Variables that Impact Environmental Sustainability Behaviors of Employees in the Textile Manufacturing Industry in Ghana

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This dissertation is dedicated:

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ABSTRACT

The call for environmental sustainability has resonated among nations and Organizational leaders throughout the world (Hargreave & Fink, 2006; National Academies of the G8+5, 2009; Oppel, 2007). While many organizations have acknowledged the call for environmental sustainability behaviors (ESB), there is scant information about these behaviors as exhibited by employees in organizations (Dyllick & Hockerts, 2002; Ofori & Hinson, 2007; Ones & Dilchert, 2012). Thus, employee behaviors at the organizational level represent a unique research opportunity within the field of Human Resource Development (HRD). The purpose of this study was to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. This study explored environmental values, environmental knowledge of employees, and demographic variables (i.e., gender, age, level of educational, managerial level) as possible factors that could impact ESB of employees.

This study used descriptive, causal-comparative, and correlational research methods to examine the relationship between independent variables distinguished as employees' environmental values, environmental knowledge, demographics, and the dependent variable identified as ESB (Gall, Gall, & Borg, 2007). The sample size was made up of 480 employees from Ghanaian textile companies. Data were collected through the use of paper and pencil based questionnaires. A series of hierarchical multiple regression analyses were used to determine the contribution of each variable in ESB.

In general, the results of this study indicated statistically significant relationships among biospheric values (a sub-construct of environmental values), environmental knowledge, and ESB. The independent variables in this study accounted for 37% of the variance in ESB. Environmental values accounted for 18% of the variance in ESB. Environmental knowledge explained 8% of the variance in ESB, and demographic variables contributed 11% of the variance in ESB.

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CHAPTER ONE

INTRODUCTION

Organizations throughout the world have experienced an increased amount of change over the past two decades, some of which is represented by mergers, acquisitions, and downsizing (Oppel, 2007). The changes being experienced by organizations have occurred in both developed and developing countries. One major factor responsible for change is globalization. Globalization is the course of action through which nation-states become more economically, financially, and culturally integrated by the economic actions of transnational actors (Kilbourne, 2004). Marquardt and Berger (2003) also described globalization in terms of a single marketplace characterized by increased free trade among nations.

Although organizations are responding to the increasing global change, many of these establishments put profit before purpose and make profit their only purpose (Hargreave & Fink, 2006). Organizational practices, whereby too much emphasis is on profit, have led to a number of corporate procedures that have negatively impacted the natural environment and society as a whole. Such organizational practices have, for instance, led to excessive use of natural resources and to these resources being used in ways that cannot be sustained (Ferdig, 2007). Organizations have also been associated with activities such as greenhouse gas emissions and toxic spills that have led to environmental challenges, including global warming, ozone depletion, deforestation, and declining biodiversity (Bansal, 2002; Shrivastava, 1995).

Negative organizational practices have been experienced in many countries throughout the world, and Ghana is one of the sub-Saharan countries noted as being significantly affected (EPA, 2002). A sample of these impacts includes poorly treated industrial wastes that are emptied into surface water bodies and drains (Gbedemah, 2004; Soeftestad, 1996). Furthermore, the increasingly high rate of logging has led to deforestation and soil erosion (EPA, 2002), and several species of wildlife are facing the threat of extinction as a result of poaching (Gbedemah, 2004).

In the wake of global change, a number of organizations are attempting to implement environmental sustainability initiatives (Ones & Dilchert, 2012; Elkington, 1998). In today's business sector, environmental sustainability has become a competitive advantage for numerous organizations (Banerjee, 2001; Chen, 2008; Ones et al., 2012). For instance, 3M Company was one of the early organizations that embraced environmental sustainability (Marcus, Griffen, & Sexton, 2002). In 1975, 3M Company leaders decided to solve their own environmental problems, develop products with minimal environmental effects, conserve natural resources through conservation and other suitable means, and continually comply with government regulations and assist environmental agencies in their activities (Marcus & Fremeth, 2009).

Leaders in the automobile industry also responded to a call for environmental sustainability by promoting new product innovation (Marcus & Fremeth, 2009). In response to new clean-air legislation in many states, the leadership of Toyota encouraged the production of hybrid cars (i.e., part electric and part conventional). In 2001, Toyota introduced Toyota Prius in the United States, and sales of this car proved to be

substantial. In 2012 Toyota company indicated that, the Pius car sale had exceeded the 220,000 U.S.A. target (Blooberg Business, 2012)

In the 1960s and 1970s, Ghana recognized import substitution industrialization as one of the means of ensuring an increase in sustainable growth rate (Quartey, 2006). This strategic realization by the Ghanaian government led to the establishment of industries for the production of locally produced goods, and these industries produced behind tariff barriers. Major industries that emerged in the 70s included food processing, soap, wood works, mining, and textile. In the mid-1970s, 16 large and medium - sized textile companies were established in Ghana (Quartey, 2011). According to Asare (2012), the textile industry was credited for employing 25, 000 people in 1977. This number accounted for 27% of manufacturing total employment. In addition, the industry contributed to 10 - 12 % of Ghana's total Gross Domestic Product (GDP) (Bruce-Amartey, Amissah, & Safo-Ankama, 2014).

Textile manufacturing industry continues to be one of the leading manufacturing industries in Ghana. The textile industry, together with the other manufacturing industries contributed (25.9 %) to the GDP in 2011 (Ackah, Adjasi, & Turkson, 2014). The contributions of other industrial sectors were mining and quarrying (32.0 %), Electricity (1.8%), water, and sewage (2.7 %), and construction (39.4 %). The textile industry of Ghana has recently faced stiff competitions from countries like Nigeria, Ivory Coast, China, India, and Pakistan however. This competition is partly due to loosening of tariff barriers and pirating of designs by Chinese especially. These challenges faced by the

textile industry have led to the decline of export revenue (Bruce-Amartey, Amissah, & Safo-Ankama, 2014; Quartey, 2006; Quartey & Abor, 2011).

The attempt to implement sustainability initiatives is being undertaken in certain organizations in Ghana as well. An organization whose leaders subscribe to the concept of environmental sustainability is the Fan Milk Company. The leaders of Fan Milk Company have responded to the call for environmental sustainability in a number of ways. The leaders of the company have developed plans to use material and processes that conserve resources and prevent pollution of the natural environment. This commitment is buttressed by the company's biennial Environmental Management Plan, in which its commitment to environmental matters is outlined, as well as its intended actions on these matters. In terms of electrical-power management for instance, Fan Milk has installed power-factor correction devices. These devices ensure substantial savings of electrical energy use, to a large extent, which is ideal for the environment. Fan Milk Company also recognizes the importance of water as a world resource and the need to conserve it. In that regard, conservation devices have been installed to prevent wastage. Among other sustainability steps, the company is involved in recycling its packaging materials (Fan Milk, 2010).

Studies have revealed that most hotels in Ghana are also adopting environmental sustainability initiatives (Mensah, 2013; Mensah & Bankson, 2013). According to Mensah and Blankson, hotels in Ghana have performed well in terms of environmental health and pollution prevention. Steps in these directions included using ozone-friendly detergents, enforcement of no smoking in public areas, and measures to ensure sanitation,

as well as food safety. Ghanaian hotels have also performed creditably in green purchasing (Mensah, 2013; Mensah & Bankson, 2013). These initiatives included purchases from local sources, purchasing supplies in bulk, and purchasing eco-friendly materials. Additionally most Ghanaian hotels have been instrumental in prescribing environmental standards for suppliers. These standards guide suppliers in terms of the acceptable environmental condition under which goods and services should be produced and supplied.

Accra Brewery is another Ghanaian organization where leaders have responded to the call for environmental sustainability (Accra Brewery, 2009). Management has ensured that all crates for packaging their drinks can be recycled. The strategy of recycling the packaging materials is aimed at reducing waste in landfills, as well as reducing pressure on the raw materials used in producing the crates.

Organizations supporting environmental sustainability may also gain related benefits. Specifically, strategic management concepts such as *embedded sustainability* can provide positive economic outcomes as a result of integrating environmental values into business activities (Ones & Dilchert, 2012). Organizational members who embrace embedded sustainability "hold shared assumptions and beliefs about the importance of balancing economic efficiency, social equity, and environmental accountability" (Bertels, 2010, p. 6).

One organizational strategy to develop embedded sustainability focuses on employees and their behaviors (Ones & Dilchert, 2012). Some studies have focused on environmental sustainability behaviors (ESB) at the personal level (Cordano et al., 2010;

De Groot & Steg, 2008; Schultz & Zelezny, 1998). However, within organizational research, there is insufficient study of ESB of employees or leaders. Thus, employee behaviors at the organizational level represent a unique research opportunity within human resource development (HRD). Recently, seminal work conducted by Ones and Dilchert (2012) equated employee ESB as employee green behaviors. The researchers defined employee green behaviors as "scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (Ones & Dilchert, 2012, p. 5).

Employee green behaviors (Ones & Dilchert, 2012) were determined to have four components: (a) employees, (b) what employees actually do, (c) measurability of behaviors, and (d) the impact of behaviors on the natural environment. The first component explains that employees are enactors of green behaviors and not the organizations the employees belong to. Although organizational variability can be described in terms of environmental sustainability performance, Ones and Dilchert's (2012) definition of employee green behaviors is aimed at specifying a behavioral realm where there is individual variability. According to Ones and Dilchert, members of organizations exhibit differences in their ESB. Also, organizational initiatives and actions emanate from employees, and leaders are mostly at the forefront of these activities. The second feature (i.e., what employees actually do) places emphasis on the activities of employees at the workplace. By focusing on actions and behaviors, the definition of employee green behaviors omits outcomes and consequences that are not under the control of employees. Environmental outcomes of behaviors can be impacted by other

employees as well as interested external stakeholders (Ones & Dilchert, 2012). The third feature of employee green behaviors is the measurability of behaviors. Specifically, behaviors can and should be measurable regarding their role in attaining environmental sustainability goals. This feature also points to the fact that the contributions of employees to sustainability goals vary at different levels of responsibility within the organization. The impact of behaviors on the natural environment, which is the fourth feature, explains that although some employee behaviors are beneficial to the environment, some can also be harmful. The impact of behaviors on environment presupposes that employees can engage in environmentally friendly behaviors, or perform actions that can harm the environment (Ones & Dilchert, 2012).

Values and ESB

Values are foundational to organizational processes, linked to employee performance, and have been found to influence employee behaviors (Hassan, 2007; Johnson, 2009). Values guide humans to attain goals, mold their attitudes, and are ultimately instrumental in decisions made by individuals (Leiserowitz et al., 2006). Values are "belief structures that are also connected to particular categories of needs" (Fein, Vasiliu, & Tziner, 2011, p. 516). Leiserowitz, Kates, and Parris (2006) stated that values often evoke emotional reactions and are typically expressed in terms of good or bad, better or worse, and desirability or avoidance. Values play an important role in the way leaders function and how leaders interact with their followers (Russell, 2001).

The values of leaders influence their moral reasoning process when making judgments pertaining to ethical and unethical behaviors (Russell, 2001; Schminke,

Ambrose, & Neubaum, 2005). Leaders with a strong value system have the tendency to behave more ethically than those with feeble value combinations (Russell, 2001). Values might be conceptualized as standards that facilitate effective interaction among organizational members (Grojean, Resick, Dickson, & Smith, 2004; Russell, 2001).

There is evidence that the values of leaders have a direct influence on organizational culture. Organizational culture constitutes the shared beliefs, assumptions, goals, and values of their members (Ogbonna & Harris, 2000; Schein, 1992). Thus, values assist organizations in achieving objectives and experiencing success (Russell, 2001). In addition, the values of leaders have been identified to have a possible association with success in the arena of environmental sustainability. Research findings suggest that further study should be conducted to gain a better understanding of values and their impact on ESB (Ones & Dilchert, 2012).

Environmental Knowledge and ESB

Gambro and Swisky (1996) perceived environmental knowledge as the ability to comprehend and assess the impact of society on the ecosystem. According to Carrier (2009), knowledge, and for that matter, environmental knowledge is a factor that contributes to environmental behaviors. Carrier further stated that environmental behaviors contribute to the determining of environmental actions. In other words, what individuals know concerning the environment, how they feel about it, and their behaviors may help or harm their environment (Abdul-Wahab, 2008; Sudarmadi, Suzuki, Kawada, Netti, Soemantri, & Tugaswati, 2001).

Ramsey, Hungerford & Volt (1992) also revealed that environmental knowledge is the first major step in preparing individuals to provide solutions to environmental challenges. According to these authors:

> Environmental education must prepare individuals to be responsive to a rapidly changing technological world, to understand contemporary world problems, and to provide the skills needed to play an effective role in the improvement and maintenance of the environment (p.36).

Demographic Variables and ESB

Limited studies in the HRD literature have found relationships between demographic variables and ESB. Regarding gender, a review of literature by Klein, D'Mello, and Wiernik (2012) found that women are more concerned about environmental issues than men and, as a result, are also more likely to engage in pro-environmental behaviors. Another study examined the relationship between gender and pro-environmental behaviors in 14 countries and found that women reported higher participation in sustainability behaviors than men (Klein et al., 2011; Zelezny et al., 2000). In related findings, female employees have been found to be engaged in more pro-environmental behaviors than men, although the differences were small (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Klein, Ones, Dilchert, & Biga, 2011).

Age is another demographic variable that has been researched in connection with ESB. In a recent study, Wiernik, Ones, Dilchert, and Biga (2011) examined age differences in sustainability behaviors based upon a sample of 2,316 managers from 11 countries. Compared to younger individuals at the workplace, older individuals were

found to be more engaged in pro-environmental behaviors such as conserving and avoiding harmful behaviors when compared to younger individuals.

The level of education has also been researched as a demographic variable associated with ESB. Research suggests that more highly educated individuals have the propensity to be involved in more environmentally responsible behaviors than those with less education (Klein, D'Mello, & Wiernik, 2012). Their study determined that learning about recycling may be an experience a number of individuals could be exposed to on university campuses. Further, D'Mello et al. (2011) confirmed a positive relationship between education and sustainability behaviors such as recycling, avoiding waste, and reusing materials. In addition, a number of studies have reported that level of education is the sociodemographic variable that is strongly related to environmental volunteering (Curtis, Grabb, & Baer, 1992; Edwards & White, 1980; Florin, Jones, & Wandersman, 1986; Wiernik et al., 2011).

Level of management has also been found to be associated with ESB. According to Ones, Dilchert, Biga, and Gibby (2010), there is a perfect gradation from the lowest to the highest manager in ESB at the workplace. The study of Ones, et al (2010) also indicated that even after controlling for tenure, top-level executives were noted to be ranking higher in ESB.

Problem Statement

The call for environmental sustainability has resonated among nations and organizational leaders throughout the world (Hargreave & Fink, 2006; National

Academies of the G8+5, 2009; Oppel, 2007). While many organizations have acknowledged the call for ESB, there is scant information about these behaviors as exhibited by employees in organizations (Dyllick & Hockerts, 2002; Ofori & Hinson, 2007; Ones & Dilchert, 2012). In effect, many studies are based on individual ESB, but little is known about ESB within an organization, leading to embedded sustainability (Ones & Dilchert, 2012). Sustainability research in the field of HRD has mostly related to corporate social responsibility (Ardichvili, 2013; Garavan & McGuire, 2010). A literature review revealed only two studies that have researched leaders' behaviors pertaining to environmental sustainability (Hill et al., 2011; Ones & Dilchert, 2009). These studies defined employee green behaviors (i.e., ESB) and developed a taxonomy through empirical investigations. A possible next step in building a research base focused on ESB is to examine variables that may influence this construct.

Values are a possible variable that could impact ESB among organizational leaders. A number of studies have demonstrated a possible relationship between values and behaviors (Ogbonna & Harris, 2000; Yukl, 2008). Yet, there is lack of HRD research on values and ESB.

Environmental knowledge is a possible variable that could impact ESB of leaders as well as employees. It is often assumed that individuals who are knowledgeable about the environment will engage in positive environmental behaviors (Mobley, Vagias & DeWard, 2010). Several studies have identified environmental knowledge as impacting behaviors and, for that matter, sustainability behaviors (Abdul-Wahab, 2004; Digby,

2013; Frick, Kaiser, & Wilson, 2004). Yet, there is scant research on environmental knowledge and sustainability behaviors in HRD.

Another possible variable in the relationship between values and ESB is the influence of demographics (i. e., gender, age, level of education, managerial level). Studies have explored the relationship between values and ESB at the personal level, but there is little research within HRD regarding this association at the organizational level (Klein, D'Mello, & Wiernik, 2011; Ones & Dilchert, 2012).

Purpose of the Study

The purpose of this study was to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. This study explored environmental values, environmental knowledge of employees, and demographic variables (i.e., gender, age, level of educational, managerial level) as possible factors that could impact ESB of employees. The following questions will be addressed in this study:

1. What is the relationship between environmental values (i.e., egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana?
2. What is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana?
3. What is the relationship between demographics (i.e., age, gender, level of education, managerial level) and ESB of employees in the textile manufacturing industry in Ghana?

4. What is the relationship among environmental values, environmental knowledge, demographics (i.e., age, gender, level of education, managerial level), and ESB of employees in the textile manufacturing industry in Ghana?

Based on the literature review, the following hypotheses were tested to determine whether there are significant findings from the study:

Hypothesis 1a: There is a negative relationship between egoistic values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 1b: There is a positive relationship between biospheric values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 2: There is a positive relationship between environmental knowledge and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3a: There is a positive relationship between gender and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3b: There is a positive relationship between age and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3c: There is a positive relationship between level of education and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3d: There is a positive relationship between managerial level and ESB of employees in the textile manufacturing industries in Ghana.

Significance of the Study

This study has theoretical significance. By examining the relationship between environmental values and ESB, this study will contribute to the *value-belief-norm (VBN) theory of environmental behaviors* (Stern, Dietz, Abel, Guagnnano, & Kalof, 1999). The *VBN* theory of environmental behaviors explains why individuals engage in environmental behaviors (Stern et al., 1999). Previous studies have applied the theory to environmental behaviors of individuals, but to my knowledge, there is no similar study at the organizational level. Also, this theory has not been applied in the field of HRD.

This study is also contextually significant. So far, there is no research on the relationship between values and ESB of employees in the context of Ghanaian organizations. Previous studies examined ESB of leaders in the United States and Europe (Ones & Dilchert, 2009). However, similar studies have not been conducted in Ghanaian organizations.

This study also has practical significance because the results have implications for HRD practitioners in understanding ESB. HRD practitioners regularly plan for change efforts among employees, so can inform training programs and career development through further knowledge of how variables such as environmental values and environmental knowledge of employees could impact environmental sustainability. The

knowledge gained through this study could lead to competitive advantage, and positive economic outcomes at the organizational level (Ones & Dilchert, 2012).

Definition of Terms

Altruistic values refer to behaviors that are performed to benefit the natural environment, motivated by an internal value without expectation of anything in return. (Schultz & Zelezny, 1998, p 541)

Biospheric values refer to proenvironmental value orientations are based on perceived cost and benefits for the environment or ecosystem (De Groot & Steg, 2008).

Egoistic values refer to proenvironmental value orientations are based on the cost and benefits to individuals (De Groot & Steg, 2008).

Environmental knowledge is defined as "the ability to identify or define a number of ecologically related symbols, concepts, and behaviors." (Laroche, Bergero, & Barbarot-Forleo, 2001, p505)

Environmental sustainability refers to how the actions of individuals affect the ecosystem, subsystem, and supersystem upon which human beings and other organisms live (Ferdig, 2007).

ESB refer to "scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (Ones & Dilchert, 2012, p. 87).

Leaders are individuals who have the ability to inspire confidence and support among the people who are needed to achieve organizational goals (Wellman, 2008).

Value is "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (Schwartz, 1992, p. 5). Schwartz (1992) also defined a value as "a desirable transitional goal varying in importance, which serves as a guiding principle in the life of a person or other social entity" (p. 21).

Limitations

A limitation of this study is the nature of self-reported data and the issue of credibility (Paulhus & Vazire, 2007). The shortcoming of self-reported data occurs when respondents provide socially desirable answer in order to increase their chance of portraying a positive image in other people's eyes (Barrick, Mount, & Judge, 2001; O'Driscoll, Pierce, & Coghlan, 2006). Even though participants were assured of confidentiality, the element of social desirability in responses might still be present.

Also, two of the scales used were not reliable in this study. Altruistic values yielded a very low Cronbach's alpha value and were dropped due to reliability concerns. Also, contrary to results in previous studies, the environmental knowledge scale used yielded a very low Cronbach's alpha value, leading to reliability concerns. An earlier challenge related to the environmental knowledge scale was difficulty in finding one suitable for this study. Most of the scales were either too technical or did not have high Cronbach's alpha values.

Another limitation pertaining of this study is the generalizability of the results. One more limitation is related to the sampling method. This study used a purposive sampling method (Gall, Gall, & Borg, 2007; Tongco, 2007). Thus, the data collected

might be highly prone to the researcher's bias, and not represent the population of employees in the Ghanaian textile industry. It is therefore important not to generalize beyond this setting. Perhaps the results may inform and be helpful to HRD scholars and practitioners in related industries in Ghana and other African countries (Gall, Gall, & Borg, 2007).

CHAPTER TWO

LITERATURE REVIEW

The purpose of this study is to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. In achieving this purpose, Chapter Two delves into existing relevant literature.

The descriptors used in my literature search included behaviors, ESB, employees, leaders, organizations, sustainable development, and values. Other descriptors used in this review were the importance of leaders, principles of sustainable leadership, and the importance of theory. Indexes and databases used for the literature review included Academic Search Premier, EBSCO MegaFILE, Education Full Text, ERIC, JSTOR, and Social Sciences Citation Index.

Journals searched individually were: *Academy of Management Review*, *Human Resource Development Quarterly*, *Human Resource Development International, Organizational Development Journal, Educational Leadership, Educational Leadership Quarterly, Human Resource Management Review*, *Journal of Applied Psychology, Journal of Change Management*, *Journal of European Industrial Training, American Journal of Environmental Sciences, International Journal of Business and Social Science, Journal of Arts and Design Studies.* Books, dissertations, and conference proceedings were searched in addition to journals.

The first part of the literature review will give an overview of the theoretical framework undergirding this study. Specifically, this part of the chapter will discuss the VBN theory of environmental behaviors (Stern et al., 1999). The second part of the

chapter will review literature pertaining to values and ESB, the two main constructs considered in this study. Major areas that will be discussed under this part are: values, organizational values, sustainability values in organizations, ESB, and origin of ESB.

The third part of the chapter will review literature on sub-topics related to organizational leadership, and these are: importance of organizational leaders, organizational leaders' role in environmental sustainability, and coaching and ESB. Finally, the fourth part of this chapter will review HRD and environmental sustainability.

Theoretical Framework

This study will adapt the value-belief-norm (VBN) theory of environmental behaviors as the theoretical framework (Stern, Dietz, Abel, Guagnnano, & Kalof, 1999). Recently, scholars have attempted to explain pro-environmental behaviors by use of the VBN theory of environmental behaviors (Stern, 2000; Stern et al., 1999). The theory integrated several theoretical models (Schrbaum, Popovich, & Finlinson, 2008) and these include personal values theories (Schwartz, 1992), personal belief systems about the environment (Dunlap & Van Liere, 1978), the activation of personal norms (Schwartz, 1992), and pro-environmental behaviors (Gardner & Sten, 1996).

According to the VBN theory, the environmental behaviors of individuals is based on values, beliefs, and personal norms that drive these persons into actions that are in harmony with the natural environment (Andersson et al., 2005; Schrbaum et al, 2008). Values in this theory indicate objects or principles that are relevant to individuals. Values are seen to be precursors to beliefs and eventually to behaviors (Poortinga, Steg, & Vlek, 2004). Poortinga et al. (2004) further mentioned that through values and beliefs, concerns

for specific environmental problems are addressed, which in turn leads to the development of environmental behaviors.

Beliefs reveal how individuals view the world (Schrbaum et al., 2008). Individuals who are apprehensive about the future of the planet are more inclined to engage in pro-environmental behaviors (Andersson et al., 2005; Dunlap, Van Liere, Mertig, & Jones, 2000). How individuals' believe about the natural environment has been seen to correlate with pro-environmental behaviors (Andersson et al., 2005; Dunlap et al., 2000; Stern et al., 1999). In addition, how individuals believe about the environment has also been associated with providing a positive influence on the environmental actions of organizations to which belong (Andersson et al., 2005; Stern, 2000).

Norms show how individuals are committed to principles that cause to behave in a particular way (Schrbaum et al., 2008). Norms are viewpoints of personal responsibilities that are associated with the self-expectations of the individuals (Andersson et al., 2005; Schwartz, 1977). According to the VBN theory, "the activation of personal norms to engage in pro-environmental action influences environmentally significant behaviors" (Schrbaum et al., 2008, p. 821). Also, norms associated with pro-environmental behaviors are activated by the personal values of individuals. For example, altruism is a value that represents both the belief that an environmental situation presents negative consequences for treasured objects, and also the belief that individuals can take steps to mitigate undesirable consequences for treasured objects. One such step could be the action of refusing environmentally harmful products (Schrbaum et al., 2008).

In the past, the VBN theory has been applied to individuals. The researcher is now trying to apply the theory to the field of HRD. So far, no similar study has been conducted at the organizational level.

Values

Values represent pertinent life goals or standards that are instrumental in guiding principles of life (Poortinga, Steg, & Vlek, 2004; Rokeach, 1973; Schwartz, 1992). Values are "belief structures that are also connected to particular categories of needs" (Fein, Vasiliu & Tziner, 2011, p. 516). Leiserowitz, Kates, and Parris (2006) also stated that values often evoke emotional reactions and are typically expressed in terms of good or bad, better or worse, and desirability or avoidance. Leiserowitz et al. (2006) further stated that values guide us to attain goals, mold our attitudes, and are ultimately instrumental in decisions individuals make. Values play a very important role in the way leaders and employees function. In effect, the values of leaders affect leader-follower relationships to a great extent (Russell, 2011). Russell additionally stated that values influence the moral reasoning and personal behaviors of leaders.

Leaders' values influence their moral reasoning in terms of making judgments pertaining to ethical and unethical behaviors (Russell, 2011; Schminke, Ambrose, & Neubaum, 2005). Employees with strong value systems have the tendency to behave more ethically than those with shaky value combinations (Russell, 2011). Butz and Lewis (1996) also posited that males and females differ in terms of moral reasoning, with females gravitating more toward relationship and caring characteristics.

Studies have confirmed that values influence environmental behaviors (Fein, Vasiliu, & Tziner, 2011; Poortinga, Steg, & Vlek, 2004). According to Poortinga at al. (2004), the value scales of Rokeach (1973) and Schwartz (1994) have been used to explain general environmental concern (Schultz & Zelezny, 1999). Karp (1996) also established that Schwarz's value scale was significantly correlated to self-reported behaviors, such as recycling behaviors, consumer behaviors, and political behaviors to protect the environment.

A number of studies (de Groot & Steg, 2008; Schultz & Zelezny, 1998; Stern & Dietz, 1994) have identified values that are associated with the natural environment. These values include environmental altruism, egoistic, and biospheric values. Altruistic values refer to any behaviors that are motivated by internal values without anticipating anything in return. Altruistic values refer to qualities such as equality for all citizens, social justice, and working for the welfare of others (De Groot & Steg, 2008). In effect *environmental altruism* refers to behaviors that are done to benefit the natural environment and motivated by internal values, without expectation of anything in return (Schultz & Zelezny, 1998). De Groot and Steg (2008) further stated that individuals who have socially altruistic value orientation will base their decision to behave proenvironmentally on perceived costs and benefits for other people, nation-states, or all humanity (de Groot & Steg, 2008; Stern & Dietz, 1994). According to Schwartz (1977,1979), individuals experience a sense of moral obligation and act on it when they believe adverse consequences are likely to occur to others and they personally can, by appropriate action, prevent or ameliorate those consequences.

Individuals with an *egoistic* value orientation will especially consider how the costs and benefits of environmentally significant behaviors will personally affect them. In a situation where the perceived benefits surpass the perceived costs, these individuals will have an environmentally friendly intention. Their intention will not be environmentally friendly if the perceived costs are greater than the perceived benefits (De Groot & Steg, 2008) Egoistic values predispose people to protect aspects of the environment that affect them personally or to oppose protection of the environment if the personal costs are perceived as high (Stern & Dietz, 1994). Egoistic qualities include; social power, wealth, authority and influence (De Groot & Steg, 2008).

Individuals with a *biospheric* value orientation will mainly base their decision to act proenvironmentally on the perceived costs and benefits for the ecosystem and biosphere as a whole (De Groot & Steg, 2008). Stern and Dietz (1994) proposed that for some individuals, biospheric values may comprise a moral imperative and have a role in behaviors similar to the role of social-altruistic values. Biospheric values include respect for the Earth, protecting the environment, and preventing pollution (De Groot & Steg, 2008).

Organizational Values

The individual and collective values of employees have a direct influence on their organization, and these standards enable behaviors that facilitate effective interaction among organizational members, leading to organizational culture (Grojean, Resick, Dickson, & Smith, 2004; Russell, 2011). Organizational culture constitutes shared beliefs, assumptions, goals, and values of the members (Ogbonna & Harris, 2000; Schein,

1992). Research also suggests that values, being part of organizational culture, play a very important role in the success of these establishments (Russell, 2011). For organizations to be successful in the arena of sustainability there is the need for employees in these institutions to exhibit sustainability values.

Sustainability Values in Organizations

There are three major values related to sustainability, and these are based on economics, society, and environment (Leiserowitz, Kates, & Parris, 2006). The economic values pertain to efficiency within organizations, social values pertain to equity, and environmental values relate to performance (Ferdig, 2007). When these values are woven into the culture of organizations, they lead to sustainability.

Values of economic efficiency within organizations relate to stability or growth potential of the establishments (Ferdig, 2007). In this sense, the realization of economic gains of organizations needs to be managed in a sustainable way. To experience economic sustainability, organizations ensure a consistent cash flow while securing a continual above-average return for shareholders (Dyllick, & Hockerts, 2002; Labuschagne et al., 2005; Steurer, Langer, Konrad, & Martinuzzi, 2005). Steurer et al. (2005) suggested that sustainability values emphasize an economic efficiency so organizations can "pay taxes to public authorities, adequate prices to its suppliers and wages to its employees, interests to its creditors and (at least at a certain point in time) dividends to its shareholders. A company which is not able to pay for these transactions will not survive in the long term" (p. 271).

Social equity values refer to how actions of organizations affect the social well-being of employees, the surrounding communities, and the rest of the world (Ferdig, 2007). The issue of social equity refers to income disparities and wage levels of similar positions within the organization. Internationally, social equity refers to leaders' actions affecting the distribution of income and wealth between different countries, especially between industrialized and developing ones (Steurer et al., 2005). Socially, sustainability values need to guarantee that organizations add value to the community within which they operate by increasing the human value of individuals (Dyllick & Hockerts, 2002; Labuschagne et al., 2005).

Environmental performance values refer to how organizational operations affect the ecosystem, subsystem, and supersystem upon which human beings and other organisms live (Ferdig, 2007). In this regard, organizations operate such that the natural environment is preserved for both current and future generations. For example, environmental performance values ensure that natural resources are consumed at a rate below the natural reproduction of existing resources. As a result of the values of environmental performance, organizations would not cause emissions to accumulate in the environment at a rate beyond the capacity of the natural system to absorb and assimilate these emissions. Finally, environmental performance values do not promote activities that degrade the ecosystem (Dyllick & Hockerts, 2002; Labuschagne et al., 2005).

ESB

ESB pertain to actions that are linked to environmental sustainability. ESB have been defined in terms of employee green behaviors. Ones and Dilchert (2012) defined employee green behaviors as "scalable actions and behaviors that employees engage in that are linked with and contribute to or detract from environmental sustainability" (p 5). These authors developed a taxonomy pertaining to employee green behaviors, and it constitutes avoiding harm, practicing conservation, working sustainably, influencing others, and taking initiative.

Avoiding harm. Behaviors relate to the impact of economic activities on the natural environment. An example is cutting a tree for products made from wood.

Practicing conservation. Avoiding wastefulness and therefore preserving resources. This entails a wide range of resources such as water, energy, gas, and other natural resources. The three main behaviors noted under conservation have been described as the 3Rs, and they are reduced, reuse, and recycle. Ones and Dilchert (2012) expanded the classification of employees' conservation behaviors into the following categories: reducing use, reusing, repurposing, and recycling.

According to Ones and Dilchert (2012), reducing is the most responsible way of conserving since it curtails initial environmental impact. Reusing also decreases environmental impact since it entails using the same resources or materials several times, instead of disposing of them after using them once. Conversely, repurposing is associated with using the same resources or materials several times for purposes other those originally anticipated. Lastly, recycling conserves a few resources and has a reduced

environmental impact since it necessitates extra energy, raw materials, and other treatments before resources can be recovered for use again. Consequently, reducing use is the most suitable and recycling the least suitable among environmental sustainability options.

Working sustainably. Behaviors employees engage in as a way of improving the environmental sustainability of work products and processes. These behaviors pertain to working on tasks that are job specific, in addition to those that contribute to organizational purpose. Working sustainably entails adapting work products and processes to curtail their adverse environmental impact. The two fundamental ways in which work can be adapted for environmental sustainability are (1) focusing on currently available products and processes, and (2) creating and adopting innovations.

Influencing others. Influencing others relates to extending sustainability behaviors to other individuals. According to Ones and Dilchert (2012), the functional core of these behaviors is to employ influence. The related psychological processes entail propagating knowledge and encouraging and supporting behavioral change in others. Usually, employee behaviors from this domain include teaching, mentoring, leading, encouraging, and supporting.

The effort of influencing others to be more environmentally friendly and responsible necessitates education and training for sustainability and encouraging and supporting environmentally sustainable behaviors. The first category of influencing others underlines behaviors that enable the acquisition of declarative and procedural knowledge. The second category of influencing others concerns behaviors that entail

persuasion, encouragement, and support to improve the ESB of others. These behaviors can equally aim at spreading sustainability behaviors beyond other employees to, for example, stakeholders.

Taking initiative. Part of the green behaviors taxonomy, associated with being proactive. This category entails going beyond *norma*l societal behaviors at one's peril (Ones & Dilchert, 2012). According to Ones and Dilcher, taking initiative is tantamount to rejecting the unsustainable status quo. Taking initiative may or may not be social in nature. These behaviors can be geared toward avoiding harm, working sustainably, or practicing conservation. Examples of taking initiative include initiating programs and policies, lobbying and activism, and putting environmental interests first.

Origin of ESB

Before delving further into the need for ESB within organizations, the origin of the concept of ESB will be reviewed. In the light of current global challenges and as a result of the increasing concern for environmental problems such as pollution and natural-resource depletion and degradation, there have been serious discussions, as well as programs of action, to manage the environment (Colby, 1991). It has been about two decades since the introduction of the terms *sustainable development* and *sustainability* (Glasby, 1995; Mebratu, 1998). These terms have become popular and have been widely adopted in many fields after the UN-sponsored World Commission on Environmental Development (WCED) report "Our Common Future" was published in 1987 (Daly, 1990; Estes, 1993; Ferdig, 2007; Mebratu, 1998). According to the Brundtland Commission, sustainable development is the ability to meet the needs of the present without

compromising the ability of future generation to meet their needs (World Commission on Environment and Development, 1987).

Sustainable development was based on the assumption that poverty leads to environmental crisis (Glasby, 1995). Glasby further stated some critical objectives that can lead to sustainability:

> A key idea of this report is the concept of sustainable development which is based on the assumption that poverty inevitably leads to environmental crisis. The critical objectives in achieving the goal of sustainable development are considered to include: reviving growth; changing the quality of growth; meeting essential needs for jobs, food, energy, water and sanitation; ensuring a sustainable level of population; conserving and enhancing the resource base; reorienting technology and management risk; and merging environment and economics in decision making (p. 68).

Sneddon et al. (2006) also supports Glasby's position by stating that the call for sustainable development was in response to the economic and ecological and social problems of the day.

Environmental Knowledge

A number of studies have, to some extent revealed that environmental knowledge could impact behaviors and, for that matter, sustainability behaviors (Abdul-Wahab, 2004; Digby, 2010; Frick, Kaiser, & Wilson, 2004). It is, however, not clear how environmental knowledge impacts sustainability behaviors.

According to Fraj-Andres and Martinez-Salinas (2007), individuals' knowledge of environmental problems and possible alternatives and solutions has on some occasions impacted the behaviors of people. Fraj-Andres and Martinez-Salinas (2007) further supported the view that environmental knowledge has a high influence on behaviors. The same conclusion was established by Schahn and Holzer (1990), who posited that responsible behaviors were effective only when individuals have the appropriate level of information on the environment. For instance, in examining the influence of knowledge on recycling behaviors, Vining and Ebreo (1990) concluded that individuals who recycled were different in terms of their knowledge of activities and how that knowledge was acquired.

Granzin and Olsen (1991) also put forward that, individuals who were involved in recycling used to devote a substantial part of their time to learn about the environment. Also, those who tried to preserve the environment by minimal use of transportation that produces high volumes of pollution had a broader knowledge of recycling methods.

Weaver (2002) also advanced that people with a broader knowledge about the environment could be more sympathetic to environmental problems and, as a result, more likely than individuals with a low level of environmental knowledge to be positive about sustainable environmental behaviors. Monroe (2003) has also supported this relationship between environmental knowledge and behaviors:

> While some models include a broad background in environmental knowledge, this type of knowledge does not appear to separate those who conduct environmental behaviors from those who do not. Rather than directly determining behaviors,

> perhaps this general knowledge is instrumental in forming biospheric values and attitudes of environmental responsibility (p. 119).

Although several studies have postulated that environmental knowledge positively impacts ESB, a study conducted by Laroche, Nergeron, Tomiuk and Barbaro-Forleo (2002) among consumers in Canada has disconfirmed the impact of environmental knowledge on environmental behaviors. This study reported that the environmental knowledge was not an ideal predictor of environmental behaviors among the English-Canadian and French-Canadian. These authors made a recommendation for studies that examine the effect of subjective knowledge on environmental behaviors rather than objective knowledge.

Organizational Leadership

The performance of leaders determines the success or failure of an organization (Lussier & Achua, 2007). Well-publicized corporate failures have clarified the critical role that leaders play in the success or failure of almost every aspect of the profit and not-for- profit organizational environment. Ineffective leadership leads to failure, and effective leadership leads to success (Lussier & Achua, 2007; Zahra, 2003).

Historically, individuals, as well as organizations, have been attracted to the ways in which leaders have successfully managed groups of people, organizations, and government to realize their objectives and goals (Lussier & Achua, 2007; Ready & Conger, 2003). The importance of leaders has been viewed in a number of ways. According to one view, leaders are seen as a force that enables change and outcomes in organizations (Beer & Nohria, 2000; Daft, 2002).

Apart from the organizational level, importance has also been attached to leaders in terms of how they bring about effective group actions. It has been argued that leaders are instrumental in meeting the need for coordinating group action in the most efficient and effective manner. With the support of organizations, leaders are capable of bringing about efficient and economical ways to make decisions and take actions (Lipman-Blumen, 1996). In other words, leaders are very important in influencing, motivating, and eliciting the fulfillment of group goals (Sogunro, 1998). Another important function of leaders is to engage in coaching behaviors. Coaching can be helpful to both new and highly experienced employees in solving challenging work-related tasks (Jex & Britt, 2008).

In terms of strategic planning, organizational leaders are important for their part both in setting up a framework of where the organization needs to be in the future and also in setting a direction for the organization (Davies & Davies, 2004). Leaders are often needed to provide strategic direction and vision to groups and, in many cases, to entire organizations (Bass, 1998).

Another important function of leaders in organizations is enforcement and interpretation of organizational policies (Jex & Britt, 2008). All types of behaviors and actions in organizations are guided by culture and policies ranging from business negotiations to simple hand greetings (Robey & Rodriguez-Diaz 1989; Schien, 1992).

Finally, leaders are important because they are typically responsible for obtaining and allocating resources for groups, as well as individuals (Beer & Nohria, 2000; Jex & Britt, 2008).

Organizational Leaders' Role in Environmental Sustainability

Leaders are described as those who inspire and share vision, build consensus, provide direction, and bring about changes among followers in organizations and communities (Ferdig, 2007). Ferdig further posited that as a way of promoting environmental sustainability, leaders make an effort to generate opportunities for individuals to come up with their own answers instead of trying to provide all the answers. They do this by exploring, learning, and devising a realistic course of action to address environmental sustainability-related challenges. According to Ferdig (2007), rather than giving direction, sustainable leaders develop, implement, and collaborate actions with others. These actions are modified over time, as a way of adapting to unexpected nuances in working environments. In addition of this description, Sustainability Leadership Institute (2007) also posited that leaders in support of environmental sustainability consciously choose to engage in collaborative, transformative change aimed toward the goal of a sustainable future. Thus, the role of leaders in encouraging environmental sustainability is related to conscious engagement in actions that nurture and sustain the environmental well-being of organizations and communities.

The literature gathered indicates leaders need some qualifications for environmental sustainability. One of these important qualifications is emotional intelligence (George, 2000). According to George, emotional intelligence has the potential of contributing to effective leadership. The five elements of emotional intelligence are:

> …development of a collective sense of goals and objectives and how to go about achieving them; instilling in others knowledge and appreciation of the importance of work activities and behaviors; generating and maintaining excitement, enthusiasm, confidence, and optimism in an organization as well as cooperation and trust; encouraging flexibility in decision making and change; and establishing and maintaining a meaningful identity for an organization. (p. 1039)

The role of leaders across cultures in terms of environmental sustainability requires a context-based approach to plan for expected change (Cummings & Worley, 2005). Cultural intelligence serves as a vehicle for dealing with group development and process issues that are caused by cultural differences (Thomas & Inkson, 2004). Cultural intelligence is shown when one is skilled and flexible in relating to a culture. The major components of cultural intelligence are knowledge, mindfulness, and behavioral skills (Thomas & Inkson, 2004). Equipping oneself with adequate cross-cultural knowledge or context enables the effective role of sustainable leadership.

In individualist cultures, people are preoccupied with themselves, and they are more comfortable with undertaking activities privately. Also, they expect people to make their decisions based on their own judgment vis-a-vis anticipated rewards (Thomas & Inkson, 2004). Sustainable leadership will be more effective where individuals are mostly given opportunities to make decisions pertaining to their organizational settings.

In collectivist cultures, people regard themselves as members of groups. They are more comfortable with group activities and, in that regard, expect decisions to be made

on the basis of consensus. The general attitude in these cultures will be such that leaders are expected to make decisions based on consensus.

Another important principle related to sustainable leadership is the system of power distance in an organization. The value of power distance is associated with the way people regard authority, status differences, and influence patterns. Individuals in a high-power distance system favor unequal distribution of power. They are mostly autocratic and paternalistic in decision-making and practice. Sustainable leadership in this system will be such that individuals are closely supervised. Close supervision in a low-power distance system, on the other hand, is unacceptable. Decision-making in this system is more egalitarian (Cummings & Worley, 2005).

Uncertainty avoidance is defined as the extent to which individuals within a culture are made nervous by situations that are unstructured, unclear, or unpredictable, and also the extent to which these individuals attempt to avoid such situations by adopting strict codes of behaviors and a belief in absolute truth (Vitell, Nwachokwu, & Barnes, 1993). Vitell et al. (1993) further stated that cultures with strong uncertainty avoidance are active, aggressive, emotional, security-seeking, and intolerant. Sustainable leaders within a high uncertainty avoidance culture, for instance, have to insure that instructions regarding assignments are clear. They also have to be strategic in bringing about changes since individuals within these cultures are resistant to change. On the other hand, cultures with weak uncertainty avoidance are contemplative, less aggressive, unemotional, accepting of personal risk, and relatively tolerant.

Achievement orientation is associated with the way culture favors the acquisition of power and resources. Individuals in these cultural systems attach great importance to career advancement, freedom, and salary growth. In general, organizations in this system pursue aggressive goals and have high levels of stress and conflict (Cummings & Worley, 2005).

According to Hofstede (1994), masculinity vis-a-vis femininity relates to the distribution of roles between the sexes, and there are solutions to these issues in every society. According to his research, the values upheld by women, as compared to those of men, vary minimally among societies. Men's values from one nation to another range from assertive to competitive, and they highly differ from women's values, which are modest and caring. Hofstede further stated that the assertive pole is called "masculine" and the modest pole is called "feminine." Men and women in feminine nations possess common values, and women in masculine nations are somehow assertive and competitive, but not as much as the men. Masculine cultures value material success, heroism, and assertiveness, while feminine cultures value qualities such as interpersonal relationships and concern for the weak (Vitell, Nwachokwu, & Barnes, 1993). For sustainable leadership to be realized, it is, therefore, important that decisions made by leaders in any of these types of cultures should have the context in mind.

Another way leaders can pattern environmental sustainability is in terms of cross-cultural curiosity. A leader in this context will be interested in what people from other cultures do, why they think the way they do, and the differences that emerge between cultural patterns and behaviors (Heimer & Vince 1998). A sustainable leader will also

strive toward diversity. Other important qualifications for sustainable leadership, as indicated by Heimer and Vince, include the following:

> Acknowledge the ways in which individuals dominate the team, and understand how this affects the team;…. become more aware of the basic cultural preferences with which national or cultural subgroups in the team will have influenced the way the team works;… accept that effective international teams need to move slowly in the early stages of their lives, ….transform the anxiety instead of stopping and getting stuck,…..; Develop effective ways of bridging language difficulties;… ban mono-cultural conversations completely,……explore communication preferences, and the best modes of communication;…… develop a routine and disciplined communication pattern. (p. 87)

Coaching and ESB

ESB can be instilled through coaching (Boyatziz, Smith, & Blaize, 2006). According to Hall, Otazo, and Hollenbenck (1999) coaching enables leaders to gain new skills and abilities that lead to the improvement of organizational performance. Donner and Wheeler (2004) also supported this concept by stating that "mentoring and coaching are valuable and effective strategies in building individuals' and organizations' leadership capacity."

Coaching is an arena that enables leaders to enhance areas such as performance and behaviors or to prevent derailment in their operations. Coaching has been very instrumental in developing leadership skills. It has the potential to relate personal career development with organizational strategy and goals (Anna, Chelsey, & Davis, 2001).

Anna et al. further stated that coaching is a leadership development tool that can help managers to cultivate skills that were not previously learned.

Thach and Heinselman (1999) identify three types of coaching: feedback, in-depth development, and content. Feedback coaching is centered on personal development, and this is mostly accompanied by a 360 assessment instrument, which enables leaders to identify their strengths, as well as areas that need development. In-depth development is almost like the feedback, but it uses multiple instruments such as a 360 competency assessment, Myers-Briggs, and FIRO-B (Fundamental Interpersonal Relations Orientation- Behaviors), in addition to interviews. This type of coaching also entails an intensive feedback session between the coach and the leader. Content coaching provides an opportunity for leaders to gain knowledge and skills in important areas such as global marketing, finance, planning, and operations in a specific industry (Thach & Heinselman, 1999).

HRD and Environmental Sustainability

So far, there has been limited study of environmental sustainability in the field of HRD. Garavan and McGuire (2010) argued that HRD can assist organizations in achieving environmental sustainability. Environmental sustainability can be attained by raising awareness of employees and developing positive attitudes toward it. As a way of promoting environmental sustainability, the Society of Human Resource Management (2008) encouraged employees to be environmentally friendly in the workplace. For instance, employees were motivated to perform activities such as making double-sided photocopies, powering down computers after a few minutes of activities, using energy-

efficient bulbs, and lowering blinds in the summer to conserve energy. HRD can also play a crucial role in developing the skills of individuals to build relationship with a variety of stakeholders and to understand the impact of organizations on various dimensions of society. HRD can also help competencies to enable organizations to build sustainability in the long term while also enabling them to deliver on short- term business goals.

Summary

This chapter gave an overview of the theoretical framework undergirding this study. In addition, this chapter presented a review of literature related to values, organizational values, sustainability values in organizations, ESB, environmental knowledge, origin of ESB, organizational leadership, organizational leaders' role in environmental sustainability, coaching and ESB, and HRD and environmental sustainability. The next chapter defines the methodology that was used for this study.

CHAPTER THREE

METHODOLOGY AND METHODS

The purpose of this study is to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. This study explored environmental values, environmental knowledge of employees, and demographic variables (i.e., gender, age, level of educational, managerial level) as possible factors that could impact ESB of employees. The following research questions were asked:

1. What is the relationship between environmental values (i.e., egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana?
2. What is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana?
3. What is the relationship between demographic (i.e., age, gender, level of education, managerial level) and ESB of employees in the textile manufacturing industry in Ghana?
4. What is the relationship among environmental values, environmental knowledge, demographics (i.e., age, gender, level of education, managerial level), and ESB of employees in the textile manufacturing industry in Ghana?

The following hypotheses were tested to determine whether there are significant findings from the study:

Hypothesis 1a: There is a negative relationship between egoistic values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 1b: There is a positive relationship between biospheric values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 2: There is a positive relationship between environmental knowledge and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3a: There is a positive relationship between gender and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3b: There is a positive relationship between age and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3c: There is a positive relationship between level of education and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3d: There is a positive relationship between managerial level and ESB of employees in the textile manufacturing industries in Ghana.

Research Design

Based on my research questions, this study used descriptive, causal-comparative, and correlational research methods to examine the relationship between employees' environmental values (i.e., independent variable), environmental knowledge (i.e., independent variable), demographics(i.e., independent variable), and ESB (i.e., dependent variable) (Gall, Gall, & Borg, 2007). Descriptive research is "a type of quantitative

research that involves making careful description of educational phenomena" (Gall et al., 2007, p. 300). Descriptive research also entails the understanding of what individuals or things mean. Descriptive research studies are concerned mainly with determining "what is" (Gall et al., 2007). Causal–comparative research was also used. Gall, Borg, and Gall (2007) defined Causal–comparative research as " a type of nonexperimental investigation in which researchers seek to identify cause-and-effect relationships by forming groups of individuals in whom the independent variable is present or absent" (306). Correlational design was used because the objective was to understand the degree of relationship between variables (Gall, et al., 2007).

Population and Sample

This study was conducted in Ghana, and the target population was employees within Ghanaian organizations considered to be part of the textile manufacturing industry. The textile industry was selected because it is considered to be instrumental to the growth and development of the Ghanaian economy. Further, as part of the manufacturing industry, the textile industry impacts the natural environment of Ghana as a result of its activities (Bansal, 2002; Ofori & Hinson, 2007). The accessible sample from the textile industry included employees who have no managerial responsibilities, supervisors, and managers. Managerial responsibility in this study implies total authority to make final decisions within a department. Details of participating textile companies are provided in the following paragraph.

There were three participating textile companies in this study. The first participant textile company has approximately 1,250 employees. The second participating textile

company is a private equity organization which has approximately 500 employees. The third participating textile company is a small family-owned company with over 500 employees.

Sample Size

The sample size determines a significant relationship between the independent, and dependent variables. According to Stevens (1996), "for social science research, about 15 subjects or cases of data per predictor are needed for a reliable equation" (p. 72). However, "the general rule in quantitative research is to use the largest sample possible" (Gall, et al., 2007, p. 176). Thus, I anticipated the collection of a higher number of completed surveys than the minimum sample size for multiple regression. Green (1991) stressed the importance of having a large number of cases (*N*) in relation to the number of independent variables (k). Further, "the estimate of R from regression is dependent on the number of predictors and the sample size, *N*" (Field, 2005, p. 172).

This study involved four independent variables. Based on 30 cases per predictor, it was necessary that at least 120 participants complete and return the questionnaire. I anticipated a response rate of at least 40% (Kwak & Radler, 2002). The sample size was made up of 480 employees from Ghanaian textile companies. I initially planned on administering an online questionnaire as well as paper- and- pencil questionnaire. However I dropped the online questionnaire version, since most of the respondents did not have access to the internet or a computer.

This study used purposive sampling technique (Tongco, 2007). According to Tongco, "purposive research technique is a type of non- probability sampling that is most

effective when one needs to study certain cultural domain…" (p 147). This sampling technique could be applied to both quantitative and qualitative research. Purposive sampling was used because of the main purpose of understanding the ESB of employees in the Ghanaian textile industry.

Data Collection

Data was collected based on organizational types and position of employees. Before this study was conducted, there was the need to obtain approval from the University of Minnesota Institutional Review Board (IRB) (Appendix G). After IRB approval was obtained, I sought permission from the human resource departments to administer a questionnaire (Appendix C), within the targeted organizations that were involved in the study. I had contacts in Ghanaian businesses that linked me to targeted organizations, and my contact persons assisted me in gaining access to the sampling frame to answer the research questions.

I could not administer the questionnaires personally in Ghana, so I had a representative who followed up on my communication and also administered questionnaires on my behalf. Before my representative got in touch with the human resource officers in the various organizations, I had earlier contacted the human resources officers and discussed the proposed arrangements with them. The mode of communicating with the human resource officers was by e-mail and telephone. An introductory letter (Appendix A) was sent to human resource officers explaining the purpose and benefits of participating in the research. The human resource officers were

responsible for contacting participants about the study, due to their access to employee contact information.

To encourage participation, the human resource officers in each organization were allowed to choose their data collection method of either paper -and -pencil format or online questionnaire format. Due to limited access to internet and computer by the majority of participants, the data collection method within all the organizations ended up being paper and pencil. As a motivation for participation, the officers will be offered a copy of the study's results. A timeline for the administration of the survey was established, and a pre-notice invitation was sent to employees within the participating organizations through flyers.

Communication with research participants was mainly through the human resource officers of research organizations, and later by my representative who went to administer the questionnaires. My representative sent questionnaires and flyers (Appendix F) and consent information sheets (Appendix B) to participants with the permission of human resource officers.

The questionnaire, consent information sheet, and flyers were sent by regular post to my representative. My representative then sent letters and flyers to the human resource officers in three textile manufacturing industries. These human resource officers then informed participants through flyers. Thereafter, my representative met with participants in the selected textile manufacturing companies at a meeting that was held after the participants' work schedule. After welcoming all the participants, my representative distributed the questionnaires and consent information sheets to them. My representative

then read the script to them. The script stated the purpose of the study as well as the procedure for completion of the questionnaires.

Participants involved in the study were instructed by the representative to read the consent information that explained the procedure, voluntary nature, risk and benefits, confidentiality, and importance of the study. Participants were to provide their implied consent by completing the questionnaires. Completed questionnaires were then collected after the meeting. There was also an opportunity for participants to win a $25 award at the end of the meeting.

Variables

This study sought to investigate variables that impact behaviors pertaining to environmental sustainability. The independent variables in this study are environmental values, environmental knowledge, and selected demographic variables that were examined as possible factors that could impact ESB. The dependent variable is ESB.

Environmental Values

Fein, Vasiliu, and Tziner (2011) defined values as belief structures that are also connected to particular categories of needs. Since environmental values are considered as possible antecedents to ESB, they will be considered as an independent variable. Underlying values have been found to influence the behaviors of organizational members (Schein, 1992), and values were considered possible influences on sustainability behaviors in this study.

Environmental Knowledge

This study looked at environmental knowledge as one of the variables that could impact ESB. Environmental knowledge is therefore considered an independent variable in this study. According to Carrier (2009), environmental knowledge could contribute to ESB. In another study, Klein, D'Mello, & Wiernik (2012) noted a level of relationship between environmental knowledge and ESB. According to their finding, a greater level of environmental knowledge in individuals promised more pro-environmental behaviors.

ESB

In this study, ESB were examined as possible results of environmental values, environmental knowledge, and demographics. ESB will therefore be considered as the dependent variable. A number of studies have indicated that environmental values of employees have directly or indirectly influenced behaviors in organizations (Russell, 2001; Ogbonna & Harris, 2000; Schein, 1992). In relating ESB to environmental knowledge, several studies have in various ways suggested that environmental knowledge could impact the behaviors of individuals. According to Mobley, Vagias and DeWard (2010), individuals with high environmental knowledge are likely to exhibit positive environmental behaviors. Numerous studies have also noted that demographics have impacted the environmental behaviors of individuals (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Klein, Ones, Dilchert, & Biga, 2011).

Instrumentation

A self-administered questionnaire consisting of established scales was used in data collection. Advantages of using a questionnaire consist of convenience for

individuals in the sample, less time involved in data collection, and lower cost than the use of interviews or observations (Gall, et al., 2003). The disadvantage is that a questionnaire does not provide an opportunity for in-depth exploration of environmental values, environmental knowledge, and ESB of the respondents (Gall, et al., 2003). This study examined the relationship between environmental values, behaviors pertaining to environmental sustainability, and environmental knowledge. Each of these constructs was measured by valid and reliable scales utilized in previous research:

Environmental Values

Environmental values were measured with an adopted shorter version of Schwartz' s Values Survey (Schwartz, 1992, 1994) developed by De Groot & Steg (2008). This scale has been used extensively to measure environmental value orientations. The instrument consists of 13 items subdivided into egoistic values, altruistic values, and biospheric values. Participants were asked to rate the importance of each item using a 9-point scale including -1= *opposed to my values*, 0 = *not important*, 3= *important*, 6 = *very important*, 7= *extremely important*. The Cronbach's alphas of these scales have reported coefficients (De Groot, 2008) as follows: egoistic values (.83), altruistic values (.74), and biospheric values (.83).

Environmental Knowledge

Environmental knowledge was measured by using the knowledge section of *the "*Third Minnesota Report Card on Environmental Literacy)" (Murphy & Olson, 2008). Participants were asked 12 fact-based questions relating to pollution, global warming, animal extinction, wetlands, garbage, energy, and nuclear waste disposal. Knowledge

questions were chosen based on prevalent environmental topics and current issues that average citizens should be familiar with. With the assistance of a panel of experts, this scale was adapted to the Ghanaian context, where a number of questions were altered to suit the situation in Ghana. The original scale had 13 items, but it has been reduced to 12 for the purpose of this study. Respondents had the option of selecting from four possible answers with only one being correct. Correct responses were assigned a score of one, and incorrect responses a score of zero. The lowest aggregate score for a participant's knowledge was one and the highest 12. The Cronbach's alpha of this scale had a reported coefficient of .73 (Murphy & Olson, 2008).

Demographic Variables

Demographic information was collected as part of the questionnaire. Participants were requested to provide information on their gender, age, level of education, and managerial level.

ESB

ESB were measured using Ones and Dilchert's (2009) employee green behaviors scale. This scale was made up of 15 items. ESB were measure on a five- point Likert-type scale ranging from *never* (1), rarely (2), *sometimes* (3), *most of the time* (4), to *always* (5). The participants were asked to rate the importance of each item pertaining to their exhibition of ESB. The lowest aggregate score for participants was 5, and the highest aggregate score was 75. The employee behaviors scale has a reported (Ones and Dilchert, 2009) alpha coefficient of .80. For the purpose of this study, managers and supervisors

were considered as employees because they also exhibit environmentally relevant behaviors in organizations.

Validity and Reliability of Scales

The validity of an instrument evaluates what it asserts to measure. Gall, Borg, and Gall (2007) defined validity in terms of the appropriateness, meaningfulness, and usefulness of the specific inferences made from the test or questionnaire scores. The validity of the constructs applied in this study has been evaluated in previous studies.

Environmental Values Scale

The items in this scale were developed to assess the environmental value orientations of individuals. The items were originally based on Schwartz's (1992, 1994) work on universal values. This scale has also been used by Gatersleben, White, Abrahamse, Jackson, and Uzzell (2011) in terms of sustainable lifestyles.

ESB Scale

The items in this scale were applied to measure employee green behaviors. They were originally developed by Ones and Dilchert and have been proved to be valid. The validity was evident in measurement of sustainability behaviors in the U.S. and Europe (Ones & Dilchert, 2009).

Reliability

According to Field (2005), reliability implies "a scale should consistently reflect what it is measuring" (p. 666). Warmbrod (2001) also indicated that reliability refers to the trustworthiness of an instrument. Cronbach's alpha values were calculated post- hoc to determine reliability for the scales applied in the study. Cronbach's alpha is commonly

employed to determine scale reliability or internal consistency. The post-hoc reliability scores for this study are reported in Table 1.

Table 1

Reliability of Scales

Variable	Number of items	Cronbach's alpha previous studies	Cronbach alpha post-hoc
Environmental values			
Egoistic values	5	.83[a]	.75
Altruistic values	4	.74[a]	.13
Biospheric values	4	.83[a]	.63
Environmental knowledge	12	.73[b]	.56
ESB	15	.80[c]	.93

Note: [a]De Groot & Steg (2008) [b]Murphy & Olson (2008) [c]Ones & Dilchert (2009)

Pilot Testing

The purpose of the pilot test is to practice the data collection method, so as to identify and resolve associated problems before proceeding with the actual study (Gall, et al., 2007). A pilot test entails small-scale testing of procedures planned as part of the effectiveness of the full-scale study. The pilot test used a convenience sample in a paper-and-pencil questionnaire format. I initially engaged the services of a panel of experts, who are knowledgeable in the field of environmental sustainability. These experts were invited through e-mails and telephone calls. I later involved former colleagues and high school and college friends in manufacturing industries in the pilot test. In addition, these individuals were encouraged to inform their colleagues about the pilot test. Interested individuals were then asked to contact me to receive the paper-and-pencil questionnaire.

According to Monette, Sullivan, and DeJong (2002), a small percent of the anticipated sample should suffice for pilot testing. For the pilot test, a total of 20 questionnaires were sent to a panel of experts, former colleagues, and friends; as well as interested individuals. All participants received the same materials that were used in the actual study. Hence, participants had the opportunity to complete the questionnaire and to review the introductory letter, so as to check that all information and directions stated in the letter were clear (Krueger, 2007).

Data Analysis

Data analysis techniques were used to answer the proposed research questions, and the Statistical Package for Social Sciences (SPSS, version 19) computer software was applied. For instance, descriptive statistics was used to better understand the nature of the sample in terms of demographics. Descriptive statistics was also used to summarize the survey responses. Data from the survey were analyzed by using analysis of variance (ANOVA) and hierarchical multiple regressions.

The first part of the investigation used correlation analysis, which shows the strength of the zero-order relationship between the variables. Pearson's correlation was used to test the strength of the linear relationships between the variables (Gall et al., 2003). Product moment correlations were selected because the selected variables were considered to be nominal. The levels of significance will be set at $p > .05$.

Hierarchical multiple regression analysis was also used to determine the effects of environmental values, environmental knowledge, and demographics on ESB. A series of hierarchical multiple regression analysis were used to examine the effect of independent

variables on the dependent variable. This was necessary to identify those variables that contributed most to the total variance explained for ESB. The demographic variables were entered in the order of age, gender, and level of education as Step 1 in the hierarchical regression analysis (HRA). The purpose of this decision was to provide statistical control for demographics. Step 2 involved the addition of environmental sustainable values, and this decision was based on theoretical support (Stern, 2000; Stern et al., 1999). Based on review of past research, it was expected that environmental values would impact environmental behaviors (De Groot, 2008). The third step involved adding environmental knowledge, and this decision was also based on theoretical support (Abdul-Wahab, 2004; Frick, Kaiser, & Wilson, 2004). According to research findings, environmental knowledge was expected to impact ESB.

This study ensured that some key assumptions of the hierarchical multiple regressions were taken into consideration. In this regard, correlations were calculated to check for muticollinearity. Multicollinearity occurs when the independent variables are highly correlated leading to the problem of sharing predictive power among these variables (Ho, 2006). In addition, data were checked for normality and met; establishing a linear relationship between the dependent and independent variables. These assumptions were checked from residual scatterplot and p-p plot as part of the multiple regression analysis.

I strategized in dealing with missing data, since the problem of missing data is fairly common in field-based organizational research (Lipkowski, Landis, & Stehouwer, 1987) and surveys (Kim & Curry, 1977). Listwise deletion method takes care of the

missing data before any substantive analyses are conducted. The benefit in using listwise deletion is that all analyses are computed with the same set of cases (Carter, 2006).

Summary

In this chapter, details were provided on the methods that were used to investigate the relationships between environmental values, environmental knowledge, and ESB. Information on the research design, population and sampling, data collection, and variables were presented. In the instrumentation section, descriptions of the scales used to measure the different constructs, as well as pilot testing, were outlined. Data analysis procedures of the study were also presented.

CHAPTER FOUR

FINDINGS

The purpose of this study was to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. This study explored environmental values, environmental knowledge of employees, and demographic variables (i.e., gender, age, level of educational, managerial level) as possible factors that could impact ESB of employees.

The research questions are as follows:

1. What is the relationship between environmental values (i.e. egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana?
2. What is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana?
3. What is the relationship between demographic (i.e., age, gender, level of education, managerial level) and ESB of employees in the textile manufacturing industry in Ghana?
4. What is the relationship among environmental values, environmental knowledge, demographics, and ESB of employees in the textile manufacturing industry in Ghana?

The following hypotheses were tested to determine whether there are significant findings from the study:

Hypothesis 1a: There is a negative relationship between egoistic values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 1b: There is a positive relationship between biospheric values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 2: There is a positive relationship between environmental knowledge and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3a: There is a positive relationship between gender and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3b: There is a positive relationship between age and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3c: There is a positive relationship between level of education and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3d: There is a positive relationship between managerial level and ESB of employees in the textile manufacturing industries in Ghana.

This chapter provides results of factors that impact ESB. The chapter is organized into four major segments. First, a summary of the descriptive statistics, including the means and standard deviation are presented. Second, the analysis from the correlation matrix is described. Third, a detailed section on hierarchical multiple regression analysis

is provided. Fourth, a section that highlights other noteworthy findings that were generated from the regression analysis is presented.

Out of the 480 questionnaires that were sent out, the survey result yielded 179 completed ones. The response rate was 37%. As shown in Table 2, the research participants consisted of 179 employees from the operating textile companies in Ghana. Out of 179 respondents in this study, 170 indicated their gender in the questionnaires. The majority of the respondents were males [(n = 146 (81.6%)], and [n = 24 (14.1%)] were females. The age of participants ranged from 20 to over 61 years, with the highest percentage being between 39 and 40 years (34.7%). In terms of level of education, there were three groups, and these were secondary diploma to certificate [n = 129 (74.6%)], university diploma to university degree [n = 38 (22.0%)], and master's to doctoral [n = 6 (3.5%)]. Managerial level also consisted of three groups, and these were top executive to executive [n = 5 (3.0%), middle level to low level [n = 104 (63%)], and non-management [n = 56 (33.9%)]

Table 2

Demographic Data

Variable	*f*	%
Gender		
Male	146	85.9
Female	24	14.1
Total	170	100.0
Age		
20-25	11	6.4
26-30	48	27.7
31-35	18	10.4
36-40	60	34.7
41-45	9	5.2
46-50	14	8.1
51-55	9	5.2
56-60	3	1.7
61+	1	.6
Total	173	100.0
Level of education		
Secondary diploma to certificate	129	74.6
University diploma to university degree	38	22.0
Master's degree to doctoral	6	3.5
Total	173	100.0
Managerial level		
Top executive to executive	5	3.0
Middle level to low level	104	63.0
Non-management	56	33.9
Total	165	100.0

Presented in Table 3 are the means and standard deviations for the scales and subscales utilized in the study. The mean score for the egoistic value in this study was recorded as 2.85, and that of the biospheric value was recorded as 5.55. The standard deviation of egoistic value was 1.87, and that of the biospheric value was 1.06 In the case of environmental knowledge, the mean score was 5.86 while the standard deviation was

2.01. Environmental knowledge also recorded a mean score of 5.86, with a standard deviation of 2.01. This scale was measured on the selection of a correct answer from four possible answers.

Respondents gave the overall highest scores to items measuring ESB. This scale was measured on a five-point Likert-type scale with a mean of 39.61 and a standard deviation of 11.75.

Table 3

Means and Standard Deviations of Independent and Dependent Variables

Variables	*n*	*M*	*SD*
Environmental values			
Egoistic	178	2.85	1.87
Biospheric	178	5.55	1.06
Environmental knowledge	174	5.86	2.01
ESB	179	39.61	11.75

Note. Environmental values were measured on a 9-point Likert-type scale -1 = *opposed to my values,* 0 = *not important,* 3 = *important,* 6 = *very important,* 7= *of supreme importance*. Environmental knowledge scale was based on choosing the correct answer. ESB were measured on a 5-point Likert-type scale ranging from 1 = *never*, 2= *rarely,* 3 = *sometimes,* 4 = *most of the time,* 5 = *always*

Correlation Matrix

To measure the ESB of employees, each variable in the study was independently tested for correlation with the dependant variable of ESB, as presented in Table 4.

Table 4

Pearson Correlation Matrix for Dependent and Independent Variables

	M	*SD*	1	2	3	4	5	6	7	8
1. Gender			–							
2. Age			-.12	–						
3. Duration in organization			-.13	.73**	–					
4. Level of education			.00	-.10	-.22**	–				
5. Managerial level			-.10	.33**	.18*	.24**	–			
6. Egoistic value	2.85	1.87	-.07	.11	-.11	.32**	.00	–		
7. Biospheric value	5.55	1.06	.05	-.17*	.01	-.04	.15	-.36**	–	
8. Knowledge	5.86	2.01	-.13	.22**	.02	.05	-.02	.40**	-.33**	–
9. ESB	39.61	11.74	.08	.09	.10	.16*	.28**	-.13	.44**	-.39**

*$p < .05$. **$p < .01$.

With the application of Pearson product-moment correlation coefficient, the presence and strength of the relationships between the variables used in this study were assessed. Pearson correlations were conducted to assess the relationship between variables in this study. This relationship is looked at in terms of strength and direction. The correlation matrix for all the variables is presented in Table 4. Pearson correlation coefficient (r) can range in value from (+1) to (-1). While a value of 0 indicates there is no association between the variables considered, a value greater or less than 0, depending on the direction of the association indicates a positive or negative association. Scholars have grouped correlations in relative strength from weak to strong. Although association strength, for the most part, depends on what is measured, a guideline is that values

between 0.1 and 0.2 are considered weak, 0.3 to 0.5 moderate, and 0.5 to 0.8 strong for both positive and negative values (Zou, Tuncali, & Silverman, 2003). The values of the Pearson correlations coefficients between the variables are presented in Table 4.

One-way ANOVA was used to explore the extent to which demographic variables such as levels of education and managerial levels differ in terms of their ESB. Specifically ANOVA was used to analyze the extent to which groups of demographic variables vary from one another with respect to ESB. Normality was assumed for each of the variables. Also, Levine's test of homogeneity was examined for significance. If the difference in mean was significant ($p < .01$) for ANOVA, a post hoc Scheffe test was conducted. The Scheffe test was appropriate because it was a single-shot measurement. This test revealed which group means were statistically different from one another.

Results of Research Questions

In this section, the results of the research questions are presented. Research question one was: what is the relationship between environmental sustainability values (egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana? Research question two was: what is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana? Research question three was: what is the relationship between demographics (i.e., age, gender, level of education, and managerial level) and ESB of employees in the textile manufacturing industry in Ghana?

Research Question One

What is the relationship between environmental values (i.e., egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana?

Environmental values (i.e., egoistic, altruistic, biospheric) and ESB**.** The relationship between environmental values and ESB was investigated, using the Pearson product-moment correlation coefficient. According to the Pearson's correlation analysis in Table 4, there is a positive and significant correlation between biospheric values and ESB (r = .44, p = .00). On the other hand, there is a negative correlation between egoistic values and ESB (r = -.13, p = .08). The analysis therefore supports hypotheses 1a (there is a negative relationship between egoistic values and ESB of employees in the textile manufacturing industries in Ghana). The analysis also supports hypothesis 1b, which states that; there is a positive relationship between biospheric values and ESB of employees in the textile manufacturing industries in Ghana.

Research Question Two

What is the relationship between environmental knowledge and environmental sustainability behaviors of employees in the textile manufacturing industry in Ghana?

Environmental knowledge and ESB**.** The relationship between environmental knowledge and ESB was investigated, using the Pearson product-moment correlation coefficient. According to the Pearson's correlation analysis in Table 4, there was a negative and significant relationship between these variables (r = -.39, p = .00). In this analysis,

hypothesis 2 was supported, where there is a positive relationship between environmental knowledge and ESB of employees in the textile manufacturing industries in Ghana.

Research Question Three

> What is the relationship between demographics (i.e., age, gender, level of education, and managerial level) and ESB of employees in the textile manufacturing industry in Ghana?

Relationship between demographics and ESB. The study also tested for correlation in the relationship between ESB and demographics such as gender, age, duration in organization, level of education, and managerial level. Gender (r =.08, p = .29), age (r =.09, p = .24) and duration in organization (r =.10, p = .21) show a positive relationship with ESB. Level of education(r =.16, p = .04) and managerial level (r =.28, p = .00) also show positive and significant relationship with ESB. Demographic variables, namely gender, age, and duration in organization were not further analyzed because their correlation with ESB was not significant.

One-way between groups ANOVA was conducted to further explore the influence of level of education on ESB (see Table 5). Subjects were divided into three groups according to their level of education. Level one was secondary school diploma to certificate, level two was university diploma to university degree, and level there was master's degree to doctoral degree. There was a statistical significant difference at the p <.01 point between level of education groups in their ESB scores, as shown in Table 5.

Table 5

Analysis of Variance(ANOVA) for Level of Education and ESB

Variable	*Sum of squares*	*df*	*Mean square*	*F*	*p*
Level of education					
Between groups	1591.40	2	795.70	6.07	.00*
Within groups	22274.93	170	131.03		
Total	23866.32	172			

*$p < .01$.

Post-hoc comparison using Scheffe test was applied to determine the pair of groups were significantly different from one another. Educational level 1 (M =37.88. SD = 12.49) and educational level 2 (M = 45.10. SD = 6.90) were significantly different from one another (see Table 6).

Table 6

Scheffe Comparison for Educational Level and ESB

				95% CI	
Variable	Mean difference	Standard error	*p*	Lower bound	Upper bound
Education level 1 vs					
Education level 2	-7.23	2.11	.00*	-12.44	-2.01
Education level 3	-4.79	4.78	.61	-16.59	7.01
Education level 2 vs					
Education level 1	7.23	2.11	.00*	2.01	12.45
Education level 3	2.44	5.02	.89	-9.10	14.86
Education level 3 vs					
Education level 1	4.79	4.78	.61	-7.01	16.60
Education level 2	-2.44	5.03	.88	-14.86	9.10

*$p < .01$.

One-way between groups ANOVA was conducted to also explore the influence of managerial level on ESB. Subjects were divided into three groups according to their rank at the work place. Level one was top-executive to executive, level two was mid-level manager to low-level manager, and level there was non-management position or rank. There was a statistically significant difference at the $p < .01$ point between level of management groups in their ESB scores (see Table 7).

Table 7

Analysis of Variance (ANOVA) for Managerial Level and ESB

Variable	*Sum of squares*	*df*	Mean square	*F*	*p*
Managerial level					
Between groups	7276.60	2	3638.30	36.68	.00*
Within groups	16070.52	162	99.20		
Total	23347.13	164			

*$p < .01$.

Post-hoc comparison using Scheffe test was applied to determine the pair of groups that were significantly different from one another. Looking at the groups in pairs, Managerial Level three (*M*=39.53. *SD*= 11.93) was significantly different from Managerial Level one (*M*=43.00. *SD*= 10.88) and Managerial Level two (*M*= 44.35. *SD*= 8.01). However, Managerial level one (*M*=43.00. *SD*= 10.88) was not significantly different from Managerial Level two (*M*= 44.35. *SD*= 8.01) (see Table 8).

Table 8

Scheffe Comparison for Managerial Level and ESB

Variable	Mean difference	Standard error	*p*	95% CI Lower bound	95% CI Upper bound
Managerial level 1 vs					
Managerial level 2	-1.35	4.56	.96	-12.61	9.92
Managerial level 3	12.73	4.65	.03*	1.25	24.23
Managerial level 2 vs					
Managerial level 1	1.35	4.56	.96	-9.92	12.61
Managerial level 3	14.08	1.65	.00**	9.10	18.16
Managerial level 3 vs					
Managerial level 1	-12.73	4.65	.03*	-24.22	-1.25
Managerial level 2	-14.08	1.65	.00**	-18.16	-10.10

*$p < .05$. **$p < .01$.

The analysis indicated that both gender and age had a positive relationship with ESB, so hypotheses 3a and 3b were supported. Level of education and managerial level also had a positive and significant relationship with ESB, so hypothesis 3c and 3d were also supported.

Research Question Four

What is the relationship among environmental values, environmental knowledge, demographics, and ESB of employees in the textile manufacturing industry in Ghana?

Environmental values, environmental knowledge, demographics (i.e., age, gender, level of education, managerial level), and ESB. Hierarchical multiple regression was applied to analyze the relationships among environmental values, environmental knowledge, demographic variables, and ESB of employees (see Table 9). The statistical procedure of hierarchical multiple regression is used to examine the extent to which a set of variables can predict a particular outcome and which variable from a set of variables is the most significant predictor of an outcome (Pallant, 2007). In hierarchical multiple regression, variables are entered in steps or blocks into the model to determine the extent to which each independent variable contributes to the prediction of the dependent variable (Field, 2005).

The demographic variables (gender, age, duration in origination, level of education, and managerial level) were entered in the first block of the regression model as control variables. The predictor variables were entered in subsequent steps in the following order: (1) environmental values (egoistic, biospheric) and (2) environmental knowledge. To determine the contribution of new predictors in explaining variance in the outcome variable, R-squared change ($\Delta R^{2)}$ was used instead of R-squared (R^2). ΔR^2 indicates the change in R^2 resulting from the inclusion of a new predictor or block of predictors (Field, 2005).

Table 9

Hierarchical Multiple Regression Predicting ESB of Employees

Predictor	*B*	*SE B*	*β*	R^2	ΔR^2
Step 1				.11*	
Age	-.86	.82	-.12		
Gender	3.94	2.57	.12		
Level of education	4.82	2.76	.14		
Managerial level	7.38	2.42	.26*		
Step 2				.29	.18*
Age	.63	.79	.09		
Gender	3.15	2.32	.10		
Level of education	5.99	2.66	.18		
Managerial level	4.02	2.25	.14		
Egoistic values	-.28	.54	-.04		
Biospheric values	4.85	.88	.43*		
Step 3				.37*	.08*
Age	1.33	.76	.19		
Gender	1.93	2.20	.06		
Level of education	5.31	2.15	.13		
Managerial level	3.70	2.13	.12		
Egoistic values	.40	.53	.06		
Biospheric values	4.13	.84	.36		
Environmental knowledge	-1.98	.45	-.34*		

*$p < .01$.

The demographic data was entered as Step 1 in the hierarchical multiple regression model as shown in Table 9, to statistically control for demographic variables. The result was that 11% ($R^2 = .11$) of employees' ESB was predicted by the demographic factors. The contribution to the model by the demographic variables were (a) age (β = -.12), (b) gender (β = .12), (c) level of education (β = .14), and (d) managerial level (β = .26). The *F*- statistic [F (5, 151) = 3.700, $p = .00$] denotes the significance of the relationship between the demographic variables and ESB of employees. In other words, ESB of employees were essentially influenced by gender, age, level of education, and

managerial level. In the next section, the results from the hierarchical multiple regression analysis examining the relationships between the predictor variables and the outcome variables are discussed.

Environmental Values and ESB. In step 2 of the hierarchical multiple regression model egoistic and biospheric values were entered in addition to all the demographic variables that were entered in the first block. The *F* statistic [F (7, 149) = 8.586, p = .00] confirmed a significant relationship between environmental values (i.e., egoistic values, biospheric values) and ESB. ΔR^2 (see Table 9) was reflected as .18. The ΔR^2 statistic was produced by adding the predictor variables of the egoistic and biospheric values. This means that environmental values accounted for an additional 18% of employees' ESB when the effects of the demographic variables were controlled. A further look at the coefficient table indicated that the contribution of egoistic values was not significant (β = -.04, t = -.52, p = .61), as compared to biospheric values, which were significant (β = .43, t = 5.49, p = .00). In all, the entry of environmental values significantly increased the variance in ESB of employees.

Environmental Knowledge and ESB. In Step 3 of the regression model environmental knowledge was entered along with the demographic variables and the environmental values. From the hierarchical regression analysis, the relationship of both variables was statistically significant [F (8, 148) = 10.933, p = .00]. A ΔR^2 of .08 was generated. This suggested that environmental knowledge explained 8% of the variance in ESB while controlling for the demographic variables and environmental value. The entry of

environmental knowledge significantly increased the variance in ESB of employees. The full model explained 37 % of the variance in ESB.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMENDATIONS

This chapter presents a summary of my study. It also suggests, implications, and makes recommendations for HRD professionals. Furthermore, it provides recommendations for managers in the textile industry and potential research by HRD professionals and scholars. Finally, it offers direction for future research and conclusions.

Summary of Research Problem and Design

The purpose of this study was to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. This study explored environmental values, environmental knowledge of employees, and demographic variables (i.e., gender, age, level of educational, managerial level) as possible factors that could impact ESB of employees. The following research questions were asked:

1. What is the relationship between environmental values (i.e., egoistic, altruistic, biospheric) and ESB of employees in the textile manufacturing industry in Ghana?
2. What is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana?
3. What is the relationship between demographics (age, gender, level of education, managerial level) and ESB of employees in the textile manufacturing industry in Ghana?

4. What is the relationship among environmental values, environmental knowledge, demographics (age, gender, level of education, managerial level), and ESB of employees in the textile manufacturing industry in Ghana?

The following hypotheses were tested to determine whether there are significant findings from the study:

Hypothesis 1a: There is a negative relationship between egoistic values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 1b: There is a positive relationship between biospheric values and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 2: There is a positive relationship between environmental knowledge and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3a: There is a positive relationship between gender and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3b: There is a positive relationship between age and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3c: There is a positive relationship between level of education and ESB of employees in the textile manufacturing industries in Ghana.

Hypothesis 3d: There is a positive relationship between managerial level and ESB of employees in the textile manufacturing industries in Ghana.

Based on my research questions, this study used descriptive, causal-comparative, and correlational research methods to examine the relationship between employees' environmental values, environmental knowledge, and ESB. The target population for this study was employees within Ghanaian organizations considered to be part of the textile manufacturing industry. The accessible sample consisted of employees from operating Ghanaian textile companies (n =179). The majority of the respondents were males, with a total of 146 (81.6%), and 24 (14.1%) were females. The age of participants ranged from 20 to over 61 years, with the highest percentage being between 39 and 40 years (34.7%). In terms of the level of education, 145 (83.8%) had obtained a diploma or lower certificates, and 28 (16.2%) reported university or higher degrees. A total of 128 (77.6%) worked at non managerial levels, and 37 (22.4%) were of the high managerial level.

A self-administered questionnaire that consisted of established scales was used in data collection. The environmental values questionnaire was measured with an adapted shorter version of Schwartz' Values Survey (Schwartz, 1992, 1994) developed by De Groot (2008). The construct consisted of 13 items subdivided into egoistic values, altruistic values, and biospheric values. Participants were asked to rate the importance of each item using a 9-point scale. ESB were measured using Ones and Dilchert's (2009) employee green behaviors scale. This scale is made up of 15 items. The participants were asked yes or no questions pertaining to their exhibition of ESB. Environmental

knowledge was measured using the knowledge section of, *the "Third Minnesota Report Card on Environmental Literacy"* (Murphy & Olson, 2008). Participants were asked 12 fact-based questions relating to pollution, global warming, animal extinction, wetlands, garbage, energy, and nuclear waste disposal.

The data collection instrument was pilot tested with a group of experts. Initially, the services of a panel of experts, knowledgeable in the field of environmental sustainability were engaged. Later, former colleagues and high school and college friends who work in manufacturing industries were involved in the pilot test. In addition, these individuals were encouraged to inform their colleagues about the pilot test. Interested individuals were then asked to contact me to receive the paper-and-pencil questionnaire.

A number of data analysis techniques were used to answer the proposed research questions. Descriptive statistics was used to summarize the survey responses. Pearson's correlation was used to test the strength of the linear relationships between the variables. Hierarchical multiple regression was applied to analyze the relationships between environmental values, environmental knowledge, demographic variables, and ESB of employees.

Research Question One

What is the relationship between environmental values and ESB of employees in the textile manufacturing industry in Ghana?

Pearson correlation *r* was used to examine the relationships between environmental values and ESB. To be more specific, egoistic values and biospheric values were the two subscales of values that were finally examined in relation to ESB.

Altruistic values were part of the values subscales, but the alpha coefficient of these values in the current study was found to be very low (.13). The low alpha values implied that the internal consistency reliability of the scale was not acceptable. Based on the low alpha coefficient, altruistic values were eliminated from the results. The low coefficient value of altruism could be due to the context in which it was applied. Most individuals in a developing nation like Ghana might not adopt altruistic values since they derive their livelihood from the natural environment.

Altruistic values are motivated by internal values that do not anticipate anything in return (Schultz & Zelezny, 1998). However, according to Vlek and Steg (2007), many communities in developing countries depend on ecosystem services such as arable land, water resources, and fish stock for their survival. Adopting altruistic values in this context might lead to starvation or deprivation of essential resources. It would, therefore, be difficult or make no sense if individuals in developing countries chose not to use necessary resources, in the name of preserving them.

According to the Pearson's correlation analysis, there was negative correlation between egoistic values and ESB. This finding suggests that individuals leaning more toward egoistic values had less tendency of exhibiting ESB. On the other hand, there was a significant positive correlation between biospheric values and ESB. In these cases, individuals with high affinity for biospheric values were likely to exhibit more ESB.

The findings between environmental values and ESB were consistent with the result from previous studies (De Groot & Steg, 2008; Stern & Dietz, 1994). The significant negative correlation between egoistic values and ESB may be due to the fact

that, the perceived personal cost for adopting ESB was high (Stern & Dietz, 1994). Also, the significant positive correlation between biospheric values and ESB could be due to the fact that the perceived benefits of adopting ESB were high (De Groot & Steg, 2008).

De Groot and Steg (2008) reported that the more respondents ascribed to biospheric values, the more they were concerned about the environment. On the other hand, the egoistic value orientation contributed significantly to the explanation of ESB in an opposite direction. The more individuals and, for that matter, employees ascribed to egoistic values, the less they were concerned about the environment. In their study, Steg, Dreijerink, and Abrahamse (2005) also reported the contribution of environmental values in the formulation of acceptable energy policies geared toward reducing the household emission of carbon dioxide. While there was a significant positive relationship between biospheric values and feelings of moral obligation to reduce household energy consumption, there was, on the other hand, a significant negative relationship between egoistic values and feelings of moral obligation to reduce household energy consumption.

Research Question Two

What is the relationship between environmental knowledge and ESB of employees in the textile manufacturing industry in Ghana?

The relationship between environmental knowledge and ESB was also assessed in this study. The data showed a moderate negative correlation (r = -.39) between environmental knowledge and ESB. This correlation was statistically significant.

The negative relation suggests that employees who increase in environmental knowledge are likely to reduce their ESB. This result could be due to the low alpha

coefficient of the scale and, for that matter, its questionable reliability in this study. This result could also be due to the fact that these employees were not necessarily concerned with environmental issues, but rather preoccupied with and aiming at making economic gains.

So far, studies have posited that increased knowledge regarding the environment is assumed to increase environmental behaviors (Frick, Kaiser and Wilson, 2004; Mobley et al., 2010). According to Mostafa (2007), **"**Very few studies have shown that environmental knowledge has little bearing on the performance of environmentally friendly acts." (p. 449). In most cases, the relationship between environmental knowledge and ESB has been positive. On the other hand, a study conducted by DeChano (2006) has found limited or no such prediction of environmental knowledge on ESB.

The findings between environmental knowledge and ESB in this current study are consistent with the fact that environmental knowledge might not be a good predictor of ESB. Laroche, Nergeron, Tomiuk and Barbaro-Forleo (2002) conducted a study to examine the prediction of environmental knowledge on behaviors among consumers in Canada and challenged the contribution of environmental knowledge to environmental behaviors. They reported that the environmental knowledge was not a good predictor of behaviors among the English Canadians and French-Canadians. According to Laroche, Nergeron, Tomiuk and Barbaro-Forleo (2002), the weak relationship might suggest the existence of other important antecedents.

Conversely, in a study Fryxell and Lo (2003) conducted on the influence of environmental knowledge on managers' behaviors in China, a fairly positive correlation

between environmental knowledge and an environmental behaviors was reported. In another study of pro-environmental behaviors of consumers in Korea, Lee, Choi, Kim, Ahn, and Katz-Gerro (2012) discovered that, the environmental knowledge dimension has a significant positive effect on overall green purchase behaviors.

Research Question Three

What is the relationship between demographics (age, gender, duration of employment, level of education, and managerial level) and ESB of employees in the textile manufacturing industry in Ghana?

The demographics items that have gained attention in this discussion are level of education and managerial level. Consideration was given to these items due to the high correlation they had with ESB in this study. Items such as age, gender, and duration of employment were noted to have a positively lower correlation, and were therefore deemed to be insignificant.

As previously indicated in Chapter Four, the relationship between the level of education and ESB was confirmed to be positive and significant. This positive relationship suggested that employees with higher education were more likely to exhibit ESB. This finding is supported by previous literature. According to Klein, D'Mello and Wiernik (2012), a bulk of literature shows that more highly educated individuals have higher affinity for environmentally responsible behaviors vis- a -vis those with less education. However, an early meta-analysis conducted reported the relationship to be weak most of the time (Hines, Hungerford, and Tomera, 1986-1987). Also, in a recent meta-analysis, D'Mello, Wiernick, Ones, and Dilchert (2011) buttressed a positive

tendency of relationship between level of education and ESB. According to these authors, level of education had small to moderate positive relationship with ESB.

This study also indicated that, the relationship between managerial level and ESB was confirmed to be positive and significant. This positive relationship presupposed that employees of higher managerial level were more likely to exhibit ESB. The outcome of this study was supported by research that Ones, Dilchert, Biga, and Gibby (2010) conducted on managerial differences in eco-friendly employee behaviors. In their study, top executives were found to be more eco-friendly in their behaviors than low-level managers. These behaviors included recycling, using alternative working arrangements, making responsible product choices, and avoiding environmental ham. In the following sections, implications for research and practice are discussed.

Research Question Four

What is the relationship among environmental values, environmental knowledge, demographics (age, gender, level of education, managerial level), and ESB of employees in the textile manufacturing industry in Ghana?

Hierarchical multiple regression was used to assess the relationship among environmental values, environmental knowledge, demographics (age, gender, level of education, managerial level), and ESB of employees in the textile manufacturing industry in Ghana. Demographic variables in this study predicted 11% of employee ESB. The percentage of variance explained by demographic variables is significant. This result, therefore, suggests that demographics are important predictors of ESB, given the amount of percentage contributed. This finding is supported by previous literature (Ng &

Feldman, 2008; Ng & Feldman, 2009). According to these studies, demographic characteristics such as employees' age, gender, and level of education may influence employee workplace behaviors. Studies conducted by Klein, D'Mello, Ones, Dilchert, Wiernik, & Hill (2010), also reported evidence for the influence of demographic variables on ESB.

Egoistic values and biospheric values were the subscales of variables that were applied in the hierarchical multiple regression analysis. Egoistic values and biospheric values explained 18% respectively of the variance in sustainability behaviors of employees. Given the high percentage in explaining the variance in ESB, values could be identified as significant predictors of ESB. The results in this study are supported by the study conducted by De Groot and Steg, (2008). According to their study, both egoistic values and biospheric values were identified as contributing to environmental behaviors.

The addition of environmental knowledge to the hierarchical multiple regression analysis explained 8% of variance in ESB. In spite of the negative correlational relationship with ESB, which might be due to the reliability of the scale used, this result also suggests that environmental knowledge is a significant predictor of ESB. The full model explained 37% of the variance in ESB.

Conclusions and Discussion

In this study, I have explored variables that impact ESB of employees in the textile manufacturing industry in Ghana. The cardinal variables are environmental values, environmental knowledge, and demographic variables. In effect, this study had presented some noteworthy findings that impact ESB of Ghanaian employees in the textile

manufacturing industry. The findings from this study could be used to inform HRD professionals, as well as executive and managerial leaders in organizations to be effective in their sustainability efforts.

A major conclusion of this study is that managers and executives in organizations provide a strategic leadership opportunity to influence the ESB of employees. The conclusion is supported by the finding in which ESB significantly differed by managerial level, as well as ESB is significantly predicted by managerial level. Executives and managers had significantly higher scores for ESB compared to non-managers. Coupled with knowledge of power distance cultural dimensions (Hofstede, 1983), managers play a key role in the development of ESB within employees.

Power distance is associated with the way people regard authority, status differences, and influence patterns. Individuals in the power distance system generally favor unequal distribution of power. They are mostly autocratic and paternalistic in decision-making and practice (Cummings & Worley, 2005). According to The Hofstede Center (2014), the Ghanaian culture recorded a very high score of 80 on power distance. This presupposes that people accept hierarchical order in the Ghanaian cultures, and for that matter in organizations (Cummings & Worley, 2005; The Hofstede Center, 2014).

Executive and managerial leaders in Ghanaian textile companies could therefore be encouraged not to only set the company's environmental sustainability goals, but also demonstrate how these goals fit with other corporate strategies (Paul, & Nilan, 2012). If these environmental sustainability goals are well displayed by executive and managerial leaders in the Ghanaian textile companies, non-managers could be encouraged to follow

these same behaviors due to the high power distance culture. The high power distance score is an indication that executive and managerial leadership is the key to ESB in Ghanaian textile industries. It is therefore, an opportunity for executive and managerial leaders to be role models and coaches to assist their non-management employees in the exhibition of ESB.

Another major conclusion of this study is that biospheric values, a sub construct of environmental values are significant predictors of ESB. Of all the environmental value variables that were considered in this study, only biospheric values emerged as significant predictors of ESB. In effect, there is a need for Ghanaian textile industries to encourage biospheric values. Employees who adopt biospheric values are likely to self-identify with an increase in their ESB. Employees with biospheric values exhibit respect for the Earth, protection of the environment, and prevention of pollution (De Groot & Steg, 2008).

Another major conclusion in this study is that, the results of this study support the value-believe-norm (VBN) theory (Stern et al., 1999). According to this theory, values are instrumental in the prediction of pro-environmental behaviors. In this study, environmental values, and for that matter, biospheric values in particular were identified as a significant predictor of ESB. The application of this theory promises to be reliable in future studies to be conducted in the Ghanaian textile industry.

Another conclusion of this study is that environmental knowledge was found to be a significant but negative predictor of ESB. This prediction was different from some previous studies. This result adds to the number of mixed conclusions associated with the

contribution of environmental knowledge to ESB. While some studies (Frick, Kaiser and Wilson, 2004; Mobley et al., 2010) reported that environmental knowledge as a good predictor of ESB, De Chano (2006) reported limited or no influence of environmental knowledge on ESB. Laroche, Nergeron, Tomiuk and Barbaro-Forleo (2002) also concluded that environmental knowledge was not a good predictor of ESB.

There is therefore, the need to understand what might be the cause of variation in the findings pertaining to environmental knowledge in this study. A possible reason might be the low Cronbach alpha of the environmental knowledge scale in the study. The low Cronbach's alpha could be due to the fact that the scale is not applicable in the Ghanaian context, since the scale was originally used in Minnesota U.S.A., a developed country. The educational standard is higher in Minnesota, than it is in Ghana. Another reason might be economic, with Ghanaian employees being more concerned about profit making than environmental sustainability. In effect, this study contributed to the understanding of the influence of environmental knowledge on ESB in the Ghanaian textile industry context. It shows that, environmental knowledge may not be a suitable predictor of ESB, taking this study into consideration.

An additional major conclusion in this study was the high reliability of the ESB scale in Ghana. The scale in previous studies had an alpha coefficient value of .80 (Ones & Dilchert, 2012). According to Tavakol and Dennick (2011), an alpha coefficient value ranging from .70 to .95 is considered desirable. In support of the postulation of Tavakol and Dennick, the ESB scale in this study had an alpha coefficient value of .93. This scale therefore proved to be very reliable. In other words, it had the ability to measure ESB

consistently in the Ghanaian textile industry context, and it could therefore be applied in replicating a similar study.

The results in this study add to ESB literature and specifically highlight the behaviors of textile employees in Ghana. The results reveal that environmental values, environmental knowledge, level of education, and managerial level influenced ESB of employees. In effect, this study contributes to ESB literature by augmenting knowledge and identifying factors that can promote ESB among employees and specifically in the textile industry in Ghana. These findings could also be beneficial to HRD professionals in helping to establish ESB in organizations.

ESB of employees is an emerging concept and very crucial for implementation of sustainability policies in organizations (Ones and Dilchert, 2012). Nevertheless, most of the literature on employee ESB is based on individual sustainability behaviors. This study, therefore, builds on academic conceptual literature and empirical studies in ESB of employees in industries.

This study contributes to knowledge in terms of factors that impact ESB of employees. According to Ones and Dilchert(2012), little is known about determinants of environmentally friendly behaviors in occupational settings. Much on factors impacting ESB has been done at the individual level (De Groot, Steg, 2008). In this study, however, I have helped in building on Ones and Dilchert's research work, and further buttressed the need for further research in the context of employee ESB.

Apart from the field of HRD, this study contributes to other disciplines such as industrial and organizational psychology, HRM, and environmental education. The

understanding of how ESB are impacted can inform related researches in these fields. A study by Ones and Dilchert (2012) indicated that ESB are linked to HRM and environmental studies. A work by DeGroot and Steg (2009) also indicated that ESB are based on environmental studies.

Recommendations for Practice

The findings in this study provide some recommendations for HRD practitioners as well as leaders within the textile industry in Ghana. This study has highlighted some key variables that are instrumental to the exhibition of ESB among employees in the Ghanaian textile industry. The importance of this study could also be seen in light of embedded sustainability, which supports balancing economic efficiency, social equity, and environmental sustainability. When leaders and employees implement embedded sustainability, benefits such as increased competitiveness and better economic performance could be realized (Saeed & Wang, 2014).

As indicated in the first chapter of this study, organizations have been associated with activities that have adversely impacted the natural environment (Bansal, 2002; Ferdig, 2007; Shrivastava, 1995). Executives and managerial leaders in the Ghanaian textile industry could be equipped with the know - how to curb these activities within an organization. For instance, organizational missions could highlight the importance of biospheric values in the promotion of ESB. Executives and managers within the textile industry could encourage biospheric values by incorporating the significance of these values in their mission statements, business strategies, and organizational policies (Van Velsor & Quinn, 2012). The manners in which messages of biospheric values are framed

and delivered are pertinent to the establishment of ESB within the textile industry. Per Van Velsor and Quinn, messages that communicate environmental sustainability must be; (a) positive and compelling, (b) related to business languages, (c) related to employees' interest in meaningful work.

Per Van Velsor and Quinn (2012), communications that motivate or encourage employees to apply environmental sustainability practices at the workplace are those that appeal to these employees' motivation to do the right thing and to feel good about their work. Instead of emphasizing on despondent scenarios in sustainability discussions, executives and managers should rather focus on opportunities and positive outcomes pertaining to environmental sustainability. Also, when addressing environmental responsibilities, executives and managers should also make it a point to incorporate business languages. For instance, waste reduction in an organization is not just environmentally friendly. These behaviors reduce costs and provide support for job retention, especially in difficult economic situations (Van Velsor & Quinn, 2012). In effect, environmental sustainability messages or communications should be entrenched in benefits related to embedded sustainability (D'Mello et al., 2012; Elkinington, 1998; Santiago-Brown, Jerram, Metcalfe, & Collins, 2014). This infers to the fact that effective sustainable systems should be environmentally friendly, economically feasible, and socially equitable.

Employees could also be motivated to explore innovative ways of practicing biospheric values in their daily business operations (Ferdig, 2007; Van Velsor & Quinn, 2012). Such innovations could be in the areas such as energy conservation and reductions

in environmental cost in production. This would mean that employees are given recognition whenever they self-report or exhibit ESB that reflect biospheric values (Paul, & Nilan, 2012). Executives and managerial leaders could propose annual or quarterly company-wide appreciation via corporate wards, and well as departmental and division level appreciation (DuBois, 2012). These appreciations could be a supervisor's pat on the back (Paul, & Nilan, 2012). They could also be more formalized with consideration given to monetary or certificate presentations during designated special occasions.

Further, executives and managers in the textile companies could deliver messages externally on achievements of their organizations and the importance of environmental sustainability to solve crucial issues such as climate change. Also, the content of dialogues and communication that textile companies have with stakeholders such as community leaders, NGOs, and government representatives, could focus on ESB expectations of these stakeholders, and how these expectations can be met in partnership with organization's efforts and sustainability vision (Van Velsor & Quinn, 2012).

The support of executives and managers is crucial for the success or failure of all organizational interventions and initiatives (Lussier, & Achua, 2007; Ones, Dilchert, Biga, & Gibby, 2010). Since leaders are seen as role models that enable change and outcomes in organizations (Beer & Nohria, 2000; Daft, 2002), it is important that leaders within the Ghanaian textile industry consistently exhibit ESB by showing respect for the Earth, protection of the environment, and prevention of pollution. Leaders should also instill ESB through coaching (Boyatziz, Smith, & Blaize, 2006). Coaching could help employees to improve upon their ESB. With the coaching strategy, leaders would aim at

equipping subordinates on sustainability behaviors and this step could go a long way toward establishing an ESB culture in the textile companies.

Also, since ESB significantly differed by level of education, organizations could aim at recruiting highly educated individuals for top management positions. Questions related to environmental sustainability could be asked during interviews to help identify potential candidates. HRD practitioners in the Ghanaian textile industry could also make it a point to encourage management leaders to engage in further education or periodic professional development programs that would augment their ESB. As a form of incentive, provision for bonuses and career advancement opportunities could be made available for employees who engage in further education. The strategic positioning of highly educated employees in leadership or top management positions would provide support for sustainability within organizations (Ones, Dilchert, Biga, & Gibby, 2010).

Furthermore, as indicated at the beginning of this section, this study equips HRD practitioners in training and development. To facilitate training for both new and experienced employees in ESB, it is important to understand what those behaviors entail (Ones and Dilchert, 2012). Addressing the need to select new employees who will display ESB, Ones and Dilchert stated that, it is important to know which individual characteristics pertain to such behaviors. The exhibition of ESB is important because it is crucial in responding to the call for environmental sustainability. Based on findings of this study, HRD practitioners could be more equipped to gain understanding of and apply of factors that could foster ESB.

Recommendations for Future Research

Limited research has been done on variables that impact ESB of employees, particularly in developing countries. Since the main purpose of this study was to gain understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana, it has provided a platform for future research.

Also, as I mentioned in chapter one of this study, there is a dearth of research on employee ESB within organizations. Since this kind of research is still in its formative stage, its impact on organizational sustainability is unknown. This study, therefore, provides a foundation for replication of this research within the textile industry.

Future research could broaden the present finding of this study to establish if there are differences in ESB, depending on the size of the organization. For instance, larger organizations may have resources for professional development, which could increase chances of exhibition of ESB.

The results of this research have provided some understanding of factors that impact ESB in the Ghanaian textile industry. It is logical that future studies consider other factors that impact ESB. In this study, the full model explained 37% of the variance in ESB. This presupposes that, there are other factors that impact ESB. It would be important that future studies consider other variables such as power distance score in the Ghanaian culture (Hofstede, 1983). The high power distance score is an indication that leaders in the Ghanaian textile industry could be instrumental in bringing about change in ESB (Beer & Nohria, 2000; Daft, 2002). Future research could also focus on how power distance impacts ESB in the Ghanaian textile industry. An experimental research design

could be applied to test the impact of power distance. In this case leaders in one textile company would receive training on how to apply ESB vis- a-vis power distance while leaders in another textile company would not receive any training.

This study is limited to the Ghanaian textile industry. More research is needed to establish the factors impacting ESB in other related manufacturing industries, since that would assist in bringing more robust understanding to the relationship between the independent variable that impact ESB in these industries. Future research in other related industries would be helpful to investigate the significance of variables impacting ESB. Similar research should extend to other Sub-Saharan or developing countries comparable to Ghana.

Additionally, the Cronbach alpha for both altruistic values and environmental knowledge presented in this study create an avenue for further investigation on these scales. According to Tavakol and Dennick (2011), a low alpha coefficient could be due to factors such as low number of questions, poor inter-relatedness between items or heterogeneous constructs. Tavakol and Dennick further indicated that, in the case of low alpha due to poor correlation between items; some of these items should be revised or discarded.

Also, the low coefficient results of altruistic values and environmental knowledge might have been due to socioeconomic factors prevailing in developing economies and, for that matter, in Ghana. Further research could also employ qualitative methods in this regard. According to Yin (2009), a case study methodology contributes to knowledge of individual, group, organizational, social, political, and affiliated experiences. A case

study methodology could therefore be applied to determine a more in-depth understanding of the impact of altruistic values and environmental knowledge on ESB.

Furthermore, it is also important to consider other predictors of ESB. For instance, future researchers could explore other types of values such as conservation value and openness to change values (Stern et al, 1999); and their impact on ESB. In the same manner, future researchers could consider how certain HRD practices such as training and development could impact ESB.

REFERENCES

Abdul-Wahab, S. A. (2008). A preliminary investigation into the environmental awareness of the Omani public and their willingness to protect the environment. *American Journal of Environmental Sciences, 4*(1), 39-49.

Accra Brewery Limited (2009). Annual report. Retrieved November 10, 2010 from http://www.africanfinancials.com/Report.aspx?afr_year=2009&CountryDOMAIN=gh&CshortName=ABL

Ackah, C., Adjasi, C., & Turkson, F. (2014). Scoping Study on the Evolution of Industry in Ghana. Retrieved February 17, 2015 from http://www.brookings.edu/~/media/Research/Files/Papers/2014/11/learning%20to%20compete/L2C_WP18_Ackah%20Adjasi%20and%20Turkson.pdf

Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A Systematic overview. *Academy of Management Perspectives, 22,* 45-62.

Andersson, L., Shivarajan, S., & Blau, G. (2005). Enacting ecological sustainability in the MNC: A test of an adapted value-belief-norm framework. *Journal of Business Ethics. 59,* 295-305.

Anna, A., Chesley, J., & Davis, K. (2001). Executive coaching by proxy in a large organization: A leadership development tool. *The Journal of Leadership Studies, 8* (1), 61-68.

Ardichvili, A. (2013). The role of HRD in CSR, sustainability, and ethics: A relational model. *Human Resource Development Review, 12*(4), 456 – 473.

Arif Hassan, (2007),"Human resource development and organizational values", *Journal of European Industrial Training, 31*(6), 435 – 448.

Asare, I.T. (2012). Critical success factors for the revival of the textile sector in Ghana. *International Journal of Business and Social Science, 3*(2), 307-310.

Bansal, P. (2002). The corporate challenges of sustainable development. *Academy of Management Executive, 16,* 122-131.

Barber, N., Taylor, C., & Strick, S. (2009). Wine consumers' environmental knowledge and attitudes: Influence on willingness to purchase. *International Journal of Wine Research*, 1, 59-72.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *Personality and Performance, 9*(1/2), 9-28.

Bass, B. M. (1998). *Transformational leadership: Industrial, military, and educational impact.* Mahwah, NJ: Lawrence Erlbaum Associates.

Beer, M., & Nohria, N. (2000a) Cracking the code of change. *Harvard Business Review, 78*(3), 133-141.

Bertels, S. (2010). Embedding sustainability in organizational culture: A how-to guide for executives. Retrieved April 3, 2012 from http://nbs.net/wp-content/uploads/Executive-Report-Sustainability-and-Corporate-Culture.pdf.

Blooberg Business (2012). Toyota Prius sales exceeding 220,000 U.S. target. Retrieved December 2, 20014, from http://www.bloomberg.com/news/2012-05-08/toyota-says-prius-sales-exceeding-220-000-u-s-target.html.

Boyatziz, R. E., Smith, M. L., & Blaize, N. (2006). Developing sustainable leaders through coaching and compassion. *Academy of Management Learning & Education*, *5*(1), 8–24.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York: The Guilford Press.

Breiting, S., & Wickenberg, P. (2010). The progressive development of environmental education in Sweden and Denmark. *Environmental Education Research 16*(1), 9–37.

Bruce-Amartey, E., Amissah, E. R. K., & Safo-Ankama, K. (2014). The decline of Ghana's textile industry: Its effects on textile education in Ghana, *Journal of Arts and Design Studies,22,* 36-44.

Burnett, J. L., & Williams, L. J. (2005). Structural equation modeling (SEM): An introduction to basic techniques and advanced issues. In R. A. Swanson & E. F. Holton (Eds.), *Research in organizations: Foundations and methods of inquiry* (pp. 97-114). San Francisco: Berrett-Koehler.

Butz, C. E., & Lewis, P. V. (1996). Correlation of gender-related values of independence and relationship and leadership orientation. *Journal of Business Ethics, 15*(11), 1141- 1149.

Carrier, S. J. (2009). Environmental education in the schoolyard: Learning styles and gender. *The Journal of Environmental Education, 40*(3), 2-12.

Carter, R. L. (2006). Solutions for missing data in structural equation modeling. *Research and Practice in Assessment, 1*(1), 1-6.

Charmaz, K. (1995). Between positivism and postmodernism: Implications for methods. *Studies in Symbolic Interaction, 17,* 43-72.

Cohen, B. (2006). Urbanization in developing countries: Current trends, future projections, and key challenges for sustainability. *Technology in Society, 28,* 63-80.

Couper, M. P., Blair, J., & Triplett, T. (1999). A comparison of mail and e-mail for a survey of employees in federal statistical agencies. *Journal of Official Statistics*, *15*, 39-56.

Colby, M. E. (1991). Environmental management in development: The evolution of paradigms. *Ecological* Economics, *3*, 193-213.

Cummings, T. G., & Worley, C. G. (2005). Organization development. Mason, OH: Thomson South-Western.

Curtis, J. E., Grabb, E., & Baer, D. (1992). Voluntary association membership in fifteen countries: A comparative analysis. *American Sociological Review, 57*, 139–152.

Daft, R. L. (2002). *The leadership experience.* Orlando: Harcourt College Publishers

Daily, B. F., Bishop, J. W., & Steiner, R. (2007). The mediating role of EMS teamwork as it pertains to HR factors and perceived environmental performance. *Journal of Applied Business Research, 23*(1), 95-110.

Davies, B. (2007). Developing sustainable leadership. *Management in Education, 21*(3), 4-9.

Davies, B.J., & Davies, B. (2004) 'The nature of strategic leadership', *School Leadership and Management, 4*(1), 29–38.

De Chano LM (2006). A multi-country examination of the relationship between environmental knowledge and attitudes. *International Research in Geographical Environmental Education. 15*(1), 15-28.

De Groot, J. I M., Steg, L. (2008). Value orientations to explain beliefs related to environmental significant behaviors: How to measure egoistic, altruistic, and biospheric value orientations. *Environment and Behaviors, 40*(3), 330-354.

Digby, C. L. B. (2012). The influences of socio-demographic factors, and non-formal and informal learning participation on adult environmental behaviors. *International Electronic Journal of Environmental Education, 3*(1), 37-55

Dillman, D. A. (2007). *Mail and Internet surveys: The tailored design method* (2nd ed.). NY: Wiley.

D'Mello, S., Ones, D. S., & Dilchert, S. (2011, April). The Relationship Between Education Level, Income, and Environmentalism: A meta-analysis. In S. Dilchert (Chair), *Focusing on Employees to Achieve Environmentally Sustainable Organizations*. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Chicago

Donner, G., & Wheeler, M. (2005). Career coaching. *Canadian Nurse, 101*(1), 18–19.

DuBois, C. L. (2012). EcoVision at Sherwin-Williams: Leadership at all levels. In S. E. Jackson, D. S. Ones, and S. Dilchert(Eds.):Managing HR for Environmental Sustainability. Jossey-Bass/Wiley.

Dunlap, R. E., & Van Liere, K. D. (1978). The new environmental paradigm: A proposed measuring instrument and preliminary results. *The Journal of Environmental Education, 9*(4), 10–19.

Dunlap, R. E.,Van Liere, K. D., Mertig, A. G., & Jones, R.E. (2000). Measuring endorsement of New ecological Paradigm: A revised NEP scale. *Journal of Social Issues, 56*(3), 425-442.

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy and Environment, 11,* 130-141.

Elkington, J. (1998). Partnerships from cannibals with forks: The triple bottom line of 21st-century business. Environmental Quality Management, 8(1), 37-51.

EPA (2002). State of environment report 2001. Environmental Protection Agency, Accra Ghana.

Fan Milk (2010) Fan Milk and the environment. Retrieved November 11, 2010 from http://www.fanmilk-gh.net/internet/index.php?CatId=100

Fein, E. C., Vasiliu, C., & Tziner, A. (2011). Individual values and preferred leadership behaviors: A study of Romanian managers**.** *Journal of Applied Social Psychology, 41*(3), 515–535.

Ferdig, M. A. (2007). Sustainability leadership: Co-creating a sustainable future. *Journal of Change Management*, *7*(25), 25-35.

Field, A. P. (2009). *Discovering statistics using SPSS.* SAGE Publications Ltd.

Florin, P., Jones, E., & Wandersman, A. (1986). Black participation involuntary associations. *Journal of Voluntary Action Research, 15* (1), 65-86.

Fraj-Andrés, E., & Martinez-Salinas, E. (2007). Impact of environmental knowledge on ecological consumer behaviors: An empirical analysis. *Journal of International Consumer Marketing, 19*(3), 73-102.

Frick, J., Kaiser, F. G., & Wilson, M. (2004). Environmental knowledge and conservation behaviors: Exploring prevalence and structure in a representative sample. *Personality & Individual Differences, 37*(8), 1597-1613.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction*. Boston, MA: Pearson Education Inc.

Gambro, J. S., & Switzky, J. N. (1996). A national survey of high school students' environmental knowledge. *The Journal of Environmental Education, 27*(3), 28–33.

Garavan, T. N., & McGuire, D. (2010). Human resource development and society: Human resource development's role in embedding corporate social responsibility, sustainability, and ethics in organizations. *Advances in Developing Human Resources, 12*(5), 487–507.

Glasby, G. (1995).Concept of sustainable development: A meaningful goal? *Science Total Environment,159,* 67–80.

Grojean, M., C. Resick, Dickson, M., & Smith, D. B. (2004). Leaders, values, and organizational climate: Examining leadership strategies for establishing an organizational climate regarding ethics. *Journal of Business Ethics 55*, 223–241.

EPA (2002). State of environment report 2001. Environmental Protection Agency, Accra Ghana

Fein, E., Vasiliu, C., & Tziner, A. (2011). Individual values and preferred leadership behaviors: A study of Romanian managers. *Journal of Applied Social Psychology, 41*(3), 515-535.

Ferdig, M. A. (2007). Sustainability leadership: Co-creating a sustainable future. *Journal of Change Management*, *7*(25), 25-35.

Fowler, F. J., Jr. (2001). *Survey research methods* (3rd ed.). Thousand Oaks, CA: Sage.

Fraj-Andres, E., & Martinez-Salinas, E. (2007). Impact of environmental knowledge on ecological consumer behaviors: An empirical analysis. *Journal of International Consumer Marketing, 19*(3), 73-102.

Frick, J., Kaiser, F. G., & Wilson, M. (2004). Environmental knowledge and conservation behaviors: Exploring prevalence and structure in a representative sample. *Personality & Individual Differences, 37*(8), 1597-1613.

Fryxell, G, E., & Lo, C. W. H. (2003). The influence of environmental knowledge and values on managerial behaviors on behalf of the environment: an empirical examination of managers in china. *Journal of Business Ethics, (46),* 45-69.

Gambro, J. S., & Switzky, H. N. (1999). Variables associated with American high school students' knowledge of environmental issues related to energy and pollution. *Journal of Environmental Education, 30*(2), 15–22.

Gardner, G. T., & Stern, P. C. (1996). *Environmental problems and human behaviors*. Boston: Allyn and Bacon.

Gatersleben, B., White, E., Abrahamse, W., Jackson, T., & Uzzell. D. (2011), Values and sustainable lifestyles. *Architectural Science Review, 53*(1), 37-50.

Gbedemah, F. S. (2004). Environmental management system (ISO 14001) certification in manufacturing companies in Ghana: Prospects and challenges. Unpublished Thesis, Lund University, Sweden.

George, J. M. (2000). Emotions and leadership: The role of emotional intelligence Human Relations, *53*, 1027–1055.

Glasby, G.P. (1995). 'Concept of sustainable development: A meaningful goal?' *Science Total Environment,159*, 67–80.

Granzin, K. l., & Olsen, J.E. (1991). Characterizing participants in activities protecting the environment: A focus on donating, recycling, and conservation behaviors. *Journal of Public Policy and Marketing, 10*(2), 1-27.

Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research, 26*(3), 499-510.

Grojean, M. W., Resick, C. J., Dicson, M. W., & Smith, D. B. (2004). Leaders, values, and organizational climate: Examining leadership strategies for establishing an organizational climate regarding ethics. *Journal of Business Ethics, 55*, (3), 223-241.

Hall, D. T., Otazo, K. L., & Hollenbeck, G.F. (1999). Behind closed doors: What really happens in executive coaching. *Organizational Dynamics*, *27*(3), 39-52.

Hargreaves, A., & Fink, D. (2003). Sustaining leadership. *The Phi Delta Kappan, 84*(9), 693- 700.

Hargreaves, A., & Fink, D. (2006). *Sustainability leadership*. San Francisco, CA: Jossey-Bass.

Heimer, C., & Vince, R. (1998). Sustainable learning and change in international virtual teams: From imperceptible behaviors to rigorous practice. *Leadership and Organization Development Journal, 19*(2), 83-88.

Herbst, S.A., & Houmanfar, R. (2009). Psychological approaches to values in organizations and organizational behaviors management. *Journal of Organizational Management*, *29*, 47-68.

Hill, L., Ones, D. S., Dilchert, S., Wiernik, B. M., Klein, R. M., & D'Mello, S. (2011, April). Employee green behaviors in Europe: A cross-cultural taxonomic investigation. In S. Dilchert (Chair), *Focusing on employees to achieve environmentally sustainable organizations*. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, Illinois.

Hines, J., Hungerford, H., & Tomera, A. (1986-1987). Analysis and synthesis of research on responsible environmental behaviors: A meta-analysis. *Journal of Environmental Education, 18,* 1-8.

Ho, R. (2006). *Handbook of univariate and multivariate data analysis and interpretation with SPSS*. Boca Raton, FL: Taylor & Francis Group.

Hofstede, G. (1983).The cultural relativity of organizational practices and theories. *Journal of International Business Studies, 14*(2), 75-89.

Hofstede, G. (1994). *Cultures and Organizations*. HarperCollins, London.

Holting, E. F. III. (1999). Performance domain and their boundaries. In R. J. Torraco (Ed.), Performance improvement: Theory and practice (pp. 26-46). Advances in Developing Human Resources. 1. San Francisco: Berrett- Koehler.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Leadership, Culture, and Organizations*: The GLOBE Study of 62 Societies. Sage Publications.

Jex, S. M., & Britt, T. W. (2008). *Organizational Psychology: A Scientist-Practitioner Approach*. New York: John Wiley & Sons.

Karp, D. G. (1996). Values and their effect on pro-environmental behaviors. *Environment And Behaviors*, *28*(1), 111-133.

Khandelwal, K. A., & Mohendra, N. (2010). Espoused organizational values, vision, and corporate social responsibility: Does it matter to organizational members? *The Journal of Decision Makers, 35*(3), 19-35.

Kilbourne, W. E. (2004). Globalization and development: An expanded macromarketing view, *Journal of Macromarketing, 24*(2), 122-135.

Kim, J. O., & Curry, J. (1977). The treatment of missing data in multivariate analysis. *Sociological Methods & Research, 6*(2), 215-240.

Klein, R. M., Ones, D. S., Dilchert, S., & Biga, A. (2011, April). *A meta-analysis of gender differences in green workplace behaviors.* Poster session presented at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, Illinois.

Klein, R. M., D'Mello, S., & Wiernik, B. M. (2012). Demographic characteristics and employee sustainability. In S. E. Jackson, D. S. Ones, and S. Dilchert(Eds.): *Managing HR for Environmental Sustainability*. Jossey-Bass/Wiley.

Krueger, R. (2007). Survival guide: Evaluation in human resource development. Unpublished manuscript, University of Minnesota.

Kwak, N., & Radler, B. (2002). A comparison between mail and web surveys: Response pattern, response profile, and data quality. *Journal of Official Statistics, 18*(2), 257- 273.

Labuschagne, C., Brent, A. C., & Van Erck, R. P. G. (2005). Assessing the sustainability performances of industries. *Journal of Cleaner Production, 13*(4), 373-385.

Laroche, M., Bergero, J., & Barbarot-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Market*, *18,* 503-520.

Laroche, M., Tomiuk, M., Bergeron, J., & Barbaro-Forleo., G. (2002). Cultural differences in environmental knowledge, attitudes, and behaviors of Canadian consumers. *Canadian Journal of Administrative Science, 19*(3), 267-283.

Lee, Y. K., Choi, J. G., Kim, M. S., Ahn, Y. G., & Katz-Gerro, T. (2012). Explaining pro-environmental behaviors with environmentally relevant variables: A survey in Korea. *African Journal of Business Management, 6*(29), 8677-8690.

Leiserowitz, A. A., Kates, R. W., & Parris, T. M. (2006). Sustainability values, attitudes, and behaviors: A review of multinational and global trends. *Annual Review Environmental Resources, 31*, 413-444.

Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43-53.

Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error in journal of extension research in brief articles. *Journal of Extension* [on-line]. 40(6). Available at: http://www.joe.org/joe/2002december/rb1.php

Lipman-Blumen, J. (1996). *Connective leadership: Managing in a changing world*. Oxford, England: Oxford University Press.

Lussier, R. N., & Achua, C. F. (2007). *Leadership: Theory, Application, Skill Development*. Ohio: South-Western College.

Marcus, A., & Fremeth, A. (2009). Green management matters regardless. *Academy of Management Perspectives, 23*(3), 17-26.

Marcus, A., Grifen, D., & Sexton, K. (2002). *Reinventing environmental regulations*. Washington, DC: Resources for the Future.

Marquardt, M., & Berger, N. O. (2003). The future: Globalization and new roles for HRD. *Advances in Developing Human Resources, 15*(3), 283-295.

Mebratu, D. (1998). Sustainability and sustainable development: Historical and conceptual review. *Environment Impact Assessment Review, 18*(6), 493-520.

Mensah, I. (2013). Different shades of green: Environmental management in hotels in Accra. International Journal of Tourism Research, http://onlinelibrary.wiley.com/doi/10.1002/jtr.1939/pdf

Mensah, I., & Blankson, E. J. (2013). Determinants of hotels' environmental performance: Evidence from the hotel industry in Accra, Ghana. *Journal of Sustainable Tourism, 21*(8), 1212–1231.

Mobley, C., Vagias, W. M., & DeWard, S. L. (2010). Exploring additional determinants of environmentally responsible behaviors: The influence of environmental literature and environmental attitudes. *Environment and Behaviors. 42*(4), 420-447.

Monette, D.R., Sullivan, T. J., & DeJong, C. R. (2002). *Applied Social Research.* Orlando, FL: Harcourt Press.

Monroe, M. C. (2003). Two avenues for encouraging conservation behaviors. *Human Ecology Review, 10*, 113-125.

Mostafa, M. M. (2007). A hierarchical analysis of the green consciousness of the Egyptian consumer. *Psychology & Marketing*, *24*(5), 445–473.

Murphy, T. P., & Olson, A. (2008). *The third Minnesota report card on environmental literacy: A survey of adult environmental knowledge, attitudes and behaviors.* St. Paul, MN: Minnesota Pollution Control Agency. http://www.seek.state.mn.us/eemn_b.cfm.

National Academies of the G8+5. (2009). *Joint statement on climate change and the transformation of energy technologies for a low carbon future*. Retrieved March 23, 2011 from http://www.nationalacademies.org/includes/G8+5energy-climate09.pdf

Ng, T. W. H., & Fieldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology, 93*, 392-423.

Ng, T. W. H., & Fieldman, D. C. (2009). How broadly does education contributes to job performance? *Personnel Psychology,* 62, 89-134.

Nieto, C. C. (1997). Toward a holistic approach to the ideal of sustainability. *Philosophy and Technology, 2*(2), 41-48.

Ofori, D. F., & Hinson, R. E. (2007). Corporate social responsibility (CSR) perspectives of leading firms in Ghana. *Corporate Governance,* 7(2), 178-193.

O‟Driscoll, M. P., Pierce, J. L., & Coghlan, A. (2006). The psychology of ownership: Work environment structure, organizational commitment, and citizenship behaviors. *Group and Organization Management, 31*(3), 388-416.

Ogbonna, E., & Harris, L. C. (2000) Leadership style, organizational culture and performance: Emperical evidence from UK companies. *International Journal of Human Resource Management, 11*(4), 766-788.

Ones, D. S., & Dilchert, S. (2009, August). Green behaviors of workers: A taxonomy for the green economy. In S. Dilchert & D. S. Ones (Chairs), *Environmentally friendly worker behaviors, senior leader wrongdoing, and national level outcomes*. Symposium conducted at the annual meeting of the Academy of Management, Chicago, Illinois.

Ones, D., & Dilchert, S. (2012). Employee green behaviors. In S. E. Jackson, D. S. Ones, & S. Dilchert (Eds.): *Managing HR for Environmental Sustainability*. Jossey-Bass/Wiley.

Ones, D., Dilchert, S., Biga, A., & Gibby, R. E. (2010). Managerial differences in eco-friendly employee behaviors. In S. Dilchert (Chair), Organizational and group differences in environmentally responsible employee behaviors. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Atlanta, Georgia.

Oppel, W. (2007). The global leadership challenge. *Regent Global Business Review*, *1*(1), 6-9.

Paul, K. B., & Nilan, K. J. (2012). Environmental sustainability and employee engagement at 3M. In S. E. Jackson, D. S. Ones, & S. Dilchert (Eds.): *Managing HR for Environmental Sustainability*. Jossey-Bass/Wiley.

Paulhus, D. L., & S. Vazire. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.). Handbook of research methods in personality psychology. New York: The Guilford Press.

Pfeffer, J. (2010). Building sustainable organizations: The human factor. *Academy of Management, 24*(1), 34-45.

Poortinga, W., Steg, L., & Vlek, C. (2004). Values, environmental concern, and environmental behaviors: A study into household energy use. *Environment and Behaviors, 36,* 70- 93.

Porter, M., & Claas, L. (1995). Toward a new conception of the environment-competitiveness relationship. *Journal of Economic Perspectives 9*(4), 97-118.

Quartey, P. (2006). The textiles and clothing industry in Ghana. In: H. Jauch & R. Traub-Merz (Eds.), *The future of the textile and clothing industry in Sub-Saharan Africa* (pp. 135-146). Bub Bonner Universitats-Buckdruckerei, Germany.

Quartey, P., & Abor, J. (2011). Do Ghanaians prefer imported textiles to locally manufactured Ones? *Modern Economy, 2*, 54-61.

Ramsey, J., Hungerford, H., & Volk, T. (1992). Environmental education in the K-12 curriculum: Finding a niche. *The Journal of Environmental Education, 23* (2), 35-45.

Ready, D. A., & Conger J. A. (2003). Why leadership-development efforts fail. *MIT Sloan Management Review. 44*(3). 83-88.

Rioux, L. (2011). Promoting pro-environmental behaviors: Collection of used batteries by secondary school pupils, *Environmental Education Research, 17*(3), 353–373.

Robey, D., & Rodriguez-Diaz, A. (1989). The organizational and cultural context of systems implementation: Case experience from Latin America. *Information and Management, 17*, 229–239.

Rokeach, M. (1973). *The nature of human values*. New York: Free Press.

Russell, R. F. (2011). The role of values in servant leadership. *Leadership and Organization Development Journal 22*(2), 76-83.

Saeed, B. B., & Wang, W. (2014). Sustainability embedded organizational diagnostic model. *Modern Economy, 5*(4), 424- 431.

Santiago-Brown, I., Jerram, C., Metcalfe, A., & Collins, C. (2014). What does sustainability mean? Knowledge gleaned from applying mixed method research to wine grape growing. *Journal of Mixed Method Research,* 1-20.

Schahn, J., & Holzer, E. (1990). Studies of individuals environmental concern: The role of knowledge, gender and background variables. *Environment and Behaviors, 22*(6), 767-786.

Schein, E. (1992). Organizational culture and leadership. San Francisco: Jossey Bass.

Schminke, M., Ambrose,M. L., & Neubaum, D. O. (2005). The effect of leader moral development on ethical climate and employee attitudes. *Organizational Behaviors and Human Decision Processes, 97*, 135–151.

Schrbaum, C. A., Popovich, P. M., & Finlinson, S. (2008). Exploring individual-level factors related to employee energy-conservation behaviors at work. *Journal of Applied Social Psychology, 38*(3), 818–835.

Schultz, P. W., & Zelezny, L. C. (1998). Values and proenvironmental behaviors: A five-country survey. *Journal of Cross-Cultural Psychology, 29*, 540-558.

Schwartz, S. H. (1977). Normative influences of altruism, In Berkowitz (ed), Advances in Experimental Social Psychology, Vol. 10(Academic Press, NYC), pp. 221-279.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1-65). Orlando, FL: Academic Press.

Singleton, R. A., & Straits, B. C. (1999). *Approaches to social research.* NY: Oxford University Press.

Soeftestad, L. (1996). Ghana Sector Work On Integrated Coastal Zone Management. May 1996 Stakeholder Workshop Process-Process Documentation. World Bank: Washington.

Sogunro, O. A. (1998). Leadership effectiveness and personality characteristics of group members. *Journal of Leadership Studies, 5*(3), 26.

Song, J. H., Kim, H. M., & Kolb, J. A. (2009). The effect of learning organization culture on the relationship between interpersonal trust and organizational commitment. *Human Resource Development Quarterly, 20*(2), 147-167.

Sustainable Leadership Institute (2007). What is sustainable leadership? Retrieved November 14, 2007, from http://www.sustainabilityleaders.org/leadership.

Shrivastava, P. (1995). The role of corporations in achieving ecological sustainability. *Academy of Management Review, 20*(4), 936-960.

Sneddon, C., Howarth, R.B., Norgaard, R.B ., 2006. Sustainable development in a post-Brundtland world. *Ecological Economics 57*, 253–268.

Steg, L., Dreijerink, L., & Abrahamse, W. (2005). Factors influencing the acceptability of energy policies: A test of VBN theory. *Journal of Environmental Psychology 25,* 415–425.

Stern, P. C. (2000). Toward a coherent theory of environmentally significant behaviors. *Journal of Social Issues, 56*(3), 407–424.

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmental concern. *Human Ecology Review, 6*, 81–97.

Steurer, R., Langer, M. E., Konrad, A., & Martinuzzi, A. (2005). Corporation stakeholders and sustainable development I: A theoretical exploration of business society relations. *Journal of Business Ethics*, *61,* 263-281.

Stevens, J. (1999). *Intermediate statistics: A modern approach.* Lawrence Erlbaum.

Sudarmadi, S., Suzuki, S., Kawada, T., Netti, H., Soemantri, S., & Tugaswati, A. (2001). A survey of perception, knowledge, awareness, and attitude in regard to environmental problems in a sample of two different social groups in Jakarta, Indonesia. *Environment, Development and Sustainability, 3*(2), 169-183.

Sustainable Leadership Institute (2007). What is sustainable leadership? Retrieved November 14, 2007, from http://www.sustainabilityleaders.org/leadership

Swanson, R. A. (1995). Human Resource Development: Performance is key. *Human Resource Development Quarterly, 6*(2), 207- 213.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55.

Thach, L., & Heinselman, T. (1999). Executive coaching defined. *Training and Development, 35*(3), 34 -39.

The Hofstede Center (2014). Cultural tools: Country comparison. Retrieved December 20, 2014, from http://geert-hofstede.com/ghana.html.

Thomas, D. C., & Inkson, K. (2004). *Cultural intelligence: People skills for global business*. San Francisco: Berrett-Koehler.

Tongco, M. D. C. (2007). Purposive sampling as a tool for informant selection. *Ethnobotany Research and Applications 5*, 147–158.

Van Velsor, E., & Quinn, L. (2012). Leadership and environmental sustainability. In S. E. Jackson, D. S. Ones, and S. Dilchert (Eds.): *Managing HR for Environmental Sustainability*. Jossey-Bass/Wiley.

Vining, J., & Ebreo, A. (1990). What makes a recycler? A comparison of recyclers and nonrecyclers. *Environment and Behaviour, 22*(1), 55-73.

Vitell, S., Nwachukwu, S., & Barnes, J. (1993). The effects of culture on ethical decision-making: An application of Hofstede's typology. *Journal of Business Ethics, 12*, 753–760.

Vlek, C., & Steg, L. (2007) Human behaviors and environmental sustainability: Problems, driving forces, and research topics. *Journal of Social Issues, 63*(1), 19.

Waddock, S. (2008). Building a new institutional infrastructure for corporate responsibility. *Academy of Management Perspectives, 22*(3), 87-108.

Warmbrod, J. R. (2001, December). *Conducting, interpreting, and reporting quantitative research.* Research pre-session at annual meeting of American Association of Agricultural Education, New Orleans, LA.

Weaver, A. A. (2002). Determinants of environmental attitudes: A five county comparison. *International Journal of Sociology, 32*, 77-108.

Wellman, G. (2008). The definition of leadership. *South Dakota Journal of Medicine*, 167-167. Retrieved April 3, 2012 from http://www.sdsma.org/documents/Alliance.pdf.

Wiernik, B. M., Ones, D. S., & Dilchert, S. (2011, October).*Too old to go green? A meta -analysis of the relationship between age and sustainability*. Poster presented at the University of Minnesota Student Symposium on Sustainability, Minneapolis, Minnesota.

Willard, B. (2002). The sustainability advantage: Seven business case benefits of a triple bottom line. Gabriola Island, BC: New Society Publishers.

World Bank (2002). *Global development finance*. Washington DC: World Bank. Retrieved November 1, 2010 from http://siteresources.worldbank.org/GDFINT/Resources/334952-1257197834412/FullText-Volume1.pdf

Worldwatch Institute (Eds.). (2006). State of the World 2006: Special focus: China and India. New York: Norton & Co.

World Commission on Environment and Development (WCED) (1987). Our Common Future (The Brundtland Report) Oxford: Oxford University Press.

Yang, B. (2005). Factor analysis methods. In R. A. Swanson & E. F. Holton (Eds.). *Research in organizations: Foundations and methods of inquiry* (pp. 97-114). San Francisco: Berrett-Koehler.

Yin, R. K. (2009). *Case study research: Design and methods*. (4nd ed.). Thousand Oaks, CA: Sage.

Yukl, G. (2008). How leaders influence organizational effectiveness. *Leadership Quarterly*, *19*, 708-722.

Zahra, S.A. (2003). International expansion of U.S. manufacturing family businesses: The effect of ownership and involvement. *Journal of Business Venturing, 18*(4), 495-512.

Zelezny, L. C., Chua, P., & Aldrich, C. 2000. New ways of thinking about environmentalism: Elaborating on Gender Differences in Environmentalism. *Journal of Social Issues 56*(3): 443-457.

APPENDICES

APPENDIX A

Letter to Human Resource Officer

April 3, 2013
<< Title>> First_Name>> <<Last_Name>>
<< Company Name>>
<<P.O.Box >>
<<City>>
<<Country>>

Dear Sir/Madam,
It is recognized that the textile manufacturing industry has been instrumental in playing a significant role in the development of Ghana. However, much less is known about the ESB of employees in this industry. I am interested in learning more about this topic and I invite you to assist me in this effort. As a result of your assistance, I will share the key findings with you and your organization. I grew up and lived in Ghana for over thirty years, hence my interest in ESB of employees in the textile industry in the country.

My plan is to have a contact person who will assist me in this data collection process. The questionnaires that will be distributed by the contact person ask for honest opinion of employees in your organization. My contact person will meet interested individuals at the close of work to explain the study and seek their participation in the study. Completion of the questionnaires, will take approximately 15 minutes. My participation goal is 480 employees in three textile manufacturing industries. Therefore, your participation in this study is very important as your employees as well as your organization represent the textile industry. I thank you in advance for making it possible for my contact person to collect this information for my study. I would also appreciate it if this meeting could be held by **April 30th, 2013**, so I can receive the answers early May 2013. If you have any questions about the research project, you may contact Felix Amenumey at (651) 398-1258 or amen0027@umn.edu

In accordance with Institutional Review Board (IRB) requirements, employees' participation in this study is strictly voluntary, and that any information they provide will remain confidential. There are no risks by participating in this study, and the benefits to participation will be a greater awareness of topics related to ESB. The code number listed on the front cover of the questionnaire will only be used to conduct a follow up mailing with non-respondents. Completing and returning the enclosed questionnaire will suffice as their agreement to participate in this study. For additional information regarding human participation in research, participants are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

I will be calling to determine your interest and participation in this study.

Thank you for your time and assistance in this study.

Sincerely,

Felix Amenumey
Ph. D. Student
University of Minnesota
USA

APPENDIX B

Consent Information Sheet

CONSENT INFORMATION SHEET

You are invited to participate in a research study that seeks to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. You were selected as a possible participant because you are currently a textile manufacturing industry employee. Please read this form and ask any questions you may have before agreeing to participate in the study. This study is being conducted by Felix Amenumey, a Ph. D. student at the University of Minnesota. Felix grew up and lived in Ghana for over thirty years.

Background Information: The intent of the study is to recommend possible effective actions for sustainability behaviors in organizations. The results of this study will assist textile manufacturing companies in Ghana to have greater awareness of topics related to ESB. Your honest answers to this questionnaire will be valuable to success of this study.

Procedures: If you agree to participate in this study, you will be required to complete a questionnaire that reflects your opinion about sustainability behaviors.

Risks and Benefits: You will not experience any risks or benefits by participating in this study.

Confidentiality: Any information you provide will remain confidentiality. Research records will be stored securely in the office of Felix Amenumey and the records will be kept private. Any paper or article that is published as a result of this study will not include any information that will make it possible to identify an individual participant.

Voluntary Nature of the Study: Your participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with your organization. If you decide to participate in the study, you may refuse to answer any question or choose to withdraw from the study at any time without affecting those relationships.

Contacts and Questions: You may ask the researcher, Felix Amenumey, any question regarding this study at any time. He may be contacted at 1247 Ray place, amen0027@umn.edu, or 651-646-8013.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Research Subjects' Advocate Line at D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455, or 612-625-1650.

APPENDIX C

Environmental Sustainability Values, Knowledge, and Behaviors Instrument

Environmental Sustainability Values and Behaviors Instrument

Section A
Section A provides questions about general values.

Below, thirteen values are described. The explanation of each value is given in the parentheses following each value. Please indicate by **circling a number**, how important each value is for you **AS A GUIDING PRINCIPLE IN YOUR LIFE.**
Use the rating scale below:
0 means the value is not at all important, it is not relevant as a guiding principle for you.
3 means the value is important.
6 means the value is very important.
-1 is for rating any values **opposed** to the principles that guide you.
7 is for rating a value of supreme importance as a guiding principle in your life; **ordinarily there are no more than two such values.**

The higher the number (0, 1, 2, 3, 4, 5, 6), the more important the value is as a guiding principle in YOUR life. Try to distinguish as much as possible between the values by using **different numbers**.

-1	0	1	2	3	4	5	6	7
opposed to my values	*not important*			*important*			*very important*	*of supreme importance*

1.EQUALITY (equal opportunity for all citizens)	-1	0	1	2	3	4	5	6	7
2.RESPECTING THE EARTH (harmony with other species such as plants and animals)	-1	0	1	2	3	4	5	6	7
3. SOCIAL POWER (control over others, dominance)	-1	0	1	2	3	4	5	6	7
4. UNITY WITH NATURE (fitting into nature)	-1	0	1	2	3	4	5	6	7
5. A WORLD AT PEACE (free of war and conflict)	-1	0	1	2	3	4	5	6	7
6. WEALTH (material possessions, money)	-1	0	1	2	3	4	5	6	7
7. AUTHORITY (the right to lead or command)	-1	0	1	2	3	4	5	6	7
8. SOCIAL JUSTICE (correcting injustice, care for the weak)	-1	0	1	2	3	4	5	6	7
9. PROTECTING THE ENVIRONMENT (preserving nature)	-1	0	1	2	3	4	5	6	7
10. INFLUENTIAL (having an impact on people and events)	-1	0	1	2	3	4	5	6	7
11. HELPFUL (working for the welfare of others)	-1	0	1	2	3	4	5	6	7
12. PREVENTING POLLUTION (protecting natural resources)	-1	0	1	2	3	4	5	6	7
13. AMBITIOUS (hard-working, aspiring)	-1	0	1	2	3	4	5	6	7

Section B
Section B provides questions about environmental behaviors.
The questions bellow asks about your environmental behaviors. Please answer each question as accurate as you can by checking the corresponding circle.

This section contains a number of statements about your work life. Please indicate how often you have engaged in the following behaviors on the job in the last year:

1. Monitored how your own behaviors impacted the environment.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

2. Stopped an environmental policy or program
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

3. Developed plans and schedules for the implementation of new, environmentally sustainable ideas.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

4. Behaved in an environmentally responsible way even when it is inconvenient.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

5. Came up with new environmentally responsible ideas.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

6. Educated or trained others on how to be environmentally friendly at work.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

7. Switched products I used for environmental reasons.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

8. Persuaded others to use environmentally responsible products.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

9. Checked whether things that I do could cause any environmental harm.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

10. Used resources frugally.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

11. Supported someone else's environmental efforts.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

12. Tried to change how I work to make sure it is more eco-friendly.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

13. Collected and recycled paper, glass, or cans.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

14. Disposed of waste properly.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

15. Reused something instead of throwing it away.
- ❍ never
- ❍ rarely
- ❍ sometimes
- ❍ most of the time
- ❍ always

Section C

Environmental Knowledge Scale

For the following questions, one answer is correct. Please indicate the correct answer by circling the corresponding number.

Q1. What is the most common cause of pollution of streams, rivers and oceans?
1. Sewage from treatment plants,
2. Surface water running off yards, city streets, paved lots, household compounds, and farm fields.
3. Oil from boats, or
4. Waste from factories

Q2. What is the primary source of air pollution in the Accra-Tema area over the past few years?
1. Power plants,
2. The exhaust of motor vehicles,
3. Industrial boilers
4. Bush fire

Q3. Mercury from air pollution is a health concern in lakes because it settles out of the air into water. What is the largest source of mercury in Ghana's air?
1. Illegal small scale miners
2. Exhaust from motor vehicles,
3. Obsolete electronic equipments
4. Electric bulbs

Q4. Global warming is defined as "an increase in the Earth's temperature caused by human activities….which release…greenhouse gases into the atmosphere." Which of the following is a common greenhouse gas?
1. Sulfur dioxide
2. Carbon dioxide
3. Nitrogen or
4. Hydrogen

Q5. All of the activities listed here are contributors of human-caused greenhouse gases in Ghana. Which of the following is the LARGEST contributor to greenhouse gas emissions in Ghana?
1. Agricultural operations
2. Leakage from refrigeration systems
3. Burning fossil fuels (OIL, GASOLINE, DIESEL AND NATURAL GAS), or
4. Gases released from refuse dump sites

Q6. What is the MOST common reason that an animal species becomes extinct?
1. Pesticides are killing them
2. Their habitats are being destroyed by humans (deforestation, bush fires, etc.)
3. There is too much hunting, or
4. There are climate changes that affect them

Q7. What is one of the MAIN benefits of wetlands?
1. Help to control global climate change
2. Help filter and store water before it enters lakes, streams, rivers or oceans
3. Prevent the spread of undesirable plants and animals, or
4. Flood control

Q8. Where does MOST of the garbage in Ghana go?
1. Landfills/Refuse dump sites
2. Waste to energy incinerators
3. Burn barrels
4. Recycling centers, or
5. Compost facilities

Q9. The next few questions are about energy. If you do not know the answer, you can just state that you don't know. Thinking about Ghana, which of the following uses the most energy in people's homes?
1. Lighting rooms
2. Air conditioning
3. Electronic gadgets,
4. Heating water, or
5. Refrigerating food

Q10. In the past ten years, the fuel efficiency of vehicles in Ghana has…
1. Increased
2. Remained the same
3. Decreased
4. Not been tracked

Q11. Which of the following do you think energy experts say is the fastest and most cost-effective way to address our overall energy needs?
1. Develop all possible domestic sources of oil and gas
2. Build more thermal plants
3. Build more hydroelectric power plants, or
4. Become more energy efficient?

Q12. Thinking about Ghana, how is MOST of the electricity used in Ghana generated?
1. With thermal power
2. With solar power
3. With wind energy, or
4. With hydro power

Section D

Demographic Information

Please answer Are you? the following questions about yourself.

a) Male ☐

b) Female ☐

1. Please indicate your age:

20-25 ☐ 26-30 ☐
31-35 ☐ 36-40 ☐
41-45 ☐ 46-50 ☐
51-55 ☐ 56-60 ☐
61+ ☐

2. What is your level of education? (**Please check one**)

a) Secondary school diploma ☐
b) Certificate ☐
c) University diploma ☐
d) University degree ☐
e) Master's degree ☐
f) Doctoral degree ☐

3. How long have you been employed in this organization?

a) Less than one year ☐
b) 1 year ☐
c) 2 to 5 years ☐
d) 6 to 10 years ☐
e) 11 to 15 years ☐
f) 16 to 20 years ☐
g) Over 20 years ☐

5. What is your job title? ……

6. What is your managerial level?

a) Top-executive ☐
b) Executive ☐
c) Mid-level ☐
d) Low-level ☐
e) Non management ☐

APPENDIX D

Expert Panel Letter

December 3, 2012

<<First Name>> <<Last Name>>
<<Address>>
<<City>> <State>> <<Zip>>

Dear <<Title>> << Last Name>>:

The purpose of this letter is to gain your assistance with my doctoral dissertation research. My name is Felix Amenumey and I am a Ph.D. student in the department of Organizational leadership, Policy, and Development at the University of Minnesota. My research is being conducted in the Human Resource Development program under the direction of Dr. Brad Greiman. I am currently engaged in a study that tries to gain an understanding of variables that impact ESB of employees in the Ghanaian textile industry. As a result of your knowledge and research on sustainability, I am asking you to serve on a panel of experts. Your role will be to review the enclosed questionnaire for face and content validity. I am providing a description of the scales to assist you in gaining a better understanding of the questionnaire; please see the other page of this letter. Comments and suggestions can be written on the questionnaire and returned in the envelope.

From a review of literature, it was determined that little research has been conducted on employee behaviors pertaining to environmental sustainability. I am also interested in how values and environmental knowledge could impact ESB among employees. Further, I wish to explore how demographics could influence the relationship between values and ESB. I am planning to use the questionnaire to gather data from approximately 480 employees within the textile industry in Ghana. My goal is to begin data collection in January 2013.

I would appreciate your time and help by reviewing the data collection instrument. If at all possible, please return the questionnaire in the enclosed, self-addressed, stamped envelope by **December 14**, 2012. If you have specific questions regarding the proposed study, please feel free to contact me by email at amen0027@umn.edu, or by telephone at 651-398-1258.

Thank you for your time and assistance in this study.

Sincerely,

Felix Amenumey
Ph.D. Candidate

APPENDIX E

Script

Variables that Impact ESB of Employees in the Textile Manufacturing Industry in Ghana
SCRIPT

Directions for contact people: Please read the following script at the employee meeting.

You are invited to participate in a research study that seeks to gain an understanding of variables that impact ESB of employees in the textile manufacturing industry in Ghana. You were selected as a possible participant because you are currently a textile manufacturing industry employee. Please read this consent form and ask any questions you may have before agreeing to participate in the study. This study is being conducted by Felix Amenumey, a Ph. D. student at the University of Minnesota. Felix grew up and lived in Ghana for over thirty years.

You are being given the Consent Information Form. Please read this form and then complete the questionnaire if you wish to participate.

APPENDIX F

Flier

Participants Needed

A Ph. D. student at the University of Minnesota, USA is looking for participants for a study that will gain an understanding of variables that impact environmental sustainability behaviors of employees in the textile manufacturing industry in Ghana.

This is absolutely voluntary and participants will have an opportunity to win A **$25** award.

If you are interested, please contact the human resource department for further information, or Felix Amenumey at amen0027@umn.edu. Felix grew up and lived in Ghana for over thirty years.

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APPENDIX G

IRB Approval

Project Number: 1210E23261
PI: Amenumey, Felix K
Title: Variables that impact ESB of employees in the textile manufacturing industry in Ghana

Protocol Type: (E) Exempt
Sub Type: General

Last Approval Date: 11/26/2012
Expiration Date:
Number of Subjects Approved: 480

Personnel:
Amenumey, Felix K (amen0027) Student PI
Greiman, Brad (bgreiman) Advisor