions to measure the Individual Green Orientation. We obtained a three-factor solution with 51.903% of the variance explained in the case of the individual green orientation items. We have labeled Factor 1 as “Green Actions”, Factor 2 as “Green Consciousness” and Factor 3 as “Green Belief.” Table 3 provides the items and shows the results of our factor analysis.

TABLE 3
Factor Analysis on Individual Green Orientation

Rotated Component Matrix^a

	Component		
	1	2	3
Recycle paper, plastic, or aluminum products	.239	.575	.303
Drive a hybrid or electric car	.683	.188	.060
Plant your own vegetable garden	.402	.129	.069
Buy organic food	.544	.134	.253
Bank at an eco-friendly bank	.633	.031	.056
Buy products based on the willingness to recycle old devices	.545	.274	.295
Run your home on renewable energy	.758	.180	-.062
The city or state should provide an ability to recycle	.186	.093	.710
It is inconvenient being "green"	-.012	-.036	-.731
You think of yourself as energy conscious	.125	.889	-.070
You think of yourself as eco-conscious	.271	.842	.108

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.505	31.862	31.862	3.505	31.862	31.862	2.378	21.622	21.622
2	1.164	10.584	42.447	1.164	10.584	42.447	2.017	18.341	39.962
3	1.040	9.457	51.903	1.040	9.457	51.903	1.314	11.941	51.903
4	.960	8.728	60.631						
5	.917	8.336	68.967						
6	.725	6.591	75.558						
7	.678	6.163	81.721						
8	.619	5.625	87.346						
9	.592	5.381	92.727						
10	.521	4.741	97.468						
11	.279	2.532	100.000						

Extraction Method: Principal Component Analysis.

Organizational Culture

Based on previous research (Fok, et al., 2000, 2001), we measured the Organizational Culture by constructing a series of paired opposite items which asked whether the organization's climate should be described as open vs. closed, soft vs. tough, competitive vs. collaborative, and the like. Table 4 below provides the items and shows the results of our factor analysis. We obtained a two-factor solution in the case of the culture items and have labeled Factor 1 as "TQM Culture" and Factor 2 as "People-Friendly Culture." 52.63% of the variance was explained by these two factors.

TABLE 4
Factor Analysis on Organizational Culture
Rotated Component Matrix^a

	Component	
	1	2
Soft	-.036	.478
Informal	.076	.713
Decentralized	.185	.568
Quality-oriented	.803	.074
Innovation-promoting	.867	-.033
Proactive	.834	.142
Collaborative	.006	.683

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.256	32.233	32.233	2.256	32.233	32.233	2.132	30.461	30.461
2	1.428	20.397	52.630	1.428	20.397	52.630	1.552	22.169	52.630
3	.977	13.951	66.581						
4	.788	11.257	77.838						
5	.706	10.087	87.926						
6	.505	7.219	95.145						
7	.340	4.855	100.000						

Extraction Method: Principal Component Analysis.

Impact of Green Movement

The instruments included are items such as "Provide better products," "Provide better services," "Have better relationship with customers," "Have better relationship with suppliers," "Have better reputation," "Provide better working environment," "Increase profits," "Reduce costs," and "Improve productivity." Factor analysis produced a two-factor solution and we named them "Strategic Benefits" and "Operational Benefits." 82.184% of the variance was explained by these two factors. Table 5 below provides the items and shows the results of our factor analysis.

TABLE 5
Factor Analysis on Impact of Green Movement

Rotated Component Matrix^a

	Component	
	1	2
Have better relationship with customers	.828	.374
Have better relationship with society at large	.892	.214
Have better reputation	.837	.295
Increase profits	.305	.871
Reduce costs	.267	.902
Have better relationship with suppliers	.803	.333
Improve productivity	.413	.815
Have better relationship with employees	.798	.399

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.523	69.034	69.034	5.523	69.034	69.034	3.796	47.454	47.454
2	1.052	13.150	82.184	1.052	13.150	82.184	2.778	34.731	82.184
3	.383	4.788	86.973						
4	.280	3.499	90.471						
5	.233	2.908	93.379						
6	.215	2.692	96.070						
7	.163	2.033	98.103						
8	.152	1.897	100.000						

Extraction Method: Principal Component Analysis.

Organizational Performance

The Organizational Performance items were primarily adapted from the Malcolm Baldrige National Quality Award outcome assessment measures. The Baldrige Awards are designed to identify organizations that are performing in an exceptional manner and include criteria for identifying excellence. We used the Baldrige criteria in the form of a scale that asks respondents to provide their perceptions about their organizations along Baldrige lines. The resulting scale has been used and reported in previous research (Fok, Zee, & Hartman, 2009; Hartman, Fok & Zee, 2009). The instrument included are items such as “Overall, my company is performing well,” “Overall, morale in my company is high,” “Overall, I am satisfied with the use of

technology in my company,” and the like. Factor analysis in this study indicated that one factor was present. We named the factor as “Organizational Performance/Success.”

RESULTS

Our first research question suggested that male and female subjects would have different levels of organizational and individual green orientation, organizational culture, organizational performance, and impact of green movement. As shown in Table 6, the MANOVA (Multivariate Analysis of Variance) results are significant with a p-value of .002, which implies that males were significantly different from females, and that subjects reported different levels of organizational and individual green orientation, organizational culture, organizational performance, and impacts of the green movement. Among the thirteen factors, we found that “Green Leadership”, “Green Actions”, “Green Belief”, and “People-Friendly Culture “are statistically significant at the levels of .009, .039, .016, .003, and .039, respectively. For “Green Leadership”, the mean factor score of females (0.1731350) is greater than that of males (-0.1214477). The results imply that females are more inclined to develop green leadership than males. For “Green Actions”, the mean factor score of females (0.1553622) is greater than that of males (-0.1175048). For “Green Belief”, the mean factor score of females (0.1977539) is greater than that of males (-0.1408715). The results suggest that female subjects are perceived to have higher level of green practices and awareness than male subjects. For “People-Friendly Culture”, the mean score of females (0.1454775) is greater than that of males (-.0862507). The results suggest that the perception of the organization’s climate by the female subjects is that it is more employee-friendly (i.e., soft, decentralized, informal, collaborative) than that of the male subjects.

TABLE 6
Summary of MANOVA results – Male vs. Female Employees

Multivariate Tests^b

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.003	.081 ^a	13.000	304.000	1.000
	Wilks' Lambda	.997	.081 ^a	13.000	304.000	1.000
	Hotelling's Trace	.003	.081 ^a	13.000	304.000	1.000
	Roy's Largest Root	.003	.081 ^a	13.000	304.000	1.000
gbq1	Pillai's Trace	.098	2.546 ^a	13.000	304.000	.002
	Wilks' Lambda	.902	2.546 ^a	13.000	304.000	.002
	Hotelling's Trace	.109	2.546 ^a	13.000	304.000	.002
	Roy's Largest Root	.109	2.546 ^a	13.000	304.000	.002

a. Exact statistic

b. Design: Intercept+gbq1

Dependent Variable	Significance
Green Leadership	.009**
Green Products/Services	.389
Green Workplace	.608
Green Actions	.016**
Green Consciousness	.396
Green Belief	.003**
TQM Culture	.818
People-Friendly Culture	.039**
Strategic Benefits	.089
Operational Benefits	.191
Organizational Performance	.187

The F tests the effect of healthcare vs. non-healthcare organizations. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

** F test is significant at the 0.05 level.

Our second research question examines the relationship between Organizational Green Orientation and Organizational Culture in terms of male vs. female subjects. Table 7 provides the results of our correlation analysis. We found only one pair of significant relationships in female subjects. “Green Workplace” has a significant correlation with “TQM Culture” which implies that as female subjects embrace a culture that focuses on being quality-oriented, innovation promoting, and proactive, they also are trying to develop a workplace that is perceived as environmentally friendly by the employees.

TABLE 7
Pearson’s Correlation Matrix- Organizational Green Orientation, Individual Green Orientation, Impact of Green Movement, and Organizational Performance (RQ2 to RQ5)

		Male Subjects						
	Green Actions	Green Consciousness	Green Belief	TQM Culture	People-Friendly Culture	Strategic Benefits	Operational Benefits	Organizational Performance
Green Leadership	.147**	.255**	.264**	NS	NS	.154*	.149*	NS
Green Products/Services	.153*	.348**	NS	NS	NS	.371**	NS	NS
Green Workplace	NS	NS	NS	NS	NS	NS	-.179*	.217**

Female Subjects

	Green Actions	Green Consciousness	Green Belief	TQM Culture	People-Friendly Culture	Strategic Benefits	Operational Benefits	Organizational Performance
Green Leadership	.214*	.225**	NS	NS	NS	NS	.256**	NS
Green Products/Services	.311**	.259**	NS	NS	NS	.180*	NS	NS
Green Workplace	NS	NS	.195*	-.235**	NS	NS	NS	.203*

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

NS = not significant.

Research Question 3 investigates the relationship between Organizational Green Orientation and Individual Green Orientation. We found five pairs of significant relationships in male subjects and five pairs of significant relationships in female subjects. The results are shown in Table 7. In male subjects' organizations, "Green Leadership" has significant and positive correlations with "Green Actions", "Green Consciousness" and "Green Belief"; "Green Products/Services" has significant and positive correlations with "Green Actions" and "Green Consciousness". In female subjects' organizations, "Green Leadership" has significant and positive correlations with "Green Actions" and "Green Consciousness"; "Green Products/Services" has significant and positive correlations with "Green Actions" and "Green Consciousness"; "Green Workplace" has a significant and positive correlation with "Green Belief". The findings strongly support the idea that both male and female subjects' reported individual green orientation affects their perceptions of the organization's green movement and vice versa.

Research Question 4 suggested that organizations with higher level of green orientation would be reported by the subjects to have more positive feeling about the impact of the green movement. We found four pairs of significant relationships in male subjects and two pairs of significant relationships in female subjects. The results are shown in Table 7. "Green Leadership" has significant and positive correlations with "Operational Benefits" in both male and female subjects' organizations implying that green leadership within an organization leads to organizational efficiency *and* effectiveness. "Green Products/Services" has significant and positive correlations with "Strategic Benefits" in both male and female subjects' organizations. In male subject's organizations, "Green Leadership" has a significant and positive correlation with "Strategic Benefits"; "Green Workplace" has a significant and negative correlation with "Operational Benefits". The results support the premise that when male subjects' organizations develop "green" products/services or use "green" material in the production, show more concern with avoiding negative consequences of not being green, and help their employees at all levels to be more green-oriented, the overall impact of these green initiatives is perceived to be more positive by the employees. Female subjects' organizations only show two pairs of positive relationships. While this finding is similar to that in male subjects' organizations, the lack of other significant findings suggests weaker perceived relationships among these constructs in female subjects' organizations.

Research Question 5 suggested that organizations with higher level of green orientation would have received more positive feelings about the organization's performance. The results are shown in Table 7. We found one pair of significant relationship in male subjects and one pair of significant relationship in female subjects. "Green Workplace" and "Organizational Performance/Success" is significant in both male and female subjects. The relationship is positive which implies that, as the organizations are perceived as showing more concern for trying to develop a workplace that is perceived as environmentally friendly by the employees, and as paying more attention to safety concerns, the organizational performance is perceived by the employees to be higher.

Research Question 6 suggested that organizations with higher level of organizational performance would be reported by the subjects to have more positive feeling about the impact of the green movement. As shown in Table 8, we found two pairs of significant relationships in female subjects' organizations. Two factors ("Strategic Benefits" and "Operational Benefits") of Impact of Green Movement and "Organizational Performance/Success" have significant correlations at the 0.01 level. The relationships are positive and imply that female subject's organizations with higher levels of performance would also be reported by their employees to have positive feelings about the impact of the green movement. There is no significant relationship between "Impact of Green Movement" and "Organizational Performance" in male subject's organizations, implying that male subjects' do not see a relationship.

TABLE 8
Pearson's Correlation Matrix - Impact of Green Movement, Organizational Culture, and Organizational Performance (RQ6 and RQ7)

Male Subjects

	TQM Culture	People-Friendly Culture	Organizational Performance
Strategic Benefits	-.160*	NS	NS
Operational Benefits	NS	NS	NS

Female Subjects

	TQM Culture	People-Friendly Culture	Organizational Performance
Strategic Benefits	-.268**	NS	.225**
Operational Benefits	-.228**	-.190*	.288**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

NS = not significant.

Our seventh research question examines the relationship between Organizational Culture and Impact of Green Movement. We found three pairs of significant relationships in female subjects' organizations. "TQM Culture" has significant correlations with "Strategic Benefits" and "Operational Benefits" and "People-Friendly Culture" has a

significant correlation with “Operational Benefits” in the female subjects’ organizations. The findings indicate that as the organizational cultures are more green-oriented and employee-friendly; the employees see more positive impacts from the green movement. Only one pair of significant relationships in male subjects’ organizations is found. “TQM Culture” has a significant relationship with “Strategic Benefits,” implying that employees in these organizations believe that the TQM culture, where focus upon quality is integral to the culture, does provide strategic benefits, such as having better relationships with customers, employees, suppliers, and society, and having a better reputation.

Research Question 8 investigates the relationship between Organizational Culture and Individual Green Orientation. The results are not significant which implies organizational culture does not have significant impact on employees’ view of being green at a personal level in male and female subjects’ organizations.

Research Question 9 suggests that subjects’ demographic background will influence their individual green orientation. We found three pairs of significant and positive relationships at the 0.01 level. “Green Consciousness” has significant relationships with age, number of years of working experience, and number of years of managerial experience. All three pairs of relationships are positive which imply that subjects have higher levels of green consciousness as they become older, work longer, and have more years working in managerial positions.

TABLE 9
Pearson’s Correlation Matrix - Subjects’ Demographic Background and Individual Green Orientation (RQ9)

	Age	Number of Years Working Experience	Number of Years Managerial Experience
Green Actions	NS	NS	NS
Green Consciousness	.273**	.214**	.203**
Green Belief	NS	NS	NS

** Correlation is significant at the 0.01 level (2-tailed).
NS = not significant.

DISCUSSION AND CONCLUSIONS

In this study, we have found a number of linkages between individual green orientation, organizational green orientation, the impacts of the green movement, and organizational culture and perceptions about organizational performance. As indicated by our significant MANOVA results, women’s perceptions are different from men’s and indicate that women, when compared to men, show higher levels of green orientation. Moreover, our examination of the linkages among the individual scales offers general support for the idea that women reported more linkages and somewhat different linkages than men.

These findings indicate that differences exist, but do not suggest *why* they may be occurring or whether they *may* be having an impact on policy and performance, especially in traditionally male-dominated organizations and governmental entities. Future research needs to focus on these questions. Research is also needed to consider other demographics such as age and ethnicity to consider whether male-female differences are found in differing groups.

REFERENCES

- Beatley, T. and Manning, K. (1998) *The ecology of place: planning for environment, economy and community*, Washington DC: Island Press.
- Blodget, H. (2007) 'The conscientious investor: an unsentimental guide to socially responsible investing', *Atlantic Monthly*, Vol. 300, No. 3, pp. 78-89.
- Chin, K. S., Pun, K. F. and Hua, H. M. (2001) 'Consolidation of China's quality transformation efforts: a review', *International Journal of Quality & Reliability Management*, Vol. 18, No. 8, pp. 836-853.
- Chusmir, L. H. and Koberg, C. S. (1988) 'Gender identity and sex role conflict among working women and men', *The Journal of Psychology*, Vol. 122, No. 6, pp. 567-575.
- Current Issues in the Greening of Industry (2007), *Business Strategy and the Environment*, Vol. 16, No. 6, pp. 456-457.
- Dale, A. (2008) 'Enterprise: green products gain from new price equation; they find new buyers as high energy costs hurt regular brands', *The Wall Street Journal*, Eastern Edition: B7 (June 24, 2008)
- Eagly, A. H., Karau, S. J. and Johnson, B. T. (1992) 'Gender and leadership style among school principals: a meta-analysis', *Educational Administration Quarterly*, Vol. 28, No. 1, pp. 76-102.
- Elwood, H. and Case, S. (2000) 'Private sector pioneers', *Greener Management International*, Vol. 29, pp. 70-94.
- Fok, L. Y., Fok, W. M., Hartman, S. J. (2001) 'Exploring the relationship between total quality management and information systems development', *Information & Management*, Vol. 38, pp. 355-371.
- Fok, L. Y., Hartman, S. J., Patti, A. L. and Razek, J. R. (2000) 'The relationship between equity sensitivity, growth need strength, organizational citizenship behavior, and perceived outcomes in the quality environment: a study of accounting professionals', *Journal of Social Behavior and Personality*, Vol. 15, No. 1, pp. 99-120.
- Fok, L. Y., Zee, S. M. L. and Hartman, S. J. (2009) 'Employee perceptions of organizational committee to the green movement, quality management maturity, and outcomes', *The Coastal Business Journal*, Vol. 8, No. 1, pp. 1-17.
- Gladwin, T. H. N., Kennely, J. J., Shelomith, B. C. and Krause, T. (1995) 'Shifting paradigms for sustainable development: implications for management theory and research', *Academy of Management Review*, Vol. 20, pp. 874-907.
- Grewe, T. (2002) 'Sustainability and the finance officer', *Government Finance Review*, Vol. 18, No. 1, p. 5.

- Guzman, I. R., Joseph, D., Papamichail, K. N. and Stanton, J. M. (2007) 'RIP – beliefs about IT culture: exploring national and gender differences', *Proceeding of the 2007 ACM Special Interest Group on Computer Personnel Research Annual Conference*, St. Louis, Missouri, pp. 217-220.
- Hartman, S. J., Fok, L. Y. and Zee, S. M. (2009) 'Linkages among employee perceptions of organizational commitment to the green movement and organizational culture, and their perceived impacts upon outcomes', *Journal of Organizational Culture, Communications and Conflict*, Vol. 13, No. 2, pp. 27-44.
- Holden, E. (2004) 'Towards sustainable consumption: do green households have smaller ecological footprints?' *International Journal of Sustainable Development*, Vol. 7, No. 1, pp. 44-58.
- Hitchcock, D. and Willard, M. (2002) 'Sustainability: enlarging quality's mission', *Quality Progress*, Vol. 35, No. 2, pp. 43-47.
- Jonker, J. (2000) 'Organizations as responsible contributors to society: linking quality, sustainability and accountability', *Total Quality Management*, Vol. 11, No. 4/5/6, pp. 741-746.
- Liu, Y. and He, M. (2005) 'Design of "green grade" rating system for the environmental performance assessment of a firm', *International Journal of Management and Enterprise Development*, Vol. 2, No. 2, pp. 183-203.
- Loffler, P. (1998) 'Sustainable development in Europe', *A Cause for Regional Environment*, Vol. 8, pp. 113-120.
- McAdam, R. and Leonard, D. (2003) 'Corporate social responsibility in a total quality management context: opportunities for sustainable growth', *Corporate Governance*, Vol. 3, No. 4, pp. 36-45.
- Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B. and Oskamp, S. (1997) 'Green buying: the influence of environmental concern on consumer behavior', *Journal of Social Psychology*, Vol. 137, No. 2, pp. 189-204.
- Mattingly, M. J. and Sayer L. C. (2006) 'Under pressure: gender differences in the relationship between free time and feeling rushed', *Journal of Marriage and Family*, Vol. 68, No. 1, pp. 205-221.
- Newsdesk (2006) 'Sustainable economic competitiveness', *Manufacturing Engineering*, Vol. 137, No. 3, pp. 27-28.
- Ott, E. M. (1989) 'Effects of the male-female ratio at work: policewomen and male nurses', *Psychology of Women Quarterly*, Vol. 13, pp. 41-58.
- Ottman, J. A., Stafford, E. R. and Hartman, C. L. (2006) 'Avoiding green marketing myopia', *Environment*, Vol. 48, No. 5, pp. 22-36.
- Peter, K. and Horn, L. (2005) 'Gender differences in participation and completion of undergraduate education and how they have changed over time', U.S. Department of Education, National Center for Education Statistics, Washington, DC: U. S. Government Printing Office.
- Patulny, R. and Norris, K. (2005) 'Sustaining interest: are green values converting to votes?' *International Journal of Environment, Workplace and Employment*, Vol. 1, No. 3/4, pp. 296-309.
- Quinn, B. (2000) 'Sustaining New Jersey's industrial future', *Pollution Engineering*, Vol. 32, No. 13, pp. 25-27.

- Shelly, R. K. and Munroe, P. T. (1999) 'Do women engage in less task behavior than men?' *Sociological Perspectives*, Vol. 42, No. 1, pp. 49-67.
- Stafford, E. R. (2003) 'Energy efficiency and the new green marketing', *Environment*, Vol. 45, No. 3, pp. 8-10.
- Tannen, D. (1990) *You just don't understand: women and men in conversation*, New York: William Morrow, Ballantine.
- Tannen, D. (1994) *Gender and discourse*, New York: Oxford University Press.
- Tiemstra, J. P. (2003) 'Environmental policy for business and government', *Business and Society Review*, Vol. 108, No. 1, pp. 61-69.
- Yuan, J, He, Y., Qinglin, Z., Chen, A. and Li, H. (2008) 'Gender differences in behavioral inhibitory control: ERP evidence from a two-choice oddball task', *Psychophysiology*, Vol. 45, No. 6, pp. 986-993.
- Zairi, M. (2002) 'Beyond TQM implementation: the new paradigm of TQM sustainability', *Total Quality Management*, Vol. 13, No. 8, pp. 1161-1172.
- Zairi, M. and Liburd, I. M. (2001) 'TQM sustainability – a roadmap for creating competitive advantage', *Integrated Management, Proceeding of the 6th International Conference on ISO 9000 and TQM*, Paisley, Ayr, Scotland, 17-19 April, pp. 452-461.

ABOUT THE AUTHORS

Susan Zee is an Associate Professor of Management at Southeastern Louisiana University. She teaches management science, operations management, and business statistics. Professor Zee's research interests include corporate finance, investments, business ethics, quality management, and econometrics. Her research has been published in journals such as *European Journal of Economics, Finance, and Administrative Science, Business Journal for Entrepreneurs, Essays in Education, Journal of Research in Finance, The Journal of Insurance Issues, Review of Quantitative Finance and Accounting, Managerial Finance Journal, The Coastal Business Journal*, and many others.

Lillian Y. Fok is a Professor of Management, as well as the Seraphia Leyda Teaching Fellow at the University of New Orleans. She joined the Department of Management at UNO in 1989. She has actively participated in the development of various undergraduate, graduate, as well as executive programs. She has more than 45 articles published in highly regarded refereed journals, both academic and professional. In addition, she has won six Best-Paper awards in business conferences and one Best-Paper- of-the-Year award offered by a high quality journal.

Sandra Hartman is the Chase Professor of Management at the University of New Orleans. Professor Hartman's research interests include human resources management, leadership in organizations, healthcare management, and the human impacts of technology change. Recently she has been examining the impact of Hurricane Katrina on students. Dr. Hartman's research has been published in journals such as the *Journal of Business Research, International Journal of Management and Enterprise Development, Healthcare Manager Journal, International Journal of Management and*

Decision Making, JONA's Healthcare Law, Ethics & Regulation, Journal of Nursing Management, International Journal of Quality and Reliability Management, International Journal of Health Care Quality Assurance, and many others.