

5-2013

# Attaining Sustainable Behavior among Non-environmentally-motivated Individuals: A Formative Experiment

Brooklynn Wynveen

Clemson University, brooklynnj@yahoo.com

Follow this and additional works at: [https://tigerprints.clemson.edu/all\\_dissertations](https://tigerprints.clemson.edu/all_dissertations)



Part of the [Sustainability Commons](#)

---

## Recommended Citation

Wynveen, Brooklynn, "Attaining Sustainable Behavior among Non-environmentally-motivated Individuals: A Formative Experiment" (2013). *All Dissertations*. 1113.

[https://tigerprints.clemson.edu/all\\_dissertations/1113](https://tigerprints.clemson.edu/all_dissertations/1113)

This Dissertation is brought to you for free and open access by the Dissertations at TigerPrints. It has been accepted for inclusion in All Dissertations by an authorized administrator of TigerPrints. For more information, please contact [kokeefe@clemson.edu](mailto:kokeefe@clemson.edu).

ATTAINING SUSTAINABLE BEHAVIOR AMONG NON-ENVIRONMENTALLY-  
MOTIVATED INDIVIDUALS: A FORMATIVE EXPERIMENT

---

A Dissertation  
Presented to  
the Graduate School of  
Clemson University

---

In Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy  
Planning, Design, and the Built Environment

---

by  
Brooklynn Joy Wynveen  
May 2013

---

Accepted by:  
Dr. Cliff Ellis, Committee Chair  
Dr. Caitlin Dyckman  
Dr. David Reinking  
Dr. Susan Bratton

## ABSTRACT

Experts agree that overconsumption is a major problem in Western culture today, particularly in the United States. Thus, it is important to promote sustainable behavior among the general public. And yet, existing educational programming geared toward promoting such behavior changes remains appealing largely to environmentally-motivated audiences, as opposed to individuals with alternative (i.e., social and economic) motivations. In response to this discrepancy, I conducted a formative experiment with the goals of: 1) fostering participation among non-environmentally-motivated individuals in sustainable living educational programming; and 2) obtaining behavior change commitments, in the direction of more sustainable lifestyles, from those participants.

As part of the formative process, I conducted four sequential iterations of my chosen intervention. That intervention consisted not only of the presentation of an existing curriculum designed to promote sustainable living, but also of the process of organization selection, key informant involvement, participant recruitment, and program evaluation. In order to evaluate and improve levels of goal achievement within the study, I used multiple data sources, including: key informant interviews, survey questionnaires, and qualitative observations. Those data sources contained measures of numerous constructs, which were used to: provide a deep understanding of the context of the study; evaluate the outcomes of the project's four iterations; identify and overcome enhancing and inhibiting factors that may have affected goal achievement; and define the scope of the findings.

Across four iterations of the intervention, levels of goal achievement improved as adaptations were made to various aspects of the intervention (i.e., the processes of organization selection, key informant involvement, participant recruitment, and program evaluation). The outcomes obtained suggested the value, within the study context, of targeting and collaborating with faith-based and faith-affiliated organizations in the effort to promote sustainable behavior at the individual level. Recommendations for effectively working with such groups, as informed by my findings, include: acknowledging and overcoming existing perceptions of terminology such as *sustainability* and *sustainable living*; recognizing and appealing to existing values, priorities, and motivations among target audiences and participants; and utilizing personal influence, leadership involvement, and word of mouth promotion to secure participation at all stages of a given intervention.

## DEDICATION

I would like to dedicate this dissertation to my parents, Don and Mary Beth Anderson, who have believed in me for the past 34 years and supported me in every endeavor, with the greatest pride; and also to my grandmother, Dolores Winget, who has always told me that “if you can read, you can do anything.” This work is a testament to her strong belief in lifetime learning.

## ACKNOWLEDGMENTS

I would like to thank my committee chair, Dr. Ellis, and my committee members, Dr. Reinking, Dr. Dyckman, and Dr. Bratton, for their guidance and support throughout the course of this research. I especially want to thank Dr. Ellis for all of his time and assistance with the logistical aspects of my graduate experience, and Dr. Reinking for introducing me to the novel research approach that I used for this study, and that I hope to use in many of my future research efforts.

Thanks also to my friends and colleagues at the Southern Rural Sociological Association, the International Association for Society and Natural Resources, Mississippi State University, and Baylor University. I also want to extend my gratitude to the National Network of Sustainable Living Educators, for inspiring my research topic. This project also involved participation on the part of many members of the study community, and I want to thank them sincerely for their time and willingness to aid in the successful completion of this project.

Last but not least, I want to acknowledge my family for their patience and sacrifices in making this endeavor possible. So, to Chris, Tijge, Laredo, and E.J., I say thank you.

## TABLE OF CONTENTS

|  | Page |
|--|------|
| TITLE PAGE .....   | i    |
| ABSTRACT .....   | ii   |
| DEDICATION .....   | iii  |
| ACKNOWLEDGMENTS .....  | iv   |
| LIST OF TABLES .....   | vii  |
| CHAPTER  |      |
| I.    INTRODUCTION .....   | 1    |
| II.   LITERATURE REVIEW .....  | 8    |
| Common theoretical frameworks for explaining<br>environmental behavior ..... | 8    |
| Shortcomings of previous research .....                                      | 12   |
| Recommendations for behavior change .....                                    | 19   |
| Characteristics of a formative experiment .....                              | 21   |
| III.  METHODS .....  | 25   |
| Analytical approach .....  | 25   |
| Study community .....  | 27   |
| Phases of research .....   | 36   |
| Data sources .....   | 48   |
| Constructs and measures .....  | 52   |
| Counteracting threats to validity and reliability .....                      | 75   |
| IV.  ANALYSIS AND FINDINGS .....   | 80   |
| Case description of Iteration 1 .....  | 80   |
| Case description of Iteration 2 .....  | 111  |
| Case description of Iteration 3 .....  | 169  |

Table of Contents (Continued)

|   | Page |
|---|------|
| Case description of Iteration 4 .....                                   | 246  |
| Cross-case analysis .....   | 323  |
| V. DISCUSSION AND CONCLUSIONS .....                                     | 359  |
| Perceptions of sustainability and sustainable living .....              | 363  |
| Existing values, priorities, and motivations .....                      | 366  |
| Personal influence, word of mouth promotion, and<br>leadership .....    | 367  |
| Limitations .....   | 369  |
| Concluding comments .....   | 370  |
| APPENDICES .....  | 373  |
| A: Key informant interview guide .....                                  | 374  |
| B: Pre-workshop questionnaire.....                                      | 376  |
| C: Post-workshop questionnaire .....                                    | 383  |
| D: Combined questionnaire .....   | 386  |
| E: Workshop observation guide (Iterations 2 and 3).....                 | 387  |
| F: Workshop observation guide (Iteration 4) .....                       | 389  |
| G: Discussion guide .....   | 392  |
| H: Key informant recruitment e-mail for Iteration 1 .....               | 393  |
| I: Facebook event invitation for Iteration 1 .....                      | 394  |
| J: E-newsletter announcement for Iteration 1 .....                      | 395  |
| K: Print resources.....   | 396  |
| L: Key informant recruitment e-mail for Iteration 2 .....               | 397  |
| M: E-newsletter announcement (“save the date”) for<br>Iteration 2 ..... | 398  |
| N: E-mail invitation for Iteration 2 .....                              | 399  |
| O: Key informant recruitment e-mail for Iteration 3 .....               | 400  |
| P: E-newsletter announcement for Iteration 3 .....                      | 401  |
| Q: Bulletin announcement for Iteration 3 .....                          | 402  |
| R: Sustainability workshop flyer for Iteration 3 .....                  | 403  |
| S: Key informant recruitment e-mail for Iteration 4 .....               | 404  |
| T: Life Group leader recruitment e-mail for Iteration 4 .....           | 405  |
| U: Life Group member recruitment e-mail for Iteration 4.....            | 406  |
| REFERENCES .....  | 407  |



## LIST OF TABLES

| Table |   | Page |
|-------|---|------|
| 4.1   | Key informant descriptions for Iteration 1.....   | 82   |
| 4.2   | Key informant descriptions for Iteration 2.....   | 114  |
| 4.3   | Attitudinal characteristics for Iteration 2 participants .....                                | 155  |
| 4.4   | Pre/Post-workshop behavioral frequency for<br>Iteration 2 workshop participants.....          | 160  |
| 4.5   | Key informant descriptions for Iteration 3.....   | 172  |
| 4.6   | Attitudinal characteristics for Iteration 3 participants .....                                | 209  |
| 4.7   | Pre/Post-workshop behavioral frequency for<br>Iteration 3 workshop participants.....          | 218  |
| 4.8   | Iteration 3 participant pre-workshop behavioral<br>frequency comparison by workshop .....     | 220  |
| 4.9   | Iteration 3 participant post-workshop behavioral<br>expectation comparison by workshop.....   | 222  |
| 4.10  | Iteration 3 participant pre-workshop behavioral<br>frequency comparison by favor .....        | 224  |
| 4.11  | Iteration 3 participant post-workshop behavioral<br>expectation comparison by favor .....     | 226  |
| 4.12  | Key informant descriptions for Iteration 4.....   | 248  |
| 4.13  | Outcomes obtained across iterations.....  | 323  |
| 4.14  | Participant pre-workshop behavioral frequency<br>comparison between Iterations 1 & 2 .....    | 329  |
| 4.15  | Participant post-workshop behavioral expectation<br>comparison between Iterations 1 & 2 ..... | 331  |

## CHAPTER ONE

### INTRODUCTION

Over the past decades, America has transitioned from a focus on *consumption* (specifically, of such basic needs as food, shelter, and clothing) to a focus on *consumerism*, which involves the ratcheting up of consumption, extending into addictive, obsessive, and conspicuous consumption (Etzioni, 1998). In fact, contemporary society is *defined*, at least in part, by its increasing and unsustainable levels of consumption (Fien et al., 2008), which in turn result in various negative environmental impacts and externalities. Among these are: stresses and strains on natural sinks (Mebratu, 1998; Reisch, 2001); pressure on forest, soil, and water resources (Simon-Brown, 2004); and potential climate-change impacts, such as accelerating sea level rise, increased “frequency and severity of storms” (McKenzie-Mohr & Oskamp, 1995, p. 3), changing precipitation and agricultural patterns, drier climates, and threats to wildlife (McKenzie-Mohr & Oskamp, 1995). And yet, positive connotations have often been associated with the term consumerism—particularly within highly-developed, Western societies (Fien, Neil, & Bentley, 2008). In these nations, consumption is regularly viewed as a means to self-creation (Zavestoski, 2002).

Current rates of consumption reflect such attitudes and beliefs. U.S. consumption, for example, is the highest among all the nations on Earth (Simon-Brown, 2004). The home and commercial sectors alone, as of 2008, accounted for almost 20% of U.S. consumption (Oakley, Chen, & Nisi, 2008). Furthermore, McKenzie-Mohr and Oskamp (1995) noted that “North Americans lead the world in the amount of waste they produce”

(p. 5), even by comparison with other OECD (Organization for Economic Cooperation and Development) nations with similar standards of living. They further added that “the U.S. recycles a much lower proportion of its solid waste than do Japan and West European nations” (p. 6).

Because these levels of consumption have adverse impacts on both environmental and individual wellbeing (which are described in detail below), sustainability—that is, “meeting the needs of the present without compromising the ability of future generations to meet their own needs”(United Nations General Assembly, 1987)—has become an increasingly salient concern at scales ranging from local to global. At the local level, community leaders and planners make policy, land use, and infrastructural changes in keeping with new, and more sustainable, mission and vision statements for their particular communities. They will fall short of their aspirations, however, unless their communities are also comprised of individual citizens who are similarly devoted to living more sustainably on a daily basis. Daniels, Keller, and Lapping (1995) have asserted that “successful energy conservation requires leadership from the town government *and* cooperation among the public” (p. 277, emphasis added). McKenzie-Mohr (2000) referred to the process of changing individual behavior as “*central* to achieving a sustainable future” (p. 544, emphasis added).

Researchers (Brown & Kasser, 2005; Etzioni, 1998; McKenzie-Mohr, 2000) concur that individual behavior is an important component in achieving the transition to sustainable consumption that Fien et al. (2008) referred to as one of today’s central challenges. Individuals need to move away from a mentality of *hedonism*, which Iwata

(2001) defined as “*a pleasure-seeking tendency and orientation toward high consumption which discourages [environmentally-responsible behavior]*” (p. 184).

DeYoung (1993) added that “[n]ever before have so many behaviors needed to change in so short a time” (p. 485).

Sustainable consumption offers many benefits beyond the environmental. Individual wellbeing is also likely to improve as a result of sustainable consumption, with research findings pointing to “a mutually beneficial relation between personal and planetary well-being” (Brown & Kasser, 2005, p. 364). This is important because “convincing people to live in more ecologically sustainable ways will be challenging if people believe that their personal happiness will consequently suffer” (Brown & Kasser, 2005, p. 364). Among their findings, Brown and Kasser (2005) discovered a positive correlation between ecologically-responsible behavior and subjective wellbeing. The authors also reviewed other studies, which highlighted the intrinsic satisfaction that accompanies both environmental and prosocial behavior and the importance of nonmaterial sources in the achievement of happiness and life satisfaction. Etzioni’s (1998) findings were similar to those of Brown and Kasser. He found that: 1) greater income (beyond a subsistence level) did not predict individual happiness or contentment; 2) economic growth was not necessarily predictive of collective wellbeing at the national level; and 3) wellbeing was most significantly influenced by satisfaction in the realms of family life, friendships, work, and leisure. Zaveskoski (2002) also asserted, in keeping with the philosophy of the voluntary simplicity movement, that it is a commitment to the nonmaterial aspects of life, rather than consumption, that contributes to personal

satisfaction, fulfillment, and happiness. Overall, then, the research supports the suggestion by Oakley et al. (2008) that sustainable practices contribute to improved quality of life.

In addition to the positive personal benefits to be accrued through sustainable consumption, several maladies can be avoided through those same practices. Reisch (2001) noted the widespread dissatisfaction that generally accompanies overconsumption, while Cohen (2005) highlighted the many health threats that can follow, including: sedentary lifestyles, nutritional inadequacy, chronic disease, and obesity. Cohen added further that the financial implications of consumption were evidenced by high levels of U.S. consumer debt and bankruptcy, which she stated have reached unprecedented levels. Overconsumption, then, has both environmental and personal-level consequences that can be unequivocally categorized as negative.

Thus, sustainable lifestyles, which have been defined as “deeply satisfying, fulfilling, and appealing because [they are] socially, environmentally, and economically responsible” (Adamski et al., 2008, p. 2), have the potential to elicit positive social, economic, and environmental benefits at scales from individual to global; and to combat negative consequences. Sustainable living educational programming, in keeping with the definition above, has to date been largely available through the efforts of university extension professionals, who work continuously to increase exposure to, and effectiveness of, sustainable living curricula. However, anecdotal evidence from practitioners in the field suggests a self-selection bias within sustainable living workshops (National Network of Sustainable Living Educators (NNSLE) conference call,

personal communication, February 24, 2009). That is, participants mainly include individuals who are environmentally motivated, rather than those individuals who are neither active in, nor sympathetic toward, the environmental movement. Brulle and Jenkins (2008) reported that such inactive/unsympathetic individuals make up roughly 30% of the U.S. population. And yet, they are an important segment of the target audience for behavior change, which includes the entire population.

Existing theories, such as the value-belief-norm theory (Stern, 2000; Stern, Kalof, Dietz, & Guagnano, 1995), the theory of planned behavior (Ajzen & Driver, 1991; Kaiser, Hübner, & Bogner, 2005), and ABC theory (Stern, 2000), have been formulated to help researchers better understand and explain patterns of environmental behavior. Indeed, research findings tied to these theories have even been used to inform practitioners' efforts to promote various types of sustainable behavior among certain target audiences. However, there are shortcomings associated with the use of these theories, specifically: 1) consistent operationalization of sustainable behaviors as environmentally-motivated; 2) inconsistencies in terminology associated with sustainability; and 2) a necessary reliance within existing theoretical frameworks on the ability to change individuals' attitudes and beliefs regarding the environment. These shortcomings may limit the potential to successfully promote sustainable behavior among individuals who are less environmentally motivated, and more economically or socially motivated. And, as argued by Fleming (2009), there remains a need to effectively promote such behaviors among diverse audiences, members of which may exhibit varying backgrounds, attitudes, and motivations

The current research project addresses this problem through the use of a formative experiment. This research approach is most commonly used in education research, and is “aimed specifically at achieving the goals of education” by “investigating instructional interventions within and across authentic contexts” (Reinking & Bradley, 2008, p. 34). In so doing, formative experiments are often able to aid researchers in overcoming the frequent gap that exists “between research findings and the demands of authentic practice” (p. 20). In keeping with the principles of formative experiments (which are discussed in greater detail in the next chapter), the pedagogical goals of this project have been to: 1) foster participation in sustainable living educational programming among non-environmentally-motivated individuals (i.e., socially- and/or economically-motivated individuals); and 2) obtain behavior change commitments from those participants.

The formative experiment conducted for this dissertation is detailed in the chapters that follow. First, in the Literature Review (Chapter 2), I outline several common theoretical frameworks for explaining sustainable behavior; spell out problematic shortcomings with those frameworks; highlight existing recommendations for effective behavior change; and describe the characteristics that make a formative experiment the most appropriate approach for this study. Next, in the Methods chapter (Chapter 3), I describe: the case study approach used to carry out the formative experiment; the study community in which the project was conducted; the phases of research involved in the intervention; the data sources and constructs of measures used for analysis; and the strategies used to counter threats to the validity and reliability of the study’s findings. In Chapter 4 (Analysis and Findings), I include four case descriptions,

corresponding with each of four iterations of the intervention. Finally, in Chapter 5 (Discussion and Conclusions), I discuss similarities and differences among iterations through the process of a cross-case analysis; offer three assertions informed by retrospective analysis of the project's cases; acknowledge the limitations of the study; and close with concluding comments regarding goal achievement, broader impact, and future prospects.



## CHAPTER TWO

### LITERATURE REVIEW

#### Common Theoretical Frameworks for Explaining Environmental Behavior

A number of theories have surfaced over the past few decades in an effort to explain the antecedents of behaviors that impact the environment (i.e., proenvironmental behavior, environmentally-responsible behavior, environmentally-significant behavior, ecological behavior, and so forth). While rational-economic models have been embraced by some, attitude models are the most popular (Kurz, 2002). Several of those are relevant to the current research, including: value-belief-norm (VBN) theory; the theory of planned behavior (TPB); and ABC theory. Those, along with the less-well-accepted rational-economic models, are discussed below.

Rational-economic models, also referred to as cost-benefit models (Kurz, 2002; Steg & Vlek, 2009), assume rational actions and decisions on the part of individuals. That is, the models require that actors behave in ways that are to their economic advantage. This assumption, however, often remains unmet, leading to inconsistent findings. According to Kurz (2002), one of the main reasons for individuals' lack of reasoned action is their failure to recognize potential benefits of a given behavior. Thus, rational-economic models are seen as less reliable than alternative models by many researchers.

One alternative to the strict rational-economic models described above is the theory of planned behavior (TPB; Ajzen & Driver, 1991), which is a modification of the earlier-developed theory of reasoned action. The TPB argues that a given behavior is causally preceded by an individual's intention to perform that behavior, which is in turn

preceded by several factors: one's attitude toward a given behavior; the subjective norms to which they ascribe, described by Kaiser et al. (2005) as "the perceived expectations of relevant others" (p. 2151); and their perceived control over their actions (Ajzen & Driver, 1991; Kaiser et al., 2005; Oreg & Katz-Gerro, 2006). This theory represents an improvement upon the predictive capability of the theory of reasoned action by acknowledging the role of external, situational, and contextual barriers to individuals behaving in certain ways, by incorporating the perceived control variable. And yet, inconsistencies across studies can still be found, in part because of the definitions used within studies based on this theory, particularly with regard to the dependent (behavior) variable. The concern over definitions used is similar to that discussed below in the section on shortcomings.

ABC theory, as summarized by Stern (2000), includes behavior (B) as a dependent variable that is influenced by both attitudes (A) and contextual factors (C). The theory argues that the more influence one of these independent variables carries in a given situation, the less influence that the other has on the behavioral outcome. That relationship appears logical. According to Stern, however, ABC theory does not consider personal capabilities or habits, both of which are also causal variables associated with actions (and particularly with environmentally significant behaviors). In this way, the theory is less adequate than the TPB. That is, the latter incorporates personal capabilities, and habits to a lesser degree, through its incorporation of the perceived behavioral control variable.

Another alternative to the above models is VBN theory (Collins & Chambers, 2005; Kaiser et al., 2005; Stern, 2000; Stern, Dietz, Abel, Guagnano, & Kalof, 1999). The authors of VBN theory suggest that pro-environmental behavior is the result of a causal chain of values, attitudes, beliefs, and norms (Stern, 2000). Values relevant for explaining environmental behaviors represent the first set of constructs in the VBN model, and include: biospheric (concern for non-human aspects of the environment), social altruistic (focused on the welfare of others), and egoistic (focused on one's own welfare) (Stern, Dietz, & Kalof, 1993).

The second construct within the VBN model, and the second link in the causal chain following personal values, is an individual's environmental world view (Stern et al., 2005). An environmental world view is a set of general beliefs about the Earth and human-environment relations (Stern, Dietz et al., 1995), and is typically measured using the New Ecological Paradigm (NEP) scale (Dunlap, Van Liere, Mertig, Cation, & Howell, 1992). The NEP scale is a commonly-used scale designed to measure individuals' environmental worldviews, along biocentric and anthropocentric dimensions (Vaske & Donnelly, 1999).

Environmental worldview, according to the VBN model, influences an individual's awareness of adverse consequences (AC) resulting from their actions (Stern, 2000). Related to and following AC in the VBN model is ascription of responsibility (AR), which is comprised defined as an individual's awareness that "actions they could initiate could avert those consequences" (p. 412).

Following AR, the VBN model incorporates an individual's personal norms regarding the environment, that is, the internalized standards that suggest how one should behave in a given context (one's sense of moral obligation). Those personal norms then influence an individual's intention to behave in a given manner, which in turn influences their actual behavior (Stern, 2005).

Researchers have combined VBN and the TPB in the past, and Kaiser et al. (2005) have even contrasted the predictive power of the two. And while that particular study found the TPB to predict conservation behavior more fully or accurately than VBN, many studies have shown VBN to be highly reliable. Thus, it is frequently used in studies of environmental attitudes and behavior. Indeed, VBN has received a good deal of support, and has been widely used by researchers seeking to understand individuals' actions with regard to the environment. Application of this theory in many studies has provided valuable insight regarding *who* generally participates in various types of environmentally responsible behavior and *why*. In fact, this theory even offers some insight regarding how such behaviors might be promoted and encouraged among certain target audiences. However, it is problematic in informing efforts to promote *sustainable* behavior among alternatively-motivated (i.e., socially- and or economically-motivated) individuals for several reasons. Namely, concerns associated with VBN include: 1) implied environmental intent in behavioral choices, to the exclusion of social and economic dimensions in definitions; 2) inconsistency in terminology used across studies of environmental behavior; and 3) a reliance on proenvironmental or prosocial values,

attitudes, and beliefs within the theoretical models. These concerns, or shortcomings, are discussed in detail below.

### Shortcomings of Previous Research

As noted previously, the academic response to the problems of overconsumption and environmental degradation has largely been aimed at *understanding*, *explaining*, and *predicting* individual behavior, as opposed to *changing* behavior. Perhaps for that reason, these studies have failed to adequately inform behavior change efforts targeted at individuals who are not environmentally motivated. Shortcomings associated with studies based upon VBN illustrate the potential reasons behind this tendency.

### *Implied Environmental Intent*

The behaviors typically targeted by researchers using VBN are, for the most part, operationalized in such a way as to imply environmental intent for those behaviors. For instance, many researchers have sought to understand *financial sacrifice*, or *willingness to sacrifice* (for the sake of the environment) more generally. Oreg and Katz-Gerro (2006) asked respondents to indicate, on a five-point scale (ranging from very unwilling to very willing), how willing they would be to: “pay much higher prices to protect the environment...accept cuts in standard of living to protect the environment...[and] pay much higher taxes to protect the environment” (p. 473). They also asked whether respondents had given money to an environmental group in the previous five years. Stern and Dietz (1994) echoed those items, asking respondents about their willingness to: a) pay higher income and/or gas taxes to protect the environment, b) contribute money to an environmental group or cause, and c) “take a job with a company that harms the

environment” (p. 72). Similarly, in their study on the influences of socio-demographic characteristics and environmental positions on pro-environmental behavior (active, sympathetic, neutral, unsympathetic, actively opposed), Theodori and Luloff (2002) asked respondents whether they had “contributed money or time to an environmental or wildlife conservation group” during the previous year.

Researchers have also worked diligently to explain individuals’ *political behavior* related to environmental protection. Theodori and Luloff (2002) asked respondents whether, in the previous year, they had: a) “stopped buying a product because it caused environmental problems”; b) “attended a public hearing or meeting about the environment”; c) “contacted a government agency to get information or complain about an environmental problem”; or d) “voted for or against a political candidate because of their position on the environment” (p. 474). Vaske and Donnelly (1999) studied respondents’ feelings and voting intentions regarding the management of National Forests in Colorado, that is, the extent to which they thought that: a) these areas should be restored to their natural state, along with prohibitions against all future use of the resource; b) Congress should expand the amount of forests to be designated as Wilderness; and c) the amount of designated roadless area should be expanded. Oreg and Katz-Gerro (2006) and Stern and Dietz (1994) asked respondents about participation in demonstrations and the signing of petitions over environmental issues (in terms of actual participation and willingness to participate, respectively). It should be noted that introducing these types of ideas to respondents could in effect lead to a change in their

behavior, although any changes would be byproducts of the research effect, rather than intended research objectives.

Previous studies have also focused on direct behaviors, asking respondents to indicate the frequency with which they perform each. Oreg and Katz-Gerro (2006) included cutting back on car use “for environmental reasons” (p. 473), whereas Thøgersen and Ölander (2006) included public transport use and bicycling, as well as buying organic food products. Both studies also included recycling as a behavior of interest. Specific behaviors in Theodori and Luloff’s (2002) study included “[reading] a conservation or environmental magazine” and “[watching] a television special on the environment” (p. 474). Corral-Verdugo, Carrus, Bonnes, Moser, and Sinha (2008) and Trumbo and O’Keefe (2005) researched behaviors such as the use of low-flow shower heads and toilets, conservation-oriented gardening techniques, and other low/no cost behavioral modifications (specifically in relation to water conservation). The examples above share in common their focus on environmental motivations for behaving in certain ways. This is demonstrated by the prolific use in questionnaire items of phrases such as, “to protect the environment.” Clearly, however, operationalizing behavior choices in this manner precludes the performance of the same or similar behaviors, on the basis of alternative motivations.

A number of studies have highlighted the gap that is produced by such a narrow definition of behaviors to be studied. Huneke (2005), for example, sought to identify important practices and barriers within the voluntary simplicity lifestyle, as well as differences between simplifiers and nonsimplifiers. She found that ecological and social

responsibility, community, and maintaining a spiritual life were *all* important to voluntary simplifiers. Likewise, Black, Stern, and Elworth (1985) discovered that, among residential electric consumers in Massachusetts, “both economic self-interest and internalized personal norms affect behavioral responses to the energy situation, but the relative importance of these influences varies with the type of energy-saving behavior” (p. 17). Specifically, more impactful changes, such as major capital investments, were more highly influenced by economic self-interest (expected personal benefit), whereas personal and perceived norms were associated with less impactful changes. Thus, by studying the attitudinal antecedents of only environmentally-motivated behaviors, many of the previous studies (e.g., Oreg & Katz-Gerro, 2006; Stern, Kalof, Dietz, & Quagnano, 1995; Theodori & Luloff, 2002; Thógersson & Ölander, 2006; Vaske & Donnelly, 1999) have missed the opportunity to better understand non-environmentally-motivated behaviors. As a result, their findings fail to provide practical solutions for promoting such behavior among a broad range of individuals with varying backgrounds, attitudes, and motivations.

#### *Inconsistency in Terminology*

This gap between research and practice may be largely attributable to an inconsistency in the terminology used to describe environmental behavior across theories and studies. This study focuses on the three-dimensional definition of sustainability that has come to be accepted over the past several decades, which includes social, economic, and environmental considerations (Campbell, 1996). Although Campbell’s definitions and descriptions highlight the macro-level foci of each dimension, those dimensions can also



be applied to the individual or family level that is the focus of this formative experiment. For instance, Campbell's economic dimension is labeled, "overall economic growth and efficiency" (p. 298), referring to community-level economic sustainability. Applied at the individual or household level, however, that dimension would include economic feasibility, debt elimination, and financial stewardship. Likewise, Campbell's conceptualization of the social dimension includes social justice, economic opportunity, and income equality. At the individual level, this dimension would entail community service and civic involvement, as well as social justice. As conceptualized in the present research, the social dimension also includes family and social relationships, time management, and health and wellbeing, the latter of which would be actually be included in Goodland's (2002) definition of human sustainability, a fourth dimension, according to his typology. Finally, Campbell defined the environmental dimension in terms of environmental protection, which at the community level, may include policy and infrastructural measures. At the individual or family level, environmentally-beneficial behaviors would reflect this environmental dimension.

In contrast to the three-dimensional definitions of sustainability and sustainable living described above, many terms used by researchers of environmental attitudes and behavior are distinctly unidimensional, with a focus on the environmental dimension of sustainability, exclusively. Stern (2000) defined *environmentalism* as: "the propensity to take actions *with proenvironmental intent*" (p. 411; emphasis added). A number of other terms have similarly been used to imply this environmental intent. For instance, Steg and Vlek (2009) defined *proenvironmental behavior* as "behavior that harms the environment

as little as possible, or even benefits the environment.” Vaske and Kobrin (2001) defined *environmentally-responsible behavior* as actions that “advocate the sustainable or diminished use of natural resources” (p. 16). Kaiser, Wölfling, and Fuhrer (1999) defined *ecological behavior* as “actions which contribute towards environmental preservation and/or conservation” (p. 1). The environmental focus of these terms and definitions is clear.

Further, Stern (2000) distinguished between two definitions of environmentally-significant behavior: one related to the *impact* of a given behavior, and the other related to the *intent* behind the action. Specifically, the former refers to “the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself” (p. 408). The latter and the more recently adopted of the two definitions, on the other hand, refers to “behavior that is undertaken with the intention to change (normally, to benefit) the environment” (p. 408; see also Poortinga, Steg, & Vlek, 2004). The second of these two definitions seems to be most frequently embraced by researchers using the VBN framework. Their use of that definition is in keeping with the Stern’s (2000) suggestion that the impact-oriented definition is important more for targeting behaviors to change, whereas the latter is more important for changing behaviors. That assertion, however, forms the basis for the third shortcoming in the VBN framework, namely, a reliance on proenvironmental (or in some cases prosocial) attitudes for effective behavior change.

*Reliance on Proenvironmental or Prosocial Attitudes, Values, and Beliefs*

Beyond concerns related to operationalization and definition described above, VBN, in particular, suffers from a reliance on the presence of proenvironmental or prosocial attitudes and beliefs in promoting environmentally-beneficial behavior. Oreg and Katz-Gerro (2006) summarized the VBN causal chain as follows: “proenvironmental behaviors stem from acceptance of particular personal values, from beliefs that things important to those values are under threat, and from beliefs that actions initiated by the individual can help alleviate the threat and restore the values” (p. 464). Personal value categories, according to Stern (2000), include: biospheric, altruistic, and egoistic. With some exceptions (e.g., Stern and Dietz, 1994; Stern, Kalof, Dietz, and Guagnano, 1995), research has typically shown that altruism, openness to change, biocentrism, and ecocentrism (as opposed to egoistic values) tend to lead to environmentalism and proenvironmental behavior (Barr, 2003). For instance, Vaske and Donnelly (1999) found that biocentrism “predicted a respondent’s attitudes toward the preservation of wildlands, and that the attitude fully mediated the relationship between value orientation and behavioral intention to vote for wildland preservation (p. 523). Thus, biospheric and altruistic values and attitudes are generally viewed as a stepping stone toward the adoption of environmentally-significant behavior. Kurz (2002) went as far as to assert that “[p]ro-environmental attitudes should be thought of as necessary but not sufficient in bringing about changes in people’s [environmentally-significant behaviors]” (p. 274).

In addition to requiring individuals to possess proenvironmental or prosocial values and attitudes, VBN relies on individuals’ awareness of consequences (AC) and

ascription of responsibility (AR) regarding their behavior (Collins & Chambers, 2005; Stern, 2000; Stern et al., 1999). According to Stern (2000), AC specifically refers to an awareness of “adverse” consequences associated with one’s behavior (p. 412). Likewise, Collins and Chambers (2005) suggested that AC included perceptions of an “environmental threat” associated with individuals’ behavior (p. 640). Similarly, Stern (2000) referred to AR as individuals’ awareness that “actions they could initiate could *avert* those consequences” (p. 412, emphasis added). The reliance on AC and AR are problematic because “[b]ehaviour change in response to threat requires that people feel personally vulnerable, feel capable of responding, and feel some degree of responsibility for the problem” (Gardner, Szatow, Horn, & Quezada, 2009, p. 28). Individuals who are alternatively (i.e., non-environmentally) motivated may not ascribe to the attitudes and beliefs outlined above. Thus, theories that rely on such attitudes and beliefs would suggest that those alternatively-motivated individuals could not be persuaded or effectively encouraged to participate in target behaviors. Because of the shortcomings outlined here, theories like VBN and TPB were deemed inappropriate for use in the formative experiment described here.

#### Recommendations for Behavior Change

Despite the shortcomings of the extant theoretical literature, a number of researchers have been able to identify factors contributing to effective behavior change, mostly based on the premises of social marketing (McKenzie-Mohr, 2000a; 2000b; Monroe, 2003). For instance, De Young (1993) suggested that “procedural knowledge” (p. 488) or *information*, while not alone sufficient to elicit behavior change, was an

important component of educational interventions. Punj and Staelin (1983) similarly identified the importance of reducing the need for, and cost of, information search by participants.

In addition to information, previous work has pointed to the importance of an element of *choice*, or autonomy, within educational programming efforts. Gellar (1992) found that autonomy positively influenced behavior change outcomes. Ryan and Deci (2000) further recommended avoiding “excessive external pressure toward behaving or thinking a certain way” (p. 74). De Young (1993) likewise advised against coercive motivational techniques, which, he stated, constrain choice, induce fear, and are not effective means of changing behavior (see also, McGuire, 1976). Related to the matter of choice, or autonomy, is the element of *commitment*. Namely, commitment and goal-setting campaigns have been shown to improve behavior change efforts (De Young, 1993; Geller, 1992; McKenzie-Mohr & Oskamp, 1995).

Several other factors have also proven valuable in promoting environmentally-beneficial behavior: engaging influential community members or “opinion leaders” (De Young, 1993, p. 488); respecting cultural, economic, and environmental values of participants; helping participants to evaluate personal priorities and quality of life indicators; and acknowledging and countering barriers to sustainable behaviors (Simon-Brown, 2000; 2004). Although research on the effectiveness of workshops and seminars as instructional tools has produced mixed results, the above suggestions have been shown to improve results. For this reason, they were incorporated into the design of this study, in order to maximize the potential for success. The ways in which that was accomplished

are detailed in the description of the educational programming component of the intervention in the Methods chapter.

#### Characteristics of a Formative Experiment

Formative experiments exhibit several unique features making that approach a reasonable choice for the present study. Those features are detailed in Reinking and Bradley (2008). Here, I outline them briefly and explain their value to this research. First, formative experiments are “intervention centered,” occurring in “authentic...contexts” (p. 17). This means that an intervention itself is the object of study for the formative researcher. It further requires that “all naturally occurring variation is allowed to operate and...instructional responses to that variation are not unnaturally constrained” (p. 18). The current research fits well with this characteristic of formative experimentation, as it involves a strong educational component, in the form of programming designed to teach and encourage sustainable living. In this case, the intervention under investigation encompasses not only the curriculum and the presentation thereof, but also the entire process involved with bringing the programming to a successful finish (i.e., recruitment, promotion, participant involvement, outcome evaluation, etc.).

Formative experiments are also theoretically oriented, although researchers seek “humble and local” theories, as opposed to grand or “overarching” theories (Reinking & Bradley, 2008, p. 18). That is, the extent to which findings may be generalized is highly dependent on the contextual factors at play in the population and the location to which one wishes to generalize. The aim in a formative experiment is to theoretically understand the enhancing and/or inhibiting conditions related to an intervention’s

effectiveness. Formative researchers are interested in the *conditions under which* certain findings emerge, or under which certain theories are supported. For instance, the present research seeks not to categorically spell out the precise features of a sustainable living workshop that will work in *all* communities, among *all* individuals. Instead, I have sought to outline a *process* through which sustainable living educators can identify the features that will most likely lead to success *within their locality* and *among their target populations*. This experiment's results provide the basis for the development of local theory in that regard.

Another distinctive feature of formative experiments is that they are “goal oriented” (Reinking & Bradley, 2008, p. 19). The goal of a formative experiment is substantive, and normally pedagogical, unlike typical goals of research (i.e., to understand, explain, or predict). This particular feature also provides the clearest distinction between a formative and an ethnographic approach. Ethnographic studies do, at times, result in changes within studied groups or communities. Those changes, however, are typically seen as byproducts of a research process designed to aid in understanding and explaining behavior or circumstances (Burawoy, 1991). As stated above, in the current study, I have pursued two specific goals: 1) to foster participation in sustainable living education among non-environmentally-motivated (that is, socially and economically-motivated) individuals; and 2) to obtain commitments to changes in behavior from participants. Much of the extant research has already focused on more traditional research questions and goals. Through the current project, I have attempted to

*effect a change* among participants in the study, which is beyond the purview of most traditional research work.

The goal orientation of formative experiments ties in well with their “transformative” character (Reinking & Bradley, 2008, p. 21). That is, they have “the potential to positively transform the environment for teaching and learning” (p. 21). Whereas this feature would adversely impact most studies by violating ‘control’ requirements, it benefits formative research by promoting the established research goals. Importantly, however, this feature also implies a caveat for researchers. Namely, any intervention can have unintended, as well as intended, consequences. These can be positive, negative, or both. As such, researchers must be cognizant of unintended consequences in order to foster or counteract them as appropriate.

To facilitate the achievement of research goals and a transformed learning environment, formative experiments must be both “adaptive and iterative” (Reinking & Bradley, 2008, p. 20). In other words, formative researchers seek to “determine what is and is not working and why” (p. 20), in order to adapt the intervention accordingly. Consistent with that feature, the current research has consisted of four iterations of the chosen intervention, each followed by adaptations designed to improve subsequent iterations.

Several features of formative experiments described above (i.e., that they are goal oriented, adaptive, iterative, and transformative) point to the pragmatic nature of the approach. From a pragmatic perspective, consequential validity is a crucial design feature. Namely, results should have “demonstrable value in improving instruction”



(Reinking & Bradley, 2008, p. 22). Within this framework, “causes are less relevant than consequences” (p. 38). The present study highlights this feature, in that my concern has been with achieving sustainable behavior among participants, rather than with explaining precisely *why* or *how* those changes occurred.

Finally, formative experiments are “methodologically inclusive and flexible” (Reinking & Bradley, 2008, p. 21). Although they are ideally suited to mixed-methods designs, formative experiments can be conducted using only *qualitative* methods. In contrast, however, they cannot be based strictly upon *quantitative* methods. The flexibility of the approach is reflected in a researcher’s ability to adapt data collection and analysis methods *during* the investigation. The value of this flexibility can be seen throughout the four iterations comprising this formative experiment, particularly as demonstrated in my analysis and findings.

The above comparison of features between the prototypical formative experiment and the present research demonstrates the applicability of formative research for this project. Although formative experiments have not traditionally been used in planning research, it is clear that this novel approach is appropriate for a study such as this, wherein the study’s objectives are so closely aligned with the characteristics of the approach.

## CHAPTER THREE

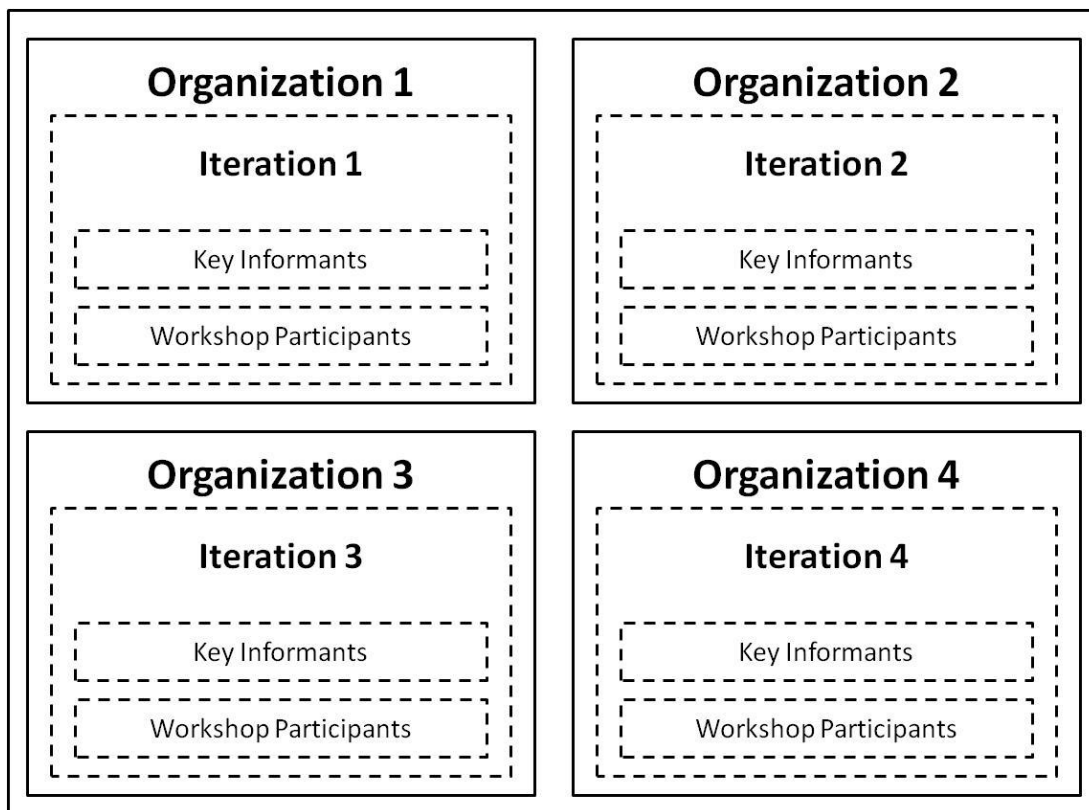
### METHODS

#### Analytical Approach

The formative experiment conducted for this study takes the form of an embedded, multiple-case case study. The multiple-case design is dictated by the iterative nature of a formative experiment, but is also considered to be generally “stronger” than a single-case design (Yin, 2009, p. 24). The formative approach used in conjunction with this case study also dictates the use of pedagogical goals, however these do not preclude the use of study questions, which Yin listed among the five components of a case study. Indeed, the four qualitative questions outlined in the section above on formative experiments also represent the study questions for this case study.

Importantly, each *iteration* of the intervention constitutes one of four cases in this embedded, multiple-case case study. That is, the *organizations* themselves do not represent the cases studied, although they do provide the context within which each case occurs (see Figure 1). Embedded within each iteration are two distinct units of analysis: 1) key informants (Phase I); and 2) workshop participants (Phase II).

In keeping with Yin’s (2009) recommendations, this study adheres to the author’s three principles of data collection, those being: to use multiple sources of evidence; to create a case study database; and to maintain a chain of evidence. Multiple sources of evidence help to corroborate findings and establish construct validity within a study. The present study uses data, investigator, and methodological triangulation (Yin, 2009).



*Figure 1. Case study design*

The sources of evidence used in the study have included: qualitative data from key informants; workshop participants' feedback (through survey responses and discussion); and qualitative observations. I also created a case-study database. The annotated bibliography for that database, however, is not included in this report, as its inclusion would violate the privacy and confidentiality of participants. Combined with the case study protocol (also withheld due to considerations of privacy and confidentiality), that database helps to outline a chain of evidence for the study, which could be used by an external observer to retrace the steps involved with the research.

In analyzing case study evidence, I incorporated Yin's (2009) suggestions to develop case descriptions (see the section below on analysis and findings) and to use both qualitative and quantitative data (as detailed in the section on formative experiments above and in the section below on constructs and measures). The primary analytic technique used for this case study was cross-case synthesis, wherein each case is treated as "a separate study" (Yin, 2009, p. 156), and similarities and differences are compared and contrasted across cases (similar to the retrospective analysis described by Gravemiejter & Cobb (2006)). Thus, the final report includes case descriptions of each case individually, along with a cross-case analysis.

To the extent possible, this case study has sought to fulfill the requirements of an "exemplary case," as outlined by Yin (2009). That is, I have worked to ensure that the study: is significant; is complete; considers alternative perspectives; displays sufficient evidence; and is composed in an engaging manner. The problem statement for this study testifies to the significance of the project, and the value of the pedagogical goals that it has sought to achieve. Adherence to Yin's (2009) principles of data collection have been used to ensure that the study is complete and displays sufficient evidence.

### Study Community

The study community for this research was a large (population greater than 200,000) metropolitan area in Texas. According the U.S. Bureau of the Census (USBC, 2012), major sources of employment in the county include educational services, health care, and social assistance (26.0%); retail trade (12.9%); and manufacturing (12.4%). Recognizing that local community occurs across arbitrary delineations of cities and

towns, I chose not to limit the study to the city limits, but rather to include the city and its surrounding suburbs, hereafter referred to as “the community” or “the study community.”

The community faces several salient local concerns regarding environmental, economic, and social sustainability. Although popular news media and various organization websites can verify these issues, referencing those sources directly may unduly compromise the identity of the study community and this project’s participants. However, an interview that I conducted with a local community leader early on in my preliminary research process sheds light on some of those same issues (personal communication, August 18, 2011).

In terms of social sustainability, she identified poverty as a major concern. Indeed, according to the U.S. Census Bureau (2012), 21.7% of the county’s residents live below the poverty line. Within the county seat, that figure jumps to 30.1%. By comparison, for the state of Texas as a whole, only 17.0% of residents are living in poverty. Along with poverty, she cited educational quality as a major challenge. On the other hand, she cited research identifying the study community as one of the most generous in America, in terms of philanthropy and giving. Turning to economic sustainability, my contact also noted an ongoing need for downtown revitalization. Regarding environmental sustainability, she spoke of challenges with regard to waste management and air quality. Specifically, she stated that the city (county seat) landfill has only about 17-20 years left of useful life, if current rates of waste disposal continue unabated; and that the city also faces the potential of going into “non-attainment” status based on new EPA air quality guidelines. Another of the most salient environmental

concerns in the local area, according to the Texas Commission on Environmental Quality (TCEQ, 2012), is the moderate to severe drought facing residents. Finally, the issue of power generation is hotly contested in the local area, specifically the authorization and placement of coal-fired power plants (Davis, 2012).

The site selection process within the formative research approach involves the selection of a site that is neither guaranteed to succeed, nor doomed to fail, at least in early investigations of an intervention (Reinking & Bradley, 2008). In addition to the local issues mentioned above, the study community was determined to fit this criterion on the basis of two observations: 1) the presence of existing efforts toward improved sustainability at various scales; and 2) a clear need for improvement in efforts toward improved sustainability on some levels.

### *Existing Efforts toward Sustainability*

#### *State-level Efforts*

Existing efforts toward improved sustainability can be identified at the state, community, and corporate levels. For instance, the TCEQ has established a program entitled, “Take Care of Texas,” which is a behavior change campaign geared primarily toward increasing awareness and information among Texas residents. This is accomplished through the provision of numerous fact sheets available through the Take Care of Texas Homepage (TCEQ, 2012). In addition, Keep Texas Beautiful is an organization whose mission is “to educate and engage Texans to take responsibility for improving their community environment....through programming and education

addressing [their] three focus areas: litter prevention, beautification, and waste reduction” (Keep Texas Beautiful Homepage, n.d., Mission Statement).

### *Community-level Efforts*

In terms of community-level efforts toward sustainability, the study community is home to a number of events, initiatives, and organizations geared toward improving the community’s level of sustainability. For example, the community has city and county-level affiliates of the Keep Texas Beautiful program. The community also provides recycling services, and recycles many different types of materials.

Additionally, the local Chamber of Commerce has initiated a “green” campaign, and engages in activities that promote social, economic, and environmental sustainability. Although a *detailed* description of those activities is withheld here to protect the confidentiality of study participants, they include efforts toward: maintaining local air quality (by preventing the construction of new coal-fired power plants, for example); promoting sustainable business development (through LEED-certified building and retrofitting projects and implementation of a local “green” business network); improving education; and reducing poverty and hunger (local community leader, personal communication, August 18, 2012).

### *Corporate-level Efforts*

Corporate-level sustainability efforts include: broad membership in the local listing of “green” businesses; increasing attainment of LEED standards for new construction and building renovations; and concerted university efforts toward improved sustainability (especially along the environmental and social dimensions). Also,

individual manufacturers and other corporations have adopted their own sustainability policies.

### *Individual-level Efforts*

In spite of efforts toward sustainability at state, community, and corporate levels, the study community exhibits a relative absence of individual-level efforts toward improved sustainability among community members themselves. Evidence of this shortcoming surfaced during the preliminary research interviews referenced above. Throughout those interviews, as well as later key informant interviews at the organization level, comments were made regarding, for instance, a dearth of individuals participating in curbside recycling programs throughout the community (although I was unable to find official statistics confirming or refuting that assertion). As noted previously, individual behavior is an essential component in the attainment of a sustainable future more generally, suggesting that the study community might benefit greatly from a successful intervention aimed at promoting sustainable living at the individual level. Combined with the community's existing efforts at other scales, this need seemed to suggest that the study community would constitute a fruitful site for the current research.

### *Key Informant Perceptions of Local Sustainability Efforts*

Whereas site selection was determined on the basis of the observations outlined above, it is important to note an observed discrepancy between publicly available information and the perceptions of key informants that emerged over the course of the project. Although I describe the process for recruiting key informants in the section describing the iterative phases of research involved with this project, their responses



regarding existing community efforts towards sustainability are included here as a means of providing a richer understanding of the study's context. Specifically, key informants' descriptions of the community's sustainability landscape paint a somewhat different picture than do official on-line and printed materials. Those discrepancies were evident in perceptions of community and corporate sustainability efforts, as well as of psychological barriers preventing sustainable living at the individual level.

#### *Key Informant Perceptions of Infrastructural Barriers to Living Sustainably Locally*

Key informants (who are identified by pseudonyms throughout this document) across iterations questioned the extent of the community's sustainability efforts, not just at the individual-level, but at broader scales as well. This observation was true of key informants in general, but especially of those who had moved into the community from elsewhere in the state and/or nation. Although the description of the study community includes a number of corporate and community-level efforts toward sustainability, key informants seemed to feel that these efforts are not as forward-looking as it might appear on a cursory level. Bridgette (Iteration 1) expressed that she was "excited that we're actually talking about sustainable living in [the community]," a fact which seemed to come as a surprise to her. Her perceptions, as well as Carl's (Iteration 1), match those of one local leader in the area of sustainability, that is, that the community is about five to ten years behind many other places in the nation, with regard to instituting sustainable practices. He cited examples including the fact that the local university campus and the community had only recently put in bike lanes, and that recycling—while available—is made "as difficult as possible." For example, individuals have to go and pick up their

own recycling containers (the size of standard curbside garbage cans) from the recycling center, which requires the use of a pickup truck.

Bridgette echoed that sentiment, noting that she had experienced a certain degree of “culture shock” upon arriving in the community. She had grown accustomed to a town where “it’s almost hard not to live sustainably,” when considering the infrastructure and opportunities. For example, “there are farmers’ markets every weekend; there’s always a farm stand or something.” Likewise, Maria (Iteration 2), who moved to Texas from one of the more forward-thinking and sustainable cities in the nation, recognized that she had taken those sustainable initiatives for granted. Some comments reflected a dearth of social sustainability efforts in the study community. Heidi (Iteration 2), who grew up in the Midwest, said “there are a lot of things I love about [the community], but I don’t feel like it’s very service-oriented.” Gail (Iteration 2) confessed, “it doesn’t seem like there’s a sense that the whole community is working together to make the community a more sustainable place.”

Carl discussed several logistical barriers to living sustainably that also relate directly to local infrastructure and culture. For example, he mentioned that the “availability in this particular town of high quality, affordable, food grown in a sustainable manner is poor, compared to, say, [a larger, more progressive city].” He also referred to the insufficiency of the local mass transit system as an infrastructural barrier. Gail reiterated the concern regarding the public transportation system, and added that improvements were needed in the areas of recycling participation and informational resources, as well. Even Beth (Iteration 4), a local university student, had observed

barriers to sustainability at the local level, stating, “[The community], you know, isn’t—I’m sure could use some more environmental help and cleaning up and being aware of that.”

On the other hand, though, informants acknowledged the progress that the community has made over the last several years in the direction of sustainability. Gail detailed some of the specific ways in which the community has made, and is making, progress toward sustainability, including: educating the community on sustainability issues, instituting curbside recycling (new in the last seven years), expanding the scope of activities undertaken by local environmentally-oriented organizations, and developing natural amenities. Deborah (Iteration 2) talked about the growing importance of water, its value and scarcity, especially in light of a recent and severe drought. She also told about how Texas has been behind other places in having to worry about water, sharing a story about when she lived in Colorado Springs, where water was more expensive, even decades ago, and had to be piped in from far away, giving residents a greater level of awareness and appreciation for water issues. But now, she said, even for Texans, “it’s something we’re going to have to pay a great deal of attention to.” In short, although the community has made progress, infrastructural barriers associated with the community’s sustainability landscape must be taken into consideration when evaluating the success of this project.

#### *Key Informant Perceptions of Psychological Barriers to Living Sustainably Locally*

In addition to infrastructural barriers that community residents may face in their efforts to live more sustainably, informants also indicated the presence of psychological

barriers to living sustainably in the local community. Bridgette, for example, had observed in some instances a (local) “stigma to accepting sustainable practices,” or to being “too earth friendly.” She felt that sustainable behavior might elicit unfavorable comments from some locals, such as, “you just want to be a hippie and wear your Birkenstocks and love everybody and go hug some trees,” or “that’s not how life really works; that’s what those hippies do, not what reasonable people do.” Even Adam (Iteration 1) recognized a lack of cooperation among local citizens in certain sustainability efforts, in spite of his own relative lack of awareness or concern for issues of community and individual sustainability. Gail also pointed to public resistance to sustainability efforts, governmental intervention, and increased taxes. She cited letters to newspaper editors, saying, ‘I don’t want my tax dollars to go toward bike lanes, or hiking trails, or parks,’ and the like. However, she also asserted that there are pockets of people working on sustainability, and that “there’s definitely a critical mass of people growing in that direction that I didn’t see when we first moved here.” These psychological barriers presented potential, although not insurmountable, threats to the success of the project.

The views expressed by key informants above must be taken into consideration in characterizing the study community, as those perceptions may reflect, to some extent, the likelihood of the intervention achieving success within the community. Nonetheless, the observations made by key informants did not suggest that the intervention would meet with certain failure in the study community. Furthermore, as noted above, those observations surfaced during, and not prior to, the iterative research process, precluding the selection of an alternative study community.

Thus, the study community has made recent progress toward sustainability, but there certainly remains ample room for improvement. Against this backdrop, I conducted a formative experiment involving a preliminary research phase designed to help me better understand the study context (as advocated by Herrington, McKenney, Reeves, & Oliver, 2007; McKenney & Voogt, 2009; and Raval, McKenney, & Pieters), followed by the iterative (formative) portion of the project. Iterations were conducted in collaboration with four existing organizations within the study community that did not exhibit distinctly environmental orientations (organization descriptions are included in the Analysis and Findings section below, in the descriptions of their respective iterations). Each iteration was adapted on the basis of the outcomes of, and feedback regarding, the previous iteration(s). Each iteration consisted of two phases of research. Below, I touch on the preliminary research phase, followed by more detailed descriptions of the two phases of the iterative process.

#### Phases of Research

As a new member of the study community, and prior to the iterative process of intervention, I began my research by compiling a descriptive account of the community's culture in terms of sustainable living and sustainability efforts. I did this to in order to provide an 'emic' (versus 'etic') account of the local culture, in terms that would be perceived as meaningful to community members (Friedman & Schustack, 2012). I then canvassed the community, seeking input from local leaders and influential community members, to develop a database of existing and influential community organizations, with which I might collaborate to conduct this research. This database included logistical

information (i.e., membership numbers, meeting days and times, etc.) as well as organization mission and vision statements, expressed purposes, and sponsored events and activities. The information collected allowed me to assess, to some degree, the orientation (economic, social, and/or environmental) of each organization. As asserted by several community leaders, a number of organizations exhibited a combination of orientations, with the majority reflecting both economic and social orientations. Leaders of organizations with either or both of these orientations were invited to participate in the study, and the pedagogical goals and the commitments necessary to participate in the project (including identification of key informants within the organization who would be asked to help tailor the sustainable living workshops, promotion and hosting of a workshop, and provision of feedback following the workshop) were outlined for them. Ultimately, after contacting the leadership of multiple community organizations (and attending regular meetings of some to gauge interest), the leaders of only four organizations expressed interest in participating, thus it was not necessary to use further selection criteria. Detailed descriptions of participating organizations are included in the case descriptions for each iteration. Here, I describe the two phases of research involved with each iteration of my chosen intervention.

### *Phase I*

#### *Key Informant Interviews*

The first phase of the iterative portion of this study involved key informant interviews. I used a purposive sampling method to select those key informants. Organizations' leaders were asked to identify active and engaged members of the

organization who they believed to be representative of the broader group membership and in touch with the values and attitudes of other members. Those members were contacted and invited to participate in individual, semi-structured interviews that were digitally recorded, transcribed, and thematically analyzed using constant comparison techniques (Merriam, 1998) to aid in tailoring the educational programming phase of each iteration. For each iteration, interviewees were asked, in a snowball sampling fashion, to identify other potential participants for this phase of research. The number of key informants interviewed for each organization ranged from three to ten, largely on the basis of informants' willingness to participate. To the degree possible, I sought to achieve data saturation, although that goal was not accomplished for every iteration, due again to variability in willingness to participate among organization members.

The questions used for key informant interviews can be found in Appendix A, and are described in detail in the section below on constructs and measures. In general, though, the intent of those questions was to allow me to tailor the workshop content, as well as the promotion and recruitment process for the educational program, to make them as applicable and meaningful to each organization's members as possible (ultimately encouraging the broadest possible participation among organization members). This research represents an incremental and tailored approach, aimed at smaller audiences, which was seen as potentially more effective than a shotgun approach seeking to attract a mass audience from the entire community population. Such an approach points to an expectation that behavioral and attitudinal changes among influential participants will spread to others within their spheres of influence through the process of adoption and

diffusion (Rogers, 1976). Ultimately, through this process, the goal is to orient the community culture toward one of sustainability, but that is a long-term goal.

#### *Adaptations in Response to Findings from Key Informant Interviews*

Within the first phase of research, I used findings from key informants' responses to inform adaptations to the second phase, as well as to subsequent iterations of the first and second phases, as applicable. Specifically, by identifying organization members' environmental perceptions, values, and priorities, along with the perceived barriers associated with living sustainably, I was able to customize my presentation of the sustainable living curriculum. In this way, I was able to better meet the needs and expectations of the participants in the educational programming events that comprised the second phase of research.

### *Phase II*

#### *Educational Programming Component of Intervention*

Phase II of the intervention consisted of educational programming designed to encourage sustainable living among participants from each organization, as well as data collection and analysis regarding outcomes of those educational programming events. As with Phase I, the findings obtained in Phase II were used to inform adaptations to subsequent iterations. Data collection and analysis varied, to some extent, from one iteration to another, as informed by the iterative process and the adaptations suggested by that process, and are therefore described in further detail in the sections below on data sources and constructs and measurement, as well as in the case descriptions for each iteration. Here, I describe elements of the educational programming component that were



viewed as either essential or valuable to the intervention under investigation, and the process and findings associated with the pretest of Phase II of this research.

The educational programming component of this project was based on an existing curriculum entitled, *Living Sustainably: It's Your Choice* (Adamski, Elliott, & Simon-Brown, 2008). This curriculum was designed by professional sustainable living educators working with the Oregon State University Extension Service Sustainable Living Project. It is unique among curricula of its kind in its three-dimensional focus, again, highlighting the social and economic, as well as the environmental dimensions of a sustainable lifestyle. In contrast to programs focusing exclusively on the environmental benefits of behavior change, a balanced approach allows practitioners to appeal to the self-interest of participants, as recommended by De Young (2000), by pointing out the *personal* benefits of behavior change. This balanced approach also highlights the “mutually beneficial relation between personal and planetary well-being” (Brown & Kasser, 2005, p. 364), and helps participants to identify “attitude-consistent behaviors” for targeted change (De Young, 1993, p. 488). This is distinctly different from theories like VBN and TPB, described in Chapter 2, which rest upon the need to change attitudes and beliefs *prior* to changing behavior. By approaching sustainable living education from a balanced perspective, all three reasons or motivations (environmental, economic, and social) for sustainable living can be validated. This feature of the curriculum was important for the current project, given target audiences of more socially- and economically-motivated individuals, as opposed to the environmentally-motivated audiences.

In addition to maintaining a focus on the three-dimensional definition of sustainable living described in the curriculum, the literature reviewed above suggested several other elements that would be *essential* to successful implementation of the educational programming component of the intervention pursued within this study. First, participants in each iteration were provided with information regarding potential *options* for behavior change, including capital investments and low-cost behavior changes (De Young, 2000; Punj and Staelin, 1983). Second, an element of *choice* was included in each iteration, through the use of commitment cards, which gave participants the opportunity to voluntarily commit to changing two behaviors of their choice in the direction of a more sustainable lifestyle. Those behaviors could be one-time actions, or ongoing behaviors. Further, they could appeal to any or all of the three motivations for behavior change, at the discretion of the participant. Participants were encouraged to keep them somewhere prominent—on their refrigerator, in their wallet, etc.—as a reminder of the commitment that they had made. The use of those commitment cards also fulfilled the essential commitment component (De Young, 1993; Geller, 1992; McKenzie-Mohr & Oskamp, 1995).

Beyond the essential elements included in the curriculum presentation, the research outlined above also suggested several valuable elements (De Young, 1993; Simon-Brown, 2000; 2004) which were incorporated into the intervention. Those suggestions were incorporated through: 1) the participant recruitment process, which involved collaboration with influential community members; 2) the balanced perspective on sustainability and sustainable living, which demonstrated respect for participants’

values while encouraging them to evaluate and understand their values and priorities for themselves; and 3) key informant involvement in each iteration of the intervention, as well as survey responses, which aided in identifying and overcoming barriers to sustainable behavior.

While the above elements were viewed as essential and/or valuable, throughout the research process, I remained open to the possibility that those elements would not produce the desired results, in order to allow for adjustments during the course of the project. In that case, changes would have been made and results of those changes recorded, in order to evaluate the potential reasons (i.e., contextual variables) for any departures from what had previously been found in the extant research on sustainable behavior. In this case, however, the previous findings were supported and the essential and valuable elements described above were retained throughout the project.

*Refinement of educational programming elements.* Prior to the four iterative cases used for the current project, I refined both the pre- and post-workshop surveys and the workshop itself through a pretesting process, in the interest of content development. I conducted this pretest using a convenience sample of undergraduate research methods students (predominantly seniors) at a local university within the study community. The pretest occurred during the students' normal meeting times over the course of two class periods, and was used to illustrate course content on survey design and the pretesting process. Thus, the students obtained an educational benefit from the experience, and were not required to devote additional (outside of class) time to the process, which aided in promoting maximum participation. Clearly, those students were not representative of the

adult populations that were targeted for the first three iterations of this project, however, the purposes of the pretest did not necessitate such a representative sample. Those purposes were to help me: 1) determine the length of time required to conduct a sustainable living workshop (including the time required to complete before and after surveys); 2) gain an increased level of comfort and confidence in the presentation of the workshop material; and 3) identify and modify any ineffective or confusing survey items. Each of those purposes was fulfilled, with the greatest benefits being obtained for the third purpose.

Sustainable living workshops tend to vary in length, depending on the needs and wishes of participating organizations. On the basis of the amount of time it took pretest participants to complete the surveys (25 minutes total) and the amount of time it took to cover the curriculum, I determined that workshops for this project would ideally last about two and a half hours. I remained open to the possibility that content and format would need be modified in order to accommodate the needs and willingness of the participating organizations' members, however. Having gained experience presenting the material during the pretest, I was equipped to effectively trim certain areas as needed to fit into allotted time slots. Pretest participants also provided abundant feedback on the survey instruments as well as the workshop content. Here, I detail several of the more salient outcomes of that feedback.

Although the pre-workshop questionnaire had originally included two existing and well-established scales to reflect participants' environmental worldviews (e.g., Corral-Verdugo et al., 2008; Dunlap et al., 1992; Stern, 2000; Stern et al., 1995), I had

also developed a two-part item designed to elicit: a) participants' current behavior patterns; and b) the motivations behind those patterns. Specifically, respondents were asked to indicate (Part I) how frequently they take part in a series of behaviors (*0: Never or almost never; 1: Occasionally; 2: Frequently; 3: Always or almost always*), and (Part II) the primary reason for their answer (open-ended). Participants' responses highlighted several problems with this item, particularly Part II. First, they found it confusing. For example, were they supposed to give the reason for their answer, or the reason for their frequency of involvement in the behavior? I tried to clarify the question for the group, but still obtained responses indicating some level of confusion. Furthermore, answers were not reflective of the construct that I was trying to measure. I originally anticipated open-ended responses like, "to save money" or "to promote fair labor practices" as reasons for participating in a given behavior. My plan was then to qualitatively/thematically analyze those responses and categorize them into social, environmental, and economic motivations (adding more categories, as necessary). Instead, I received responses like "to save water" or "to save electricity." Of course, it is impossible to determine whether respondents had environmental or economic reasons for wanting to conserve these resources, or both environmental *and* economic reasons.

Clearly, then, that item had to be changed. After considering several solutions, I came up with two. Namely, I found some existing scales to reflect general economic and social motivations, to go along with the already-included scales focusing on ecological orientation. The added scales include Lastovicka, Bettencourt, Hughner, and Kuntze's (1999) frugality scale, Schwartz's (2003) universalism and benevolence scales, and two

different materialism scales (Belk, 1985; Richins & Dawson, 1992). In addition to those established measures, I developed a ranking question designed to elicit motivations for the behavioral patterns indicated in the first part of the question. Specifically, that question asked participants how important each of seven factors (later eight) were to them as they considered participating in the sustainable behaviors listed in the previous question. That question was included in both the pre- and the post-workshop surveys, in order to determine whether those reasons had changed over the course of the workshop. These two changes were made in an effort to better reflect the construct of interest—behavioral motivation.

In terms of workshop content, I had originally included a 20-minute video entitled, *The Story of Stuff*. This video did not represent an essential element of the educational programming phase; only one potential avenue for presenting the material and augmenting the chosen curriculum. It is a popular, open-access film that describes the cycle of consumption. However, during the pretest, responses to the video were mixed. Some participants loved it, but most found it to be politically charged and opinionated. They did not disagree with the substantive content, but were somewhat turned off by its liberal slant. I initially hesitated to remove it entirely because the information was both valuable and well presented. At the same time, one important feature of this sustainable living curriculum is that it respects individuals' values and priorities. Pretest participants suggested that I show the video, but that I introduce it first, warning the audience of the political bias and encouraging them to focus on the big picture without dwelling on the “little things” that they might find controversial.

Ultimately, due to length constraints of the project workshops, I had to summarize the cycle of consumption without actually showing the video. In my description, though, I was sure to avoid the off-putting aspects noted by the pretest participants.

Finally, the pretest reinforced what I had previously expected to be a very important component of the workshop—the provision of localized information. Many sustainable living educators are university extension specialists who are assigned to entire states, or who do consulting work even outside of their states. As such, they present a standard curriculum that has not been tailored to a local community. They appeal to values and priorities, and encourage sustainable choices, but are not necessarily able to elaborate on *how* one would go about adopting certain sustainable behaviors in their local environment. And yet, these contextual differences are likely to present different opportunities and barriers to workshop participants. Consider the study community, for example. Whereas many environmental advocates promote the use of glass containers over plastic as a “sustainable” behavior, recycling glass can be inconvenient for residents within the study community. Many are unaware that the city’s recycling center processes glass, since it is not picked up curbside along with other recyclables. In contrast, curbside pickup is available for *all types* of recyclable plastic. Thus, participants are left with a difficult decision. Likewise, participants who do recycle, or who would like to start, may have little or no knowledge of what can be recycled in their community—what types of cardboard, plastic, and so forth. Many decisions are similarly subject to a lack of information. So, although information campaigns alone are rarely successful in achieving behavior change (McKenzie-Mohr & Smith, 1999), information provision is likely to be

an important component of a successful intervention. This was illustrated as one of the pretest participants approached me following the workshop and asked me if and where she could buy local food in the study community. As a new resident of the community, I did not yet have that information to share with her. But the question did highlight the importance of my: a) learning the answers to those kinds of questions; and b) making that information available to participants (which was ultimately accomplished through the use of a “resource table,” (for Iterations 1-3) where participants could collect printed material of interest to them in their efforts to live more sustainably; and later (Iteration 4) a packet of information containing those same print resources).

The pretesting process produced numerous other tips and suggestions that I incorporated into later drafts of the survey instruments, and into the workshop presentation itself. The three that I have detailed here simply represent the most significant outcomes achieved. Thus, even in a formative experiment, where a traditional pilot study is not warranted, pretesting certain components of the intervention proved to be a valuable process.

*Adaptations in response to findings from the educational programming component.* Within the second phase of research, I used findings regarding outcomes of each workshop to inform adaptations to subsequent iterations of the first and second phases, as applicable. Some of those adaptations remained consistent across iterations/audiences; others were applicable to specific organizations, on the basis of their missions and orientations. Outcomes were assessed using the various data sources detailed in the next section.



## Data Sources

In an effort to triangulate the data obtained for this project, I used a number of different data sources (Yin, 2009). Those sources encompassed both quantitative and qualitative collection methods. Included in the data sources used were: key informant interviews (for all iterations); a pre-workshop questionnaire (for Iterations 2 and 3); a post-workshop questionnaire (for Iterations 2 and 3); a combined pre- and post-workshop questionnaire (for Iteration 4); and qualitative observations made by an observer that was present during workshops.

### *Key Informant Interviews*

As noted above, key informant interviews and the adaptations informed by them comprised the first iterative phase of this research project. By targeting informants (referred to using pseudonyms throughout this document) that were identified as active in their respective organizations and/or representative of the typical member of their organizations, I attempted to tailor the workshops' promotional efforts and presentation. The interview guide for the semi-structured interviews contained questions designed to help me understand: existing perceptions of, and efforts toward, sustainability and sustainable living; potential interest in, and barriers to, living sustainably among organization members; the values and priorities of greatest importance to organization members; and recommendations for how to successfully encourage participation in, and behavioral response to, educational programming designed to promote sustainable living. Again, the specific questions asked are detailed in the section below on constructs and measures, as well as in Appendix A.

### *Pre-workshop Questionnaire*

A pre-workshop questionnaire was included as a data source for the second and third iterations of the intervention. When participants arrived on the day of the workshop, they were given two questionnaires, the first one designed to be completed before the workshop (Appendix B). Pre-workshop survey items elicited participants' beliefs, attitudes, and value orientations; their current levels of participation in various sustainable behaviors; their general motivations (economic, environmental, or social); and their specific motivations for participation or nonparticipation in various sustainable behaviors (through a ranking question). The questions and scales included in the pre-workshop questionnaire are detailed in the section below on constructs and measures, as well as in Appendix B.

### *Post-workshop Questionnaire*

The second questionnaire that participants received upon arrival on the day of the workshop was designed to be completed at the workshop's conclusion (Appendix C). The post-workshop portion of the questionnaire was designed to elicit: participants' *expectations* and *intentions* of participating in sustainable behaviors following participation in the workshop; their motivations behind those expectations; their perceptions of enhancing and inhibiting factors associated with the educational programming event; demographic characteristics describing participants (to help define the scope of the study's findings); and (*optional*) their contact information (to be used in follow-up research on longer-term outcomes of the intervention). Specific items included

in the post-workshop questionnaire are detailed in the section below on constructs and measures, as well as in Appendix C.

#### *Combined Pre- and Post-workshop Questionnaire*

As noted above, the pre- and post-workshop questionnaire format was only used for the second and third iterations of this intervention. Due to a lack of participation in the workshop for the first iteration (potential reasons for which are outlined in the case description for that iteration), questionnaires could not be administered. Over the course of the second and third iterations, and in response to the needs expressed by key informants from the fourth organization, it became clear that the pre- and post-workshop questionnaire format would be neither practical nor appealing for use in the fourth iteration. Thus, by way of formative adaptation, a shortened, and slightly modified, version of the questionnaire was designed for use during the educational programming phase of the fourth iteration. That survey was only two pages in length, compared with the ten pages that, combined, comprised the pre- and post-workshop questionnaires. The questionnaire sought: basic demographic information; participants' behavior change commitments (optional); their motivations for intended behavior change; their perceptions of enhancing and inhibiting factors associated with the educational programming component of the intervention; and their willingness to participate in follow-up research (and applicable contact information). The combined survey can be found in Appendix D.

### *Qualitative Observations*

Qualitative observations provided valuable insight to this project. I initially intended to digitally record workshops, in order to analyze them afterward. And while video was used when possible, technological challenges surfaced for a number of workshops. Most of these could be attributed to user error (i.e., low camera battery, improper recording speed/quality). In anticipation of that possibility, I enlisted the assistance of qualitative observers, to take detailed notes before, during, and after each workshop (one observer per workshop). The selected observers both have doctorates, as well as training and experience in qualitative research techniques. As outsiders to the project, their observations were able to counter any biases that I may have had as the primary researcher on the project.

Specifically, I fulfilled the role of both researcher and sustainable living educator. Although this dual researcher/instructor role is not typically advisable in formative research, it was appropriate for this study because sustainable living education is typically conducted by university extension specialists, who also fulfill this dual role (since they are tasked with research, outreach, evaluation, and reporting of educational outcomes). In addition, the current project has aimed to identify effective alterations to the existing format and presentation of the curriculum and to methods of recruiting participants. Thus, it was important that these design aspects be ironed out, and field-tested, before being presented to professional sustainable living educators as an effective alternative to current practices (Duffy, 2001). Furthermore, professional sustainable living educators may have difficulty withholding their views and attitudes regarding

climate change or their biases toward the environmental dimension of sustainable living, which would have made it difficult for one to serve as the educator in the present study. Although no specific biases were identified at the outset of the project, my dual role as researcher and educator suggested the potential for some bias, generally speaking. The qualitative observations of outsiders were expected to counter any such biases.

Observers were provided with a printed guide to inform their data collection (see Appendix E for the guide used for the second and third iterations and Appendix F for the guide used for the fourth iteration), and were encouraged to add any additional details they perceived to be relevant. Their notes were both detailed and thorough (including a detailed timeline in most cases), and focused largely on: levels of participant participation, involvement, and engagement; participant comprehension and learning; and presentation content and delivery.

### Constructs and Measures

Through the use of the above data sources, I was able to achieve data triangulation, by measuring most constructs with more than one measure; investigator triangulation, through the use of my own observations and those of qualitative observers; and methodological triangulation, by using both qualitative and quantitative collection techniques. Within each of the data sources used, I employed various constructs and measures to better understand and answer the questions guiding this investigation. Those questions (adapted from Renking & Bradley, 2008) include:

1. To what extent were the intervention's goals achieved?
2. What did and did not work, and why; and how was the intervention adapted to address factors that inhibited or enhanced the achievement of pedagogical goals?

3. Were there any unintended consequences, either positive or negative?
4. How do findings relate to existing theoretical constructs or what new theoretical constructs are generated?
5. What is the scope of the findings obtained?

In order to answer these broad questions, I sought to collect data regarding a number of relevant constructs. In terms of baseline measures, I explored: participants' demographic characteristics; participants' values and motivations (in general); participants' pre-intervention behavior and specific motivations for those behaviors; barriers and obstacles to living sustainably; and potential interest in sustainable living among organization members. In terms of post-intervention measures, I explored: participant engagement and learning; participants' behavioral expectations; their behavior change commitments; reasons for their behavioral expectations; and unintended (positive and negative) consequences of the intervention. To the extent possible, I used multiple measures throughout the two phases of research to gather data related to those constructs. Here, I detail the various measures used, and the ways in which they were used to answer the questions above. The measures are, for the most part, either qualitative or descriptive in nature, although baseline and post-intervention quantitative measures are compared statistically (using t-tests) within and across iterations, as applicable. Data obtained from qualitative measures (described below) were analyzed thematically, using coding and constant comparison methods outlined by Merriam (1998). Both quantitative and qualitative analyses are detailed in the Analysis and Findings section found in Chapter 4.

## *Baseline Measures*

### *Participants' Demographic Characteristics*

Participants' demographic characteristics were determined largely through quantitative measures. For the second and third iterations, the post-workshop questionnaire asked participants to share their: age, sex, ethnicity, household income (before taxes), level of education, and length of local residence (see Appendix C). For the fourth iteration's questionnaire, participants were asked to share only their year in college and their sex (see Appendix D). I used descriptive statistics to portray demographic "profiles" of participants within each iteration, thus defining the scope of my findings.

### *Values and Priorities of Organization Members*

In order to appeal to workshop participants on the basis of their values, I used key informant interview questions to gain insight into those values, and their importance relative to one another (see Appendix A). Thus, key informants were asked to share what they perceived to be the most important values and/or priorities in the lives of their organization's members; and also to rank a set of priorities, in order of importance (from 1 to either 7 or 8, as applicable), from the perspective of the average member of the organization. Those priorities were: time, money, family relationships, social relationships, health, community, faith (added for the second and subsequent iterations in response to key informant feedback), and the environment (added for the third and fourth iterations to gain more complete data). Ranks were summed across key informants within each iteration to obtain cumulative scores that were used to assess the overall importance of each priority. In conjunction with this ranking question, informants were asked to

elaborate upon their responses, that is, to indicate why they answered the way that they did. Thematic qualitative analysis (using constant comparison techniques) of those comments was used to triangulate findings from the ranking question and the open-ended question regarding values and priorities. That is, themes that emerged from the comments were used to either corroborate or qualify the quantitative findings obtained through the ranking question.

Answers to the key informant questions regarding organization members' values and priorities were valuable in answering the second question asked of the intervention, and more specifically, determining potential inhibiting and/or enhancing factors in the achievement of the pedagogical goals, and adapting the intervention to mitigate and/or capitalize on those factors as appropriate. An understanding of the existing values and priorities in each organization was important in the achievement of both of the intervention's goals. For instance, this understanding was informative in developing promotional materials designed to foster participation in the educational programming component of the intervention; and also helped me to design the curriculum presentation in such a way as to appeal to existing values and priorities in the effort to obtain behavior change commitments from participants.

### *Environmental Worldview*

For this study (Iteration 2 and 3, specifically), environmental worldview was measured using two existing scales: the New Ecological Paradigm (NEP) scale (described in Chapter 2), and the New Human Interdependence Paradigm (NHIP) scale (see Appendix B). I included a modified (11-item) version of the complete NEP scale for



this study, the use of which has been supported by previous studies. For each dimension, participants responded to items on a 5-point Likert-type scale, with 1 indicating strong disagreement and 5 indicating strong agreement (see Question 9, Appendix B).

For both applicable iterations, the biocentric dimension of the NEP scale was reliable, with a Chronbach's alpha of .832 (calculated for all data collected over the course of this study, combined), when all six measured items (A, D, F, G, J, and K) were included in the analysis. Participants' responses for those six items were averaged to obtain mean scores for the biocentric dimension. The anthropocentric dimension of the NEP scale was reliable, with a Chronbach's alpha of .678, but only after two of the five measured items (C and I) were removed from the analysis. Participants' responses to the remaining items (B, E, and H) were averaged to obtain mean scores for the anthropocentric dimension. It should be noted that an anthropocentric environmental worldview is not inherently anti-environmental. Instead, it views the value of the environment and nature as dependent on their utilitarian value *for humans*.

The NHIP scale has been put forth as an alternative to the NEP, with its developers arguing that this integrative and nondichotomic scale might better reflect perceptions of "interdependence between human progress and nature conservation" than the NEP (Corral-Verdugo et al., 2008, p. 703). That scale, also measured on a 5-point Likert-type scale, was reliable (Chronbach's alpha = .880) with all five items included (Appendix B, Question 10).

For the fourth and final iteration, because the longer pre- and post-workshop surveys were omitted, environmental worldview was measured differently. Namely, the

construct was measured through the key informant interviews (see interview guide in Appendix A) and through the discussion questions (see discussion guide in Appendix G) that formed the basis for the curriculum presentation during that iteration. For the key informant interviews, “the environment” was added to the list of values, priorities, and concerns that informants were asked to rank, in order of importance, as they believed the average member of their organization would rank them. As in previous iterations, in conjunction with this ranking question, informants were asked to elaborate upon their responses, that is, to indicate why they answered the way that they did. Their comments regarding the environment, and the perceived importance thereof among their organization’s members, were, again, thematically analyzed using constant comparison techniques to assess the environmental worldviews that were most likely present among their peers.

During Iteration 4’s group discussions on sustainable living (titled “Living a Life of Balance and Stewardship” for that iteration), participants were asked, “Can you think of some examples where options conflict and require trade-offs and compromises among the three dimensions of sustainable living? How do you make decisions about your actions in those cases?” This question was used to assess not only environmental worldview, but economic and social motivations as well (see those constructs below). By having participants identify the most important driving factors in decisions where trade-offs are required, it was possible to isolate the motivations that were most important *to them*. Later in the discussion, participants were also asked, “Which of the three motivations (economic, social, or environmental) for living sustainably is most

compelling for you, and why?” This question was also designed to elicit responses that would illuminate participants’ environmental (as well as alternative) motivations.

Measuring participants’ environmental worldview was an important step in: 1) determining the extent to which the intervention’s goals were achieved; and 2) defining the scope of my findings (i.e., the context(s) in which those findings might hold true). The first goal of this intervention has been to foster participation in sustainable living education among non-environmentally-motivated individuals. The NEP and NHIP scales were used to determine the extent to which workshop participants in the second and third iterations exhibited environmental motivations. Likewise, the key informant and discussion questions posed in the fourth iteration were designed to assess those same motivations. Beyond determining the extent to which the first goal of the intervention was achieved, responses were also used to define the scope of the findings obtained. That is, for example, did only the most environmentally-motivated members of the organizations participate in the workshop? Or were a variety of environmental worldviews represented among participants? Answers to those questions were expected to inform adaptations throughout the iterative research process, as well as the study’s findings, conclusions, and recommendations.

### *Economic Motivations*

Economic motivations within each organization were measured through key informant interviews (all iterations), pre-workshop questionnaire items (second and third iterations), and discussion questions during the educational programming component of the intervention (fourth iteration). For the key informant interviews, money was included

in the list of values, priorities, and concerns that informants were asked to rank, in order of importance, as they believed that the average member of their organization would rank them. Again, they were also asked to elaborate upon the reasons for their ranking assignments, and their answers were analyzed qualitatively to gain insight into the importance, or value, of money among organization members.

Economic motivations among workshop participants for Iteration 2 and 3 were measured using two different materialism scales and a frugality scale, all included in the pre-workshop questionnaire, and all based on a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale. For the analysis, items were reverse coded as appropriate.

One of the materialism scales (Appendix B) consisted of items representing three subscales: possessiveness, nongenerosity, and envy (Belk, 1985). Reliability statistics were calculated separately for each subscale. Possessiveness (Question 11) achieved a Chronbach's alpha score of .731, but only after removing a number of items (A, B, C, D, E, F, G). In fact, only two items (H and I) remained for that subscale once an acceptable level of reliability was achieved. The nongenerosity subscale (Question 12) was slightly more reliable, with a Chronbach's alpha of .740, but with all of the measured items (A-G) included. The envy subscale (Question 13) was also reliable, with a Chronbach's alpha of .656, with one item (H) deleted.

An alternative measure of materialism (Richins & Dawson, 1992) assessed the importance of success, centrality, and happiness to individuals (Question 7). Items reflecting the importance of success subscale (A, E, H, L, N, and R) were reliable (Chronbach's alpha = .746). The importance of happiness subscale (Items D, I, K, M, Q)

was also reliable, with a Chronbach's alpha of .742, with two items deleted (D and I). The importance of centrality subscale, however, was not reliable, regardless of item removal. Specifically, the highest Chronbach's alpha that could be achieved was .587. Thus, because this particular measure of materialism is based on all three subscales, and one of those three was unreliable for this study's participants, results for this measure were excluded from further analysis, and are not included in the case descriptions.

The frugality scale (Appendix B, Question 6) was reliable after removing one item (B). The remaining seven items achieved a Chronbach's alpha of .745. Thus, the modified scale was used in the analysis for both applicable iterations (2 and 3).

During the educational programming component for the fourth iteration, participants' responses to discussion questions were again used to measure economic motivations. Participants' responses to the question regarding their decision-making processes in the face of situations requiring trade-offs and compromises among the three dimensions of sustainable living offered insight into their primary motivations. Also, the question regarding which of the three motivations for sustainable living (economic, social, or environmental) participants find most compelling aided in identifying economic motivations among participants.

Exploring the various measures of economic motivation allows for the determination, again, of the extent to which non-environmentally-motivated (i.e., economically-motivated) individuals were effectively targeted for participation in the educational programming component of the intervention (Goal 1). In addition, the extent of the presence of economic motivations within each organization provided insight into

the reasons for the levels of effectiveness observed, in terms of behavior change commitments (i.e., inhibiting/enhancing factors). For example, are there cost barriers associated with sustainable behaviors that prevent more economically-motivated participants from adopting certain behaviors? Or, do the workshop content and presentation offer effective tips and suggestions for how to overcome those cost barriers, or possibly even lead to cost *savings*? Finally, information regarding the economic motivations of participants has the potential to augment findings from previous literature, and inform theory development (in reference to the fourth question above). As noted in the literature review, some debate exists regarding the potential to effect meaningful and positive behavior change in the direction of sustainability on the basis of economic motivations. One aim in collecting data regarding economic motivations was to contribute to that discussion by identifying conditions under which those claims do or do not hold true.

### *Social Motivations*

As with economic motivations, social motivations were measured through key informant interviews (all iterations), pre-workshop questionnaire items (second and third iterations), and discussion questions during the educational programming component of the intervention (fourth iteration). For the key informant interviews, social values and priorities such as time, family relationships, social relationships, health, community, spirituality (added for the second and subsequent iterations), and the environment (added for the third and fourth iterations) were included in the list of values, priorities, and concerns that informants were asked to rank on behalf of the average member of their

organization. Again, their elaborations on their responses to that ranking question also contributed valuable insight into organization members' social motivations.

For the second and third iterations, the pre-workshop questionnaire (Appendix B) included items measuring benevolence and universalism (Question 14), which are among the human values that Schwartz (1994) identified in his work. The former includes support for such concepts as loyalty, helping others, and forgiveness. The latter involves such concepts as justice, equity, understanding, peace, and caring for nature and the environment. These concepts track closely with the social dimension of sustainable living, offering a proxy measure for the presence of social motivations among participants. Items for each of these scales were measured on a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale. The benevolence subscale achieved a Chronbach's alpha of .624, after removing two items (A and H); leaving only two items for analysis (D and G). The universalism subscale required the removal of several items (E, I, J) to achieve acceptable reliability (Chronbach's alpha = .737). Thus, three items (B, C, and F) were retained for analysis.

During the educational programming component for the fourth iteration, participants' responses to discussion questions were again used to measure social motivations. Their responses to the questions regarding trade-offs and compromises and compelling motivations for sustainable living were designed to identify not only environmental and economic motivations, as noted above, but also social motivations.

Exploring the various measures of social motivation allows for the determination, again, of the extent to which non-environmentally-motivated, this time socially-

motivated, individuals were effectively targeted for participation in the educational programming component of the intervention (Goal 1). In addition, the extent and variety of social motivations present within each organization provided insight into the reasons for the levels of effectiveness observed, in terms of behavior change commitments (i.e., inhibiting/enhancing factors). For example, do participants have conflicting social values and motivations that present barriers to living sustainably (i.e., time constraints or family obligations)? Or, does the workshop content and presentation effectively encourage participants to become more involved in outwardly-focused social efforts (i.e., community service and outreach)? The findings from these measures also point to the types of behaviors that participants might be most willing/likely to commit to changing.

#### *Pre-intervention Behavior*

Pre-intervention behavior was measured through key informant interviews (Iteration 4 only); discussion questions (Iteration 4 only); and the pre-workshop survey (Iteration 2 and 3). For the fourth iteration, key informants were asked, “Are there any behaviors that you’ve personally adopted to live more sustainably?” They were encouraged and prompted to consider all dimensions of sustainable living in their responses. During the educational programming component of the iteration, participants were asked two questions designed to elicit pre-intervention behavior: 1) “Do you actively make choices to live more sustainably? If so, what are some of the things that you do personally to live more sustainably—economically, socially, and/or environmentally?;” and 2) “What are your values and priorities, and how do your behaviors line up with those values?”



For the second and third iterations, workshop participants were asked to indicate their frequency of participation in 27 different sustainable behaviors, on a scale of 1 (*never*) to 7 (*always*) (see Appendix B). Some behaviors reflected a single dimension of sustainable living (i.e., “Allot adequate time for sleep;” “Landscape using native vegetation”), whereas others represented a combination of dimensions (i.e., “Take short showers;” “Avoid consumption of unnecessary products”). The list of behaviors provided was, by no means, comprehensive or exhaustive, but was designed to include a variety of behaviors reflecting the three different dimensions of sustainable living, as defined in the curriculum used. In addition to this frequency question, the pre-workshop questionnaire contained two other behavioral questions, each with binary response options (yes/no): 1) “Have you installed water-saving devices (low-flow shower heads or toilets, toilet tank displacement devices, etc.) in your home?;” and 2) Have you installed energy-saving devices (programmable thermostat, energy-efficient windows/appliances, solar panels, etc.) in your home?” These two questions listed behavioral examples ranging from low or no-cost investments (toilet tank displacement devices and programmable thermostats) to higher-cost capital investments (energy-efficient windows/appliances and solar panels), in an effort to capture efforts made by participants at all income levels.

An understanding of the pre-intervention behaviors of participants was important in the determination of the extent to which the intervention’s goals were reached. It provided a baseline against which to measure behavior change expectations upon completion of the educational programming component of the intervention. For the second and third iterations, t-tests were used to compare statistical differences between

before-and-after behavioral measures. Again, because there were no completed questionnaires for Iteration 1, and because the questionnaire for Iteration 4 did not include those measures, such analysis could not be conducted for those two iterations. For the fourth iteration, pre- and post-intervention behaviors were analyzed qualitatively to assess changes. The measures used to elicit post-intervention behavioral intentions are detailed in the section below on post-intervention measures.

#### *Specific Motivations for Pre-intervention Behavior*

Specific motivations for pre-intervention behavior were only measured for the second and third iterations, again because those measures were only included in pre-workshop questionnaire. Specifically, the pre-workshop questionnaire included an item asking participants to rank the importance (1: *most important*; 7: *least important*) of each of seven factors (cost savings, convenience, the environment, social responsibility, health and wellbeing, time management, and “other”) as they considered participating in the 27 behaviors listed in the frequency question. Each of those factors can be categorized as: economic (cost savings); social (convenience, social responsibility, health and wellbeing, and time management); or environmental (the environment).

This construct again speaks to the extent to which Goal 1 has been achieved. The scales described above begin to reflect certain motivations on the part of participants, but they do not measure motivations, per se. In contrast, this construct was developed for the current study to address specific motivations behind participation, or non-participation, in various sustainable behaviors. Thus, by assessing the pre-workshop behavioral motivations of participants, it was possible to determine the extent to which non-

environmentally-motivated individuals have been successfully targeted for participation in the educational programming component of the intervention.

#### *Barriers and Obstacles to Living Sustainably*

Key informants in all iterations were asked to identify potential barriers and obstacles that might prevent themselves and/or their organization's members from living more sustainably. The wording of the question used, though, was adapted slightly from one iteration to the next, in order to improve informant comprehension of the question, as well as to elicit the desired data from informants' responses (see Appendix A).

In addition to the key informant interview question asked, one of the discussion questions used for the fourth iteration's educational programming component elicited information regarding barriers and obstacles directly from participants in that phase of research. That is, they were asked, "What are some barriers or obstacles that keep you from a lifestyle of stewardship, on a daily basis—economically, socially, and environmentally?" The discussion setting allowed not only for participants to voice those barriers and obstacles, but also for the group to discuss potential solutions for overcoming those barriers, as a means of ad hoc tailoring of the curriculum presentation.

Measures regarding barriers and obstacles were included in an effort toward answering the second question above. Namely, they helped to shed light on some reasons *why* the intervention may not achieve its desired goals; and informed suggestions about how the curriculum content and presentation might be adapted to proactively address the inhibiting factors that barriers and obstacles might represent for participants.

#### *Potential Interest in Sustainable Living Education among Members*

Potential interest in sustainable living education among organizations' members was comprised of three different sub-constructs (perceptions of sustainability and sustainable living, potential interest in sustainable living educational programming among members, and recruitment recommendations), each with their own measures. These constructs were included in the investigation in order to both assess *and* increase interest in participation among organizations' members.

During the first phase of research, key informants in *all iterations* were asked about their personal perceptions of *sustainability* and *sustainable living*. Specifically, they were asked: 1) "What comes to mind when I say the word *sustainability*?"; and 2) "How would you define *sustainable living*?" In addition, participants in the second phase of research (the educational programming component) for Iteration 2 and 3 were asked, via the pre-workshop questionnaire, "What is the first thing that comes to mind when you hear the phrase 'sustainable living?'" Finally, for the fourth iteration, participants in the second phase of research were asked, via the discussion questions, to: 1) compare sustainability and stewardship; and 2) describe how a sustainable lifestyle might fit into their personal definitions of success.

Organization members' perceptions of sustainability and sustainable living were expected to have the potential to impact their level of interest in participating in educational programming designed to promote those lifestyles. For instance, if the terms have positive connotations in the minds of members, that might be considered an enhancing factor contributing to the intervention's success. In contrast, if members view the terms as having negative connotations, their use might inhibit participation in the

educational programming component of the intervention. Finally, for members with a limited understanding of the terms, the use of such terms in promotional materials and so forth might not capture their attention, or effectively prompt them to participate in related educational programming. In addition to suggesting potential levels of interest in participation, an understanding of these perceptions can also inform the process of adapting the intervention (i.e., promotional materials, recruitment methods, etc.) to increase potential interest in participation among organization members. In this way, it is possible to overcome inhibiting factors and capitalize on enhancing factors in order to achieve the first goal of this intervention, namely to foster participation in sustainable living educational programming among alternatively-motivated individuals.

Potential interest in sustainable living educational programming among organizations' members was measured during the first phase of research for each iteration, through key informant interviews. Although the wording of this item was modified slightly across iterations (see Appendix A), key informants in the second, third, and fourth iterations were asked whether, *based on the three-dimensional definition of sustainable living* that I shared with them, they anticipated an interest among their organization's members in learning more about how to live sustainably. In addition, for the fourth iteration, key informants were asked whether the members of their Life Group, specifically, would be interested in participating in the educational programming component of the intervention. This measure was included because it had been determined that the best format through which to conduct the programming for that particular iteration would be a traditional Life Group meeting.

This question prompted informants not simply to answer “yes” or “no,” but to also elaborate on reasons for their answers. That is, why did they feel that members would or would not be interested in participating in educational programming designed to promote sustainable living. This added information was informative in identifying, and proactively rectifying (through adaptations), potential inhibiting factors that might affect participation in the second phase of research (Goal 1).

Key informants were invited to participate in the proactive adaptation process described above by providing recruitment recommendations. Specifically, for the first, second, and third iterations, informants were asked, “What do you see as effective ways in which members could be recruited to participate in a workshop designed to promote sustainable living?” For Iteration 4, this question was changed to, “How do you think [the church’s] college students could be effectively encouraged to make more sustainable choices?” This modification was made to encompass a broader idea than simply participation, and to incorporate the second goal of the intervention, namely, a commitment to behavior change.

Responses for this measure were used primarily to triangulate data obtained from other constructs and measures, largely in an effort to adapt the intervention to overcome any enhancing or inhibiting factors. For instance, perceptions of sustainability and sustainable living informed suggestions for how to adapt promotional materials and recruitment methods, and informants’ recommendations were used to support, refute, or augment those findings. Thus, data related to informants’ recruitment recommendations

were obtained to strengthen, and add to, findings from data obtained through other measures.

### *Post-intervention Measures*

Post-intervention constructs and measures were chosen to assess the outcomes of the intervention in terms of expected behavior change, potential change in motivation, and the appeal of the curriculum and of sustainable living education in general. Evaluating those outcomes involved both quantitative and qualitative measures, as described below.

#### *Participant Engagement and Learning*

Participants' levels of engagement and learning were expected to reflect the appeal of the programming events, which was expected to contribute to goal achievement. As with a number of other constructs and measures detailed here, participant engagement and learning were only relevant for Iterations 2, 3 and 4; as there were no participants for Iteration 1. This construct was measured through the post-workshop questionnaire for participants in Iterations 2 and 3; the combined questionnaire for Iteration 4; and qualitative observations for all three applicable iterations.

Workshop participants in the second, third, and fourth iterations were asked several questions designed to assess participant engagement and learning. Specifically, they were asked to share: 1) one new thing they had learned as a result of participation in the workshop; 2) what they liked best about the workshop; and 3) any changes that they would suggest for improvement of the workshop/curriculum. Participants in Iterations 2 and 3 were also asked to share what they liked *least* about the workshop, but that

question exhibited a good deal of overlap with the one asking them for suggestions for improvements. Thus, it was left out of the shortened version of the questionnaire that was used for the fourth iteration, in order to maximize the utility of limited space.

Qualitative observations were also used to augment questionnaire responses. Specifically, qualitative observers (one for each workshop) were present during Iterations 2, 3, and 4. The qualitative observation guide remained the same for Iterations 2 and 3, and included a number of questions revolving around participant engagement and learning, and eliciting feedback for how to improve both.

Observers were asked to note whether participants seemed engaged or bored while filling out both the pre- and post-workshop questionnaires, and during the workshop presentation itself. They were also asked to observe, through body language, facial expressions, and verbalized questions, whether the participants seemed to understand survey questions, and if not, which of them seemed confused. In addition, they were asked to note levels of audience eagerness and participation during workbook activities and audience participation questions. To augment these specific questions, observers also recorded a detailed timeline of events, which corroborated observations and responses to the structured questions provided. In light of the fact that participants may be influenced by my performance as the instructor for this workshop, observers were also asked to provide positive and negative (constructive) feedback regarding how I might improve my presentation of the curriculum for each subsequent iteration.

For the fourth iteration, the observers' role changed somewhat. Specifically, they made more detailed notes about the participants' responses to discussion questions, as



well as their interactions with one another. In addition, they continued to make observations regarding verbal and nonverbal cues and body language. Because of the greater level of audience participation through discussion for the fourth iteration, digital video recordings of the educational sessions were transcribed and analyzed qualitatively, again using constant comparison techniques (Merriam, 1998).

Measures of participant engagement and learning were used to identify effective intervention components. That is, what did and did not work, and why? In response to findings from this question, subsequent iterations were adapted accordingly. The effectiveness of those adaptations is also reflected in these measures. For example, do the changes made seem to fall under the category of best or least liked features? Do the participants seem to learn different “new things” as the intervention is adapted? Do recommended changes complement or contradict one another across iterations? These measures were also designed to help in identifying enhancing and inhibiting factors that may be modified to improve workshop effectiveness and appeal.

### *Behavioral Expectations*

Behavioral expectations were measured for the second and third iterations. The post-workshop questionnaire included an item similar to the behavioral frequency question in the pre-workshop questionnaire. Instead of asking about pre-intervention behavior patterns, however, this question asked participants to indicate the frequency, on a 7-point scale (1: *never*; 7: *always*), with which they *planned* to participate in the 27 different sustainable behaviors that were listed (the same behaviors as were listed in the pre-workshop question). As noted above, before-and-after responses for this question

were analyzed using t-tests to detect statistically significant changes. Participants were also asked to share the likelihood (1: *not at all likely*; 7: *very likely*) that they would: 1) install water-saving devices in their home; and 2) install energy-saving devices in their home. A comparison of pre- and post-intervention behaviors among participants was informative in the determination of the extent to which the intervention's goals were reached.

### *Behavior Change Commitments*

Participants in Iterations 2, 3, and 4 were invited (though not required) to share, in an open-ended fashion, two behaviors *of their choice* that they would (*voluntarily*) commit to changing in order to make their lifestyles more sustainable. Responses to this question were analyzed qualitatively (Merriam, 1998). Questions guiding the analysis were: a) Did participants commit to change their behavior?; b) Are chosen behaviors predominantly one-time behaviors, or are they continuous? Or is there a good mixture of both types?; c) Are the behaviors more or less ecologically “impactful” than other sustainable behaviors?; d) Are some behaviors more frequently listed than others? If so, is there any indication of why that might be?; and e) How specific or vague are the behaviors? Do participants give concrete examples or “feel good” responses?

This construct is important for assessing the extent to which the intervention's second goal was achieved. Namely, was the intervention successful in obtaining behavioral change commitments among participants? By understanding not just *whether* commitments were made, but *what kinds* of commitments were made, this measure also

provides the basis for adaptations designed to elicit more meaningful behavior change commitments for subsequent iterations of the intervention.

### *Reasons for Behavioral Expectations*

Specific motivations for post-intervention behavior were measured for the second, third, and fourth iterations. For Iteration 2 and 3, these were measured through a questionnaire item identical to that measuring pre-intervention behavior. Again, that item asked participants to rank the importance (1: *most important*; 7: *least important*) of each of seven factors (cost savings, convenience, the environment, social responsibility, health and wellbeing, time management, and “other”) as they consider participating in the 27 behaviors listed in the frequency question. For participants in Iteration 4, the question was similar, but was asked in reference to the importance of eight factors (biblical stewardship was added to the list for this iteration) in their selection of the two behaviors they *committed* to changing, because the shortened version of the questionnaire did not include the behavioral frequency question.

This item was added to determine the motivations behind participants’ behavior change expectations. An understanding of those motivations was important in answering several of the questions “asked” of the intervention. First, it was helpful in determining the extent to which participants’ motivations might be an enhancing or an inhibiting factor in the success of the intervention. Second, post-intervention motivations were compared with pre-intervention motivations to determine whether any change in motivations took place over the course of the intervention. This particular intervention has sought a change in *behavioral intent*, specifically, and not a change in *motivations*, so

any change in the latter would have constituted an unintended consequence. The direction of any change that might occur, as well as any relationships between motivation and behavior change, would have provided the basis for comparison between the present study's findings and existing theoretical constructs. The lack of motivational change ultimately observed in this study was also informative in the interpretation of results, and in the formulation of recommendations.

### *Unintended Consequences*

In addition to intended consequences measured by the behavioral commitment construct described above, the intervention studied here had the potential to result in any number of other unintended consequences. Because those consequences would be, by definition, unintended, and therefore difficult to predict, or measure intentionally, I explored the relationships among various constructs above, within and across iterations, maintaining an awareness of the potential for such unintended consequences. By identifying unintended consequences of an intervention, practitioners may capitalize on those that are positive, and mitigate or avoid those that are negative.

### Countering Threats to Validity and Reliability

In any research endeavor, potential threats to validity and reliability arise or are inherent in the research design. Readers and other audiences gain confidence in the quality of the research if those threats are acknowledged and effectively addressed. In his seminal work on case study research, Yin (2009) offered several suggestions for countering potential threats to validity and reliability, which can be applied to both case study research and formative experiments, or case studies within formative research. I

followed his recommendations to counter threats to construct validity, reliability, internal validity, and external validity.

### *Construct Validity and Reliability*

To counter threats to *construct validity*, I used triangulation of data sources, investigators, and methods (Reinking & Bradley, 2008; Yin, 2009). During the first phase of each iteration, I conducted (qualitative) key informant interviews with active and/or representative members of participating organizations, in order identify motivational orientation, as well as to assess perceived worldviews, values, and so forth of the organizations' members. Participants' qualitative and quantitative responses questionnaire items were used to either confirm or contradict those assessments. Finally, I enlisted the assistance of qualitative observers to make observations and take detailed notes during the educational programming components of each iteration.

To the extent possible, I also included several measures for each construct within the questionnaires, some which have been repeatedly used in research and verified as valid. For example, I have included existing scales to develop motivational profiles for participants. Those scales were used to position respondents according to their orientations with regard to environmentalism, materialism, frugality, generosity, universalism, and benevolence. I also included a ranking item that I created to determine the motivational considerations that people take into account when making decisions about their behavior. Participants' motivational profiles were not used to establish causality, but rather to assess whether the intervention had achieved its desired goals—to foster participation in sustainable living educational programming among varied

audiences and to obtain (positive) behavior change commitments among those participants.

In addition to using multiple sources of data and evidence, and multiple construct measures, I developed a case study database for this project. That database was designed to improve the reliability (i.e., the ability of another researcher to replicate the *exact same* study) of the study (Yin, 2009). Finally, I invited key informants to review draft reports before disseminating results, in order to ensure that I had adequately represented their responses. In the event that any had objected to my portrayal of their responses, or offered other insight into my interpretation of findings, I would have reviewed and edited my report accordingly. However, I received only affirmative feedback from key informants.

#### *Internal Validity*

Because the present study is not an explanatory study (that is, not aimed at establishing causal linkages), *internal validity* is not a concern (Yin, 2009). However, there are some strategies used to counter threats related to internal validity that I have chosen to incorporate, in order to strengthen my findings (i.e., theoretical replication, consideration of alternative explanations). For instance, I was able to identify similarities and differences among the organizations that I worked with, and compare those with similarities and differences in findings related to the achievement of the study's goals. And, while my study was not designed or intended to establish causation, similarities and differences observed do suggest directions for future research. In addition, as I assessed the potential reasons for the level of success achieved in each iteration, and across

iterations (i.e., enhancing and inhibiting factors), I considered other potentially influential factors, that is, alternative explanations (i.e., demographics, attitudinal variables, etc.).

The inclusion of demographic and attitudinal variables also contributed to the potential for *analytical generalization*, which “identifies the scope of a theory—that is, *the conditions under which it applies*” (Reinking & Bradley, 2008, p. 40; citing Firestone, 1993; emphasis added by Reinking & Bradley). In other words, the inclusion of those variables helped me to determine how much I was able to say about whom; to define the scope of my findings.

#### *External Validity*

Replication is often used as a means of countering threats to *external validity*. Replication is also essential to formative experiments, although not for the sake of external validity, *per se*. Rather, it is used to seek key ingredients of successful implementation that seem critical in multiple and diverse contexts. Nonetheless, by studying four different organizations, I was able to begin the replication process, which will hopefully be continued over time, not just in my own future research, but in that of other sustainable living practitioners in various contexts. Another form of generalization closely associated with formative experiments is case-to-case transfer. This occurs “when an educator finds the data provided about a studied intervention to be particularly useful to his or her practice” and considers adopting it (Reinking & Bradley, 2008, p. 41). Within formative experiments, this type of generalization is often more relevant than external validity, *per se*. As such, case-to-case transfer is one goal of the present study.

To facilitate that type of generalization, this project's findings and recommendations will be made available to sustainable living educators upon its completion.

In this section, I have described the analytical approach used to guide this study, the study site selection, the phases of research conducted, the data sources used, the constructs and measures included, and the strategies used to counter potential threats to validity. My goal has been to approach the study in as thorough a manner as possible, through the use of multiple constructs, measures, and data sources. The section below on analysis and findings provides detailed case descriptions of each of the four iterations comprising this study, as well as cross-case analysis. Findings detailed there are further discussed in the Discussion and Conclusions section.



## CHAPTER FOUR

### ANALYSIS AND FINDINGS

In this section, I detail the analysis and findings associated with each individual iteration of this research project. The findings are arranged chronologically, using separate case descriptions for each iteration. Within those descriptions, themes, constructs, measures, and outcomes are all also detailed chronologically. I begin each case description with an explanation of how and why I chose that particular organization, bearing in mind the recommendation provided by Yin (2009): to “choose the cases that will most likely illuminate your research questions,” with the caveat that “you need sufficient access to the potential data, whether to interview people, review documents or records, or make observations in the ‘field’” (p. 26). Because the outcomes of one iteration necessarily informed the conduct of the next, some discussion of case-level findings is included in the case descriptions for each. Discussion related to cross-case analysis is included in that section. Finally, the Discussion and Conclusions section ties all of the findings together and provides overall recommendations and implications.

#### Case Description of Iteration 1

The organization selected for the first iteration of this project’s intervention was comprised of young professional members of the community. The group is affiliated with the local Chamber of Commerce, which has been seen as a driving force behind a local shift toward greater environmental consciousness (as noted by a local community development professional). In spite of the Chamber’s leadership role in that gradual shift, its leadership maintains largely economic and social motivations. Likewise, the

organization of younger professionals was described by one of their leaders as being both economically and socially-oriented. The group has roughly 80 dues-paying members, along with 400 Facebook “friends,” and 800 recipients of the organization’s monthly e-newsletter. Average attendance at meetings and events, however, is roughly 30 people. Again according to one of the group’s leaders, many of its members and regular participants are involved in other community organizations, which indicated to her that they may have a good deal of influence as opinion leaders, if targeted for this project. She thought that they would present a “good” challenge. Thus, after speaking with her at length regarding the nature of the project and the potential for working with the organization, we decided together to go forward with plans to coordinate a workshop among the group’s members.

#### *Key Informant Interviews*

Between September 16 and October 8, 2011, I invited 18 members and 2 active participants in the first organization to participate in key informant interviews. The first invitation went out via e-mail to nine of the organization’s members comprising the group’s leadership for 2010 and 2011. One of those nine agreed to participate in an interview. A second invitation went out to six additional members identified as active by the group’s leadership. Of those, two agreed to serve as key informants. The three key informants recommended a total of five more potential interviewees, none of whom responded to invitations to participate. Thus, 15% of those who were contacted agreed to participate in the key informant interview process (see Table 4.1). The initial goal had been to conduct between four and six key informant interviews per organization, so the

low turnout must be taken into consideration when interpreting the findings from this phase of research within Iteration 1. In addition, it should be noted that data saturation could not be achieved as a result of the low participation rate in the key informant interview process.

Table 4.1

*Key Informant Descriptions for Iteration 1 (All Informant Names are Pseudonyms)*

| Informant | Sex    | Origin    | Description            | Organization involvement |
|-----------|--------|-----------|------------------------|--------------------------|
| Bridgette | Female | Northeast | A single professional  | Active                   |
| Adam      | Male   | TX        | A single professional  | Active                   |
| Carl      | Male   | TX        | A married professional | Active                   |

Some potential reasons for the low participation rate in key informant interviews can be gleaned from communications with the non-participants. One member stated that she would like to participate, but was unable to fit a meeting into her busy schedule. Although she agreed to provide written responses to the interview questions, and although I provided her with the questions in electronic form, she failed to provide responses. Her failure to respond may have also been the result of her busy schedule. Another member wrote me, stating that he was “unclear” about both what I hoped to accomplish through the project, and what I meant by “sustainable behaviors.” He also expressed concern over whether the organization was “best suited to help with [my] project.” I responded to his concerns by: 1) defining sustainable behavior; 2) providing several examples of sustainable behaviors; 3) highlighting the main objectives of the workshop; 4) explaining the importance of sustainable living in light of the community’s other sustainability efforts; and 5) detailing the personal and community benefits to be

obtained from living more sustainably. I sent courtesy copies of that response to all nine of the potential interviewees from the first group. None sent follow-up responses, or subsequently agreed to participate in the interview process. The reasons (both expressed and not) for non-participation in the key informant interviews may have influenced workshop participation, and were taken into consideration in proposing adaptations to the research process.

The three key informants with whom I conducted interviews for this iteration described themselves as active, although not long-time, members. They were all relatively new to the local area (ranging in length of residence from five months to a year and a half). They appeared to range in age from roughly 25 to 35 years old, but were not explicitly asked their ages. Two were male and were employed in private industry. The other was a female working for a nonprofit agency. Based on my own observations from attendance at a regular monthly meeting, these demographics seemed on par with other members and/or participants in the group. Beyond those descriptors, though, it is difficult to determine how “representative” the informants were of the group as a whole. For example, none of them were originally from the local area, which may or may not be an accurate reflection of the organization’s membership. One informant stated that “it seems a lot of people aren’t from [here] originally,” whereas another estimated that about 50-75% of the group’s members are from Texas and the Southwest. Regardless, interviewing one or two members from the local area would have been beneficial to the research process.

Nonetheless, it was hoped that the informants' level of activity in, and interaction with, the group would lend some insight into the group as a whole. For instance, Carl had been actively involved in the organization since moving to town, and had gotten to know a number of the members. He said he would rate himself at a 6 on a 1-10 scale of familiarity with the group. Likewise, Adam had only been involved with the organization for a short time, but had quickly become an active member and expressed interest in being involved with the group's leadership. He had attended a lot of events and functions, and met many of the other members. Bridgette also indicated having attended events frequently, but admitted to only knowing a few of the members "very well," whereas she said she only knew others on a "surface level."

Among the three informants, two exhibited evidence that they were influenced by both environmental and social motivations, with that social motivation being at least somewhat outwardly focused. Bridgette, for instance, has worked in the past for an environmental nonprofit organization, and currently works for a nonprofit organization with a social/outreach mission. Carl works for a private communications company, but his wife works in a position with a social/outreach program geared toward poverty reduction, which reflects a value that they hold as a family. Carl also highlighted the importance of "building community and a diverse society," a goal that is in keeping with the social dimension of sustainability (but which he also noted drives economic stability, indicating that his motivations are economic on some level, as well). His environmental motivation was evidenced by his family's daily choices and actions, which were fairly sustainable, overall. He stated that he looks to be "eco-friendly" in every way that he can.

In terms of attitudes and beliefs, the two informants who were more environmentally motivated (i.e., Bridgette and Carl) indicated that they feel that they are unique among local residents in general, although not necessarily among other members of the organization. Bridgette noted that the members she knows well are fairly “like-minded.” Carl added that “people are interested in sustainability,” while acknowledging that there may be some misconception about the breadth of the definition of sustainable living. It is important to note, though, that because these two informants were more environmentally motivated, the potential exists for self-selection bias in terms of their association with other group members. That is, they may naturally gravitate toward others with similar attitudes and beliefs.

The third informant, Adam, was less environmentally motivated than the other two, and his environmental motivation appeared to be limited to the workplace (i.e., corporate sustainability efforts). That is, sustainable behavior on an individual level—particularly in terms of environmental consciousness—did not appear to be on his radar. His overall motivations tended to be primarily social (i.e., networking, meeting people, making friends) and economic (i.e., achieving financial success) and those motivations seemed to drive his involvement with the organization. The possibility exists that Adam’s motivations were more reflective of the group’s general membership than those of the other two informants. Although Bridgette did not observe an overwhelming economic motivation within the group, she claimed to keep company with like-minded folks within the organization, who may be less economically motivated than other members. She cited a friend who worked in a low-paying position as evidence for a lack of economic

motivation among group members. She also noted that many of the members are “just starting off in their career,” and therefore not in “high-dollar position[s].” However, people who are just starting out in their careers may still be highly economically motivated, even if they have not yet been able to achieve their economic aspirations.

Although the number of key informants who participated in this iteration of the project was low, the attitudes, beliefs, motivations, and behaviors detailed above indicate that data were collected from both ends of the motivational spectrum, even while moderate views between those endpoints were not represented. And, despite a low participation rate, the key informants were able to provide valuable insight into the constructs under investigation during the first phase of research, including: perceptions associated with the terms *sustainability* and *sustainable living*; barriers to living sustainably; group members’ values and priorities; and potential methods for recruiting workshop participants. That insight was used to inform adaptations to and elements included in the workshop presentation.

#### *Perceptions of Sustainability and Sustainable Living*

As noted above, themes related to members’ perceptions of *sustainability* and *sustainable living* are important because those perceptions have the potential to impact their level of interest in participating in educational programming designed to promote those lifestyles. Thus, an understanding of these perceptions can aid in the process of adapting the intervention to increase potential interest in participation among organization members. For the first iteration, key informants’ perceptions of *sustainability* and *sustainable living* encompassed two main themes: 1) the presence of

both limited and advanced understanding of the terms; and 2) the presence of a clear environmental emphasis on both terms.

*Presence of both limited and advanced understanding of the terms.* Informants exhibited a range of understanding regarding the terms *sustainability* and *sustainable living*, ranging from very limited to very advanced. On one end of the spectrum, Adam asked me to define “sustainability living” for him even before I began with the interview questions. When I asked him to attempt a definition of his own first, it was clear that he had a pretty good idea of what *sustainability* is, at least from the environmental perspective, at the corporate level. Namely, he noted “green initiatives” and the value of “natural resources.” He also touched on the anthropocentric view of sustainability, which considers providing “generations to come [with] the same quality of lifestyle that we live.” In spite of this understanding, he was at a complete loss as to how to define *sustainable living*. It appeared as though he could not perceive a connection between the two terms. He guessed that it might be related to physical health, and “maintaining current health, lifestyle, and income.” When I described to him the three-dimensional definition of sustainable living, he said that it sounded “ambiguous” and “complex.” He asked if there was some kind of a “matrix” that would help one to make sustainable choices. Of course, because what is sustainable is a highly personal and subjective matter (which I explained to him), there is no matrix for making sustainable decisions. Once I gave him some examples, he professed that it “makes a whole lot more sense when you put it that way.”



However, when I asked him how he would entitle a workshop designed to encourage sustainable living, as I had defined it, he suggested “budgeting.” So, he was still missing the multidimensional nature of sustainable living. I tried to get across the breadth of the concept by describing the two sides to the social aspect, that is, relationships with family and friends on the one hand, and social outreach on the other (i.e., poverty alleviation, etc.), at which point he seemed to grasp the breadth of the meaning (“so it’s a pretty broad definition.”) But he did confess that he had “never thought of sustainability from the social aspect.” He further pointed out that “when I think of sustainability, I think of it in terms of manufacturing, not in terms of the community,” highlighting a corporate-level application of sustainability.

On the opposite end of the spectrum from Adam were two informants who had pretty clear conceptions of both *sustainability* and *sustainable living*. Their definitions included several key elements of the constructs. First, they stressed the conscious, or intentional, nature associated with each. Bridgette defined sustainable living as “being conscious of what you’re putting out and how it’s going to affect what’s around you....just little conscious decisions that all add up to a big change.” Likewise, Carl summed it up as “being cognizant of those things that impact the environment.” These two informants also identified the various levels, or scales, at which sustainability can take place (i.e., community, corporate, and individual). Finally, they acknowledged that sustainability and sustainable living occur in varying degrees. For instance, Carl expressed concerns over the practicality of “total sustainability,” stating that “it’s difficult to achieve total sustainability in everything we do.”

*Environmental emphasis.* Nonetheless, even the more advanced understandings evidenced a strong focus on the ecological or environmental aspects of the two terms. For instance, Bridgette highlighted renewable energy, purchasing decisions, resource use, recycling, and biking instead of driving as hallmarks of sustainable living. Similarly, Carl gave several examples of eco-friendly behaviors and choices that he and his wife had adopted (e.g., driving a hybrid car; recycling everything that they can; not keeping a lot of lights on; being conscious of their energy and water usage). He also equated sustainability with such terms as *green*, *environmentally friendly*, and *eco-friendly*.

Thus, on the basis of the key informant interviews, at least two different perceptions of *sustainability* and *sustainable living* appear to be present within the organization. First is the perception of these concepts as unknown or poorly understood. Second is the perception that they are unidimensional terms, focusing largely—if not solely—on the environment. The presence of those perceptions indicates that the members of the organization would likely benefit from participation in sustainable living educational programming; but also suggests a potential hesitance on the part of members to attend such programming. Thus, these findings held implications for the intervention, in terms of adaptations to recruitment methods and elements to be included in the curriculum presentation. For specific details, see the section below describing the adaptations made in response to key informant interviews.

### *Barriers to Living Sustainably*

As noted in the Methods section above, key informants in all iterations were asked to identify some possible barriers to living sustainably, for themselves or for other

members of the organization. For the first iteration, they were asked to do so first based on their own definition of sustainable living, and then based on the broader three-dimensional definition used within this study and the accompanying curriculum. Again, the reasons for the inclusion of this construct among the others investigated in this study were to uncover some reasons *why* the intervention may not achieve its desired goals; and to inform suggestions about how the curriculum content and presentation might be adapted to proactively address the inhibiting factors that barriers and obstacles might represent for participants. Some of the barriers identified were external, whereas others were internal. The major barriers identified included: 1) *infrastructural barriers*; 2) *societal barriers*; and 3) *resistance to change*.

*Infrastructural barriers.* One of the most prominent barriers identified by key informants was *infrastructure*. This barrier encompasses concerns related to the layout of the city and its surrounding communities, namely, the distance between people's homes, workplaces, and other areas in the community. That, according to Bridgette, would make it difficult to "get rid of your car," for example. Related to the barrier of distance are the infrastructural barriers associated with the city's public transportation system, primarily availability and safety. So the combination of the layout of the community and the unavailability of adequate public transportation make it difficult to cut back on driving.

The city's recycling program may also present an infrastructural barrier for some. Bridgette stated that recycling is available, but that "you just have to find it, it's not readily available or made public to you." This lack of ready availability would likely be a problem for someone like Adam, for example, who stated that "when it comes to

recycling, I'll kind of take what people give me and I'll go with it. I don't mind doing it, but I don't know if I'm one that has that self-initiative..." Although Adam was the only key informant to express this precise sentiment, it can be expected that other organization members might possibly agree with his stance.

Both Bridgette and Carl also perceived a lack of availability in the area of purchasing options (i.e., for local, organic, sustainable foods; sustainably created and packaged goods). Even in cases where such goods are available, the key informants pointed out that cost might be a barrier to access. The newly-established farmers' market in the study community provides an example of this barrier. For example, many (if not all) of the vendors charge roughly *twice* the price of the local grocery store for much of their produce, as well as for other products. In spite of a fairly low relative cost of living in the local area, market prices for literally *all* products were higher than prices for comparable products at markets in other parts of the country (e.g., South Carolina, Minnesota), based on personal observations. The cost barrier was not limited to food purchasing options for the informants. Bridgette suggested that the use of alternative energy might also be cost-prohibitive. Thus, infrastructural barriers were a prominent concern for key informants, and thus an important area of consideration in the process of adapting the workshop curriculum for this particular group (as detailed below in the section on adaptations based on key informant interviews).

*Societal barriers.* Aside from *local* external barriers to living sustainably, Carl identified several societal barriers with which he specifically associated the social and economic dimensions of sustainable living. Among these, he listed: media pressure;

incentives to consume and be fiscally irresponsible; “loss of family time and holistic character; intellectual, and health capabilities that have been a part of American society” (i.e., time outdoors, or with family; the pace of life; the connected world). Adam added the absence of group norms as a barrier that might also be seen as societal. He suggested that if the organization would adopt an initiative in support of sustainability (i.e., picking up trash around the neighborhood), that might provide the needed incentive. These societal barriers transcend the local and logistical barriers that might be more easily addressed through adaptations to the sustainable living curriculum. However, steps were taken to counter the influence of this barrier on potential participants, and are again detailed below, in the section describing adaptations to the intervention.

*Resistance to change.* Informants also identified an internal barrier, namely, a resistance to change, particularly in terms of environmental sustainability. This theme was framed in several different ways. In some accounts, it was presented as a matter of lifestyle and habits of consumption, which were seen as subject to the potential for complacency. In others, it was seen in perceived resistance to governmental control and regulation. For example, Adam talked about a drought being experienced in the local area, and how some communities in the area had instituted water use restrictions, regarding which he commented, “that wouldn’t fly too well” in his town.

Other barriers identified by informants included image and time. That is, people may feel the need to project a certain image through the clothes they wear, the cars they drive, and so forth. In terms of social sustainability, Bridgette thought that time was a barrier that might keep some people from volunteering, or being otherwise involved in

the community, although she did estimate that roughly half of the organization's members were somehow involved in volunteering for a cause. These internal barriers, as well as the external barriers outlined above, have the potential to influence individuals' willingness to adopt sustainable behaviors, and therefore provide important insight into the elements that should be included in sustainable living educational programming, as well as adaptations that must be made to existing curricula, including the curriculum used for the present intervention.

### *Members' Values and Priorities*

As noted in the section on constructs and measures, members' values and priorities were measured through two questions asked of key informants—one open-ended and one closed-ended. Again, an understanding of the existing values and priorities in each organization was helpful in my efforts to: develop promotional materials designed to foster participation in the educational programming component of the intervention; and design the curriculum presentation in such a way as to appeal to existing values and priorities in my effort to obtain behavior change commitments from participants.

By analyzing both the quantitative and qualitative measures of this construct, I was able to more accurately assess the importance of each value/priority, as perceived by key informants. For instance, Carl's elaborations on his answers to the ranking exercise made it clear that he was answering the question more from his own personal perspective than from that of the average group member. Similarly, Bridgette generally answered based on the few people that she knows well, with just a few comments that indicated she might be thinking more of the broader membership for some, but not all, of the values.

Adam's comments seemed to indicate that he was attempting to answer more from the perspective of average members. In all, the values and priorities identified were largely in keeping with the predetermined categories used for the ranking question. Again, those included: *social relationships*; *time*; *money*; *community*; *family*; and *health*. Additionally, the key informants identified *an inward focus* among the members of the organization that might be reflective of their values and priorities.

*Social relationships.* Social relationships appeared to be the most important value for the organization's members. Both Bridgette and Adam listed them as the number one value among the six, although their reasons differed. Adam argued that "young people kind of cherish that social life," whereas Bridgette described members as "a little cliquey." Carl placed social relationships third in importance, behind family relationships and health, but cited his personal values as reasons, indicating that perhaps he was drawing more from personal experience than from his perception of the average group member. Thus, social relationships represent an important aspect in the lives of the organization's members.

*Time.* Time seemed to be the second most important value for the organization's members. Bridgette thought that "budgeting their time is really important to them and they're very decisive about how they decide what to spend time on," and added that sporadic attendance at events provided further evidence of the importance of time for this group. Adam agreed that time was "very important," and added that "a lot of young people still want that balance, as far as work and their personal lives." Even Carl, who placed time as fifth in importance, confessed, "I don't have any time. . . . Everybody

seems busy, like they've got a really active social life. . . . So I think time is a . . . precious commodity.”

*Money.* Based solely on the rankings assigned to money in the closed-ended question, it would be fifth in importance. But the informants' comments suggested that it might be more important in actuality. For instance, Bridgette was basing her assessment on people's current and past positions, not necessarily their future aspirations. She pointed out that many of the group's members are just starting out in their careers. She said that the organization could be generally divided into two subgroups: 1) early-career professionals; and 2) those who are not professionals yet, but hope to be. Those aspirations may be associated with economic motivations. Adam commented on the importance of money as a measure of success, as well as the function that it serves in efforts to get out of debt and to get through hard economic times. Carl stated that money was important (in terms of managing it wisely), but that he didn't think that it was a “major detractor” in members' lives, given that they all have jobs and are “able to put food on the table.” So, although there was some debate about the priority assigned to money among the organization's members, it is clear that it is, at the very least, important to the members.

*Community.* Key informants also perceived community to be among the more important values of members. Carl listed it in his answer to the open-ended question about members' values and priorities, before even being prompted about it in the ranking question. Bridgette said that many of the members “are very active in the community; they volunteer with a lot of opportunities, with the [organization] and the Chamber [of



Commerce], but also with other local causes.” This community orientation, however, is not always visible to the larger membership. Adam, for example, admitted that he doesn’t feel “a huge obligation to the local community,” and that he does not think that the average organization member is “really thinking about where they rank the community in their life, or about how they can get more involved.” Responses for this theme may reflect a dichotomy within the group—one subgroup that is concerned about the community and another that is not, or at least is less, concerned.

*Family.* The importance that the average member of the organization places on family relationships is difficult to gauge from the responses of the three key informants. Neither Bridgette nor Adam felt that they had enough of a sense of that value’s importance to members to really answer that question adequately on behalf of the group. Bridgette seemed just to be guessing when she ranked it fourth in importance, and Adam stated that he hadn’t really heard people talk much about family. He did argue that perhaps that was because of the level of the relationships shared with other members. He also added the potential, though, that “at this point in life, we’re young, we’ve been with family for 18 years and maybe haven’t gotten to that point of cherishing the family concept.” Carl seemed to be the outlier in this regard. His family lives not too far away, and he shared that having a close-knit family was “a value I was raised with....[Family] is just the most important thing.” The question remains, which of these rankings is more reflective of the average member?

*Health.* As far as health, Carl again seemed to have a slightly different view than the other informants, though not entirely. Carl ranked health as second in importance, at

least in the long term. Specifically, he stated that “long term, for me, staying healthy and living a long life are important.” On the other hand, he also admitted that “short-term behaviors, like drinking and eating too much, are a part of the group’s activities,” and that they run counter to these longer term goals. Bridgette’s ranking of health as last in importance among the average members of the organization was reflective of this disparity. She said that she placed it where she did, “just judging by what I’ve seen everybody eat.” Adam pointed out that this value is highly “variable” within the organization. He contrasted several members known to be “very health conscious” (people who run 5K races and triathlons) with what he perceived to be the majority, whom he perceived as not being “as health conscious as they should be.” He personally identified with the latter category. But again, the value of health to the average member was uncertain on the basis of key informant responses.

*An inward focus.* The other main finding, which came specifically from the open-ended question regarding values and priorities, was that of an inward focus that may exist within the organization. Adam made several comments indicating that he and the other members of the group were possibly fairly self-interested. Not just in terms of sustainability, but in life more generally, they seemed to be asking, “what’s in it for me?” Even their friendships and social relationships within the organization seemed very opportunistic (i.e., “what service might my business be able to provide for you?” and vice versa). One young professional woman that I met during a later iteration agreed that this was a fair assessment. She had attended a few of the organization’s events when she was new to town, but had not felt very warmly welcomed because, being in academia, she

“didn’t have anything to ‘offer’ them.” The limited response to my request for interviews further echoes that appraisal, and suggests that the group’s members are perhaps not largely socially minded, at least in terms of an outward-looking social orientation, or civic-mindedness. The inward focus must be noted as a potential factor influencing the results obtained from this iteration of the intervention. Additionally, while the values identified in this section were used to tailor the workshop content to this group, I reiterate that it was difficult to try to piece together a coherent framework of values and priorities based on such a small number of key informants.

#### *Recruitment Recommendations*

*Suggestions for effective recruitment of participants.* As noted previously, data related to informants’ recruitment recommendations were obtained to strengthen, and add to, findings from data obtained through other measures. Key informants offered a number of practical suggestions for effectively recruiting organization members to participate in the sustainable living workshop scheduled for November 7, 2011. Several of those were logistical. For instance, it was clear that refreshments would provide a definite advantage—and may be considered a necessity. This is not unusual, based on anecdotal evidence that I have gathered from community extension professionals over the years, and was part of my original intent for the workshop. Additionally, it supports Bridgette’s recommendation that I first focus on “get[ting] people in the door; then try to engage them . . .” Carl also recommended that I keep the length of the workshop to about an hour and a half, as that would “sound more palatable,” and that I include a visual element, such as a Power Point presentation (which I had originally planned to do).

The informants also provided several suggestions regarding the content of both the event invitation and the presentation itself. First, the three-dimensional nature of the definition of sustainable living would need to be promoted. For instance, Carl stated, “my mind immediately goes to the environment. And we hear a lot about sustainability and the environment. I think we all know what we can and can’t do. So I think mentioning the financial and social in the communications would be helpful.” Adam thought that including a paragraph or so describing what sustainable living encompasses would increase participation.

Also, it was clear that the invitation and the workshop should appeal to local pride. Bridgette observed that “people love [this city] that live here. They’re very Texas and [City] gung-ho.” Her comment echoed those of several community leaders with whom I visited during my preliminary research phase. Thus, the workshop should have a local focus, highlighting the benefits to the community that could come from sustainable living. Another suggestion for how to encourage participation was to promote the discussion/dialogue aspect of the workshop, rather than describing it as a lecture or giving the impression that participants would be “scolded” for their behavior. In addition to the other recommendations, it was suggested that the content not simply focus on “how-to” information. The recommendations provided by key informants regarding how to improve the likelihood of participation in the workshop were incorporated, along with the other constructs measured through the key informant interviews, into the adaptations made for the second phase of research, which are detailed in that section.

*Expectations for the project's scope of impact.* In addition to providing recruitment recommendations, informants discussed what the expectations should be for the workshop. Particularly with Carl and Bridgette, a couple of common themes arose. First, each noted the expected scope of impact. Namely, they suggested that this would be a “start small” type of effort. Bridgette warned that “you can’t expect someone to totally shift their way of thinking after meeting with you for an hour. That’s not gonna happen with anything, whether it’s sustainability . . .” But she and Carl also added that getting participants to do something small, like recycling or thinking about where their produce is coming from, could “add up” and “have a snowball effect.” In keeping with a small start, Carl suggested targeting influencers: “I think going after influencers is important; then it will have overall impact.” These additional insights provided by informants were considered in the process of adapting the educational programming component of the intervention (including promotional materials, content presentation, etc.).

#### *Adaptations in Response to Interview Findings*

Key informants’ interview responses reflecting perceptions of sustainability and sustainable living, barriers to living sustainably, members’ values and priorities, and recruitment recommendations were used to determine various elements that should be included in the second phase of the intervention, as well as to adapt promotional materials (Appendices H-J) and the curriculum presentation for the first organization/iteration. Those elements and adaptations fall under the following themes: 1) application of a *three-dimensional focus and terminology*; 2) facilitation of *increased awareness of local opportunities*; 3) emphasis on the *benefits of living more sustainably*;

4) focus on the *values and priorities* of members; 5) appeal to *local pride*; 6) promotion of a “start small” mentality; and 7) emphasis on the discussion/dialogue component of the workshop.

*Three-dimensional focus and terminology.* In response to the potentially limited understanding that members might have of the terms *sustainability* and *sustainable living*, the value that members appear to place on social relationships, and the recruitment recommendations provided by the key informants, I clearly spelled out the three-dimensional nature of sustainable living in the invitation to participate in the workshop. The following text appeared in the Facebook invitation (Appendix I) that was sent out to the organization’s members and Facebook fans:

...Individuals can...contribute to sustainability by living sustainably on a daily basis. This involves making choices that are socially, environmentally, and economically responsible....As you can see, I include dimensions of sustainability that go beyond the environmental dimension that many people think of when they see or hear the word “sustainability.” Using this broader definition of sustainable living, we can see how a sustainable lifestyle is deeply satisfying, fulfilling, and appealing; and how it benefits you, your family, and your community, as well as the environment.

Further, I planned to reiterate that concept through the workshop presentation itself, by stating that:

[M]any of [the city]'s sustainability efforts thus far have taken place at community or corporate levels. They've predominantly involved policy and infrastructural changes. What has been less emphasized is promoting sustainability at the individual level. That is, there has not been a concerted effort to encourage people to make sustainable behavior choices in their everyday lives. This, however, is an essential component in achieving a sustainable [City].

Next, I included in my workshop script the definition of sustainable living, adding that "this three-dimensional perspective implies a sense of balance between quality of life and environmental responsibility." I designed the accompanying slide to show participants several examples of unbalanced, unsustainable lifestyles, that is, those focused too heavily on any one of the dimensions, or on none of them. In the presentation, I intended to add that "in a perfect world, every decision that each of us makes would reflect equal consideration of all three," but to also acknowledge that sustainability occurs on a continuum. Participants would then be encouraged to try to "get closer to the center of the triangle with the decisions [they] make." Finally, the presentation included some examples of behaviors that are sustainable along one, some, or all dimensions of sustainability; in order to teach participants to make that evaluation for themselves on a choice-by-choice basis. The level of detail offered in both the workshop and the invitation to participate were incorporated to provide a clear picture of what sustainable living is, and how it contrasts with what many people imagine it to be. The intent was

that, once participants were on the same page about what it means to live sustainably, efforts to encourage such behavior would be more effective.

*Increased awareness of local opportunities.* Because key informants identified a number of infrastructural barriers to living sustainably in the local area, I sought to minimize their influence to the extent possible. Specifically, I compiled a collection of fact and resource sheets regarding different opportunities available to members, both in general, and specific to the local area (Appendix K). For example, where available, I provided local information for the city and for various suburbs on what, when, and how residents could recycle. I also compiled a resource list that includes local sources for different types of meat, produce, and so forth. These and other resources were prepared and made available for workshop participants to take, so that they would not have to do their own leg work to find local opportunities for sustainable living.

*Benefits of living more sustainably.* It was clear from key informant responses that it would be necessary to highlight the benefits of living more sustainably, at various scales. One major way that I incorporated this theme was through the event invitation. Specifically, it addressed the value that the organization's members place on: 1) money ("You may benefit from this seminar . . . if you find that it's often difficult to make ends meet at the end of the month, financially speaking; or if you simply feel that your life is cluttered with too much 'stuff.'"); and 2) time ("You may benefit from this seminar if you often find yourself too busy to do the things you want to do . . ."). Although health was not a main concern for members, according to key informants, it was included in my workshop presentation material as an arena of life that could benefit from living more



sustainably. In the introduction, I included the point that not all sustainable behaviors involve sacrifice and self-denial, but that “there are many . . . that will improve your current life circumstances and make you much happier, healthier, and even wealthier.” In the section discussing the “time crunch” that many Americans face, I highlighted several negative effects of “time poverty,” including: loss of family time, obesity, anxiety, stress, and depression. Overcoming these negative effects through better time management would naturally have positive health impacts. Other benefits of more sustainable living include: “leisure . . . time with friends and family, exercise, relaxation and rejuvenation,” and those were also included in my workshop presentation notes. I did not include an exhaustive list of the specific health benefits of sustainable living, as identified in research findings. For an organization with members who were more concerned about health, it would likely be important to place a greater emphasis on those findings.

While there are a number of benefits to be obtained from living more sustainably, as outlined above, it is important to also acknowledge that there are costs associated with living sustainably. The most prominent of those costs, according to key informants in this iteration, are the economic costs associated with adopting sustainable behaviors. Thus, my workshop presentation was designed to: 1) acknowledge that the cost barrier encountered by many individuals is a legitimate one, when considering choices and behaviors; and 2) offer examples of sustainable behaviors that are cost-effective, so that participants would have the option to incorporate those kinds of choices into their daily behavior.

*Values and priorities.* The values and priorities identified by key informants were largely addressed in the design of the workshop presentation. For instance, the audience participation activities included in the curriculum are designed not only to address internal barriers to sustainable living that participants may face, but also to help them to: 1) identify their values; and 2) determine any discrepancies between their professed values and their behavior. That is, the content of the curriculum presentation itself focuses more on encouraging and motivating participants to evaluate their values and priorities, how their current behavior does or does not reflect those values and priorities, and in turn, how they might be able to change their behavior to better reflect their values and priorities. That focus is in keeping with informants' recommendation that the workshop content not simply focus on "how-to" information.

The curriculum presentation was also designed to appeal to specific values identified during the key informant interviews. For instance, to appeal to those for whom community is an important value, the workshop was designed to encompass a broad definition of social responsibility and sustainability. That is, not only does it reflect components such as social relationships and time with family, but it includes the more standard definition of social sustainability, which focuses more on social equity, social justice, poverty reduction, community involvement, and so forth. Thus, actions taken in support of these social efforts are seen as contributing to a sustainable lifestyle.

Regarding family, which may be a strong value for some of the organization's members, the social dimension of sustainable living stresses the importance of relationships with family. That focus should appeal to those for whom family is an expressed value, and

should encourage others to make family a greater priority in their daily lives. As noted above, the appeal to the existing values and priorities of members was incorporated primarily through the workshop content. In retrospect, those values and priorities should have been addressed more clearly in the event invitation as well, in order to promote greater participation.

*Local pride.* To appeal to local pride, I first modified the title of the workshop from *Living Sustainably: It's Your Choice*, to *Achieving a Sustainable [City]: What's Your Role?* Then, in both the event invitation and the workshop material, I highlighted the city's praiseworthy efforts toward "greening" the community, to include various LEED-certified building projects in the community, and the city's network of "green" businesses. Next, I mentioned how the organization's members could take part in those efforts and extend them to include the individual community member, by adopting sustainable behaviors in their daily lives.

*"Start small" mentality.* This intervention promotes a "start small" mentality in several ways, not just in terms of workshop curriculum and presentation, but also in term of the entire recruitment and planning process. For instance, Carl's recommendation to target influencers lends support for the project's focus on influential community organizations and their members, in an effort to slowly effect a change with greater and greater numbers of community members (i.e., through the process of adoption and diffusion of behavior). The workshop content also encourages the "start small" mentality by: 1) acknowledging that sustainable behavior occurs on a continuum; 2) asking participants to choose just *two* behaviors of their choice that they could change to make

their lifestyles more sustainable; and 3) highlighting a Calvin Coolidge quote that states, “you cannot do everything at once, but you can do something at once.”

*Discussion and dialogue.* In response to the suggestion that I focus on the discussion/dialogue aspect of the workshop, I included the following phrase in the event announcement, following the other reasons why members might want to participate: “. . . if you’d just like to be part of a dialogue about what it means to live sustainably, I would invite you to attend this seminar.” The workshop itself, particularly through workbook activities, was also designed to elicit audience participation and responses. The workshop was planned and scheduled in such a way as to build in time to discuss participants’ answers to questions, in short discussion segments. The pre- and post-workshop questionnaires were also crafted to give participants an opportunity to share their perceptions and responses to the workshop, and their attitudes, beliefs, and behaviors.

The next section describes the outcomes resulting from the above adaptations in terms the educational programming component of the intervention. In addition, I describe below the adaptations made in response to those outcomes for future iterations.

#### *Educational programming (Phase II)*

In spite of my efforts to gain insight into the values and priorities of the organization’s members, and to tailor the workshop and recruitment materials to appeal to those values and priorities, none of those members attended the scheduled workshop, which was held on November 7, 2011. One person had responded to the event invitation, indicating that she planned to attend (with an emphatic “Count me in!”), but did not attend. I continued with plans to hold the workshop in hopes that others would come

without an RSVP, but again, none did. Thus, for the first iteration, neither of the research goals (that is, to foster participation among non-environmentally-motivated individuals, or to obtain behavior change commitments) were attained. Below, I outline several potential inhibiting factors that may have contributed to the lack of participation in the workshop.

### *Inhibiting Factors*

Without the feedback that would have been obtained from the pre- and post-workshop questionnaires, and with only limited key informant participation, it is difficult to empirically assess the reasons for the lack of participation observed in the first iteration. Several potential contributing factors may have influenced this outcome. Factors potentially inhibiting participation in the workshop for this iteration included: lack of leadership support; limited promotion; and an inward orientation within the organization.

Lack of leadership support, or buy-in, may have been a primary obstacle to achieving maximum participation in this workshop. As noted above, few of the group's leaders agreed to participate in key informant interviews, even after repeated invitations, and at least one initially questioned the appropriateness of this project for the organization. This attitude may have influenced participation in both key informant interviews and the subsequent workshop.

Perhaps partially related to the lack of leadership support, but also potentially due to several logistical limitations placed on the group's more supportive leaders, the workshop suffered from limited promotion. Whereas ideal methods for reaching

members may have included e-mail messages, to which they could reply with questions; reminder e-mails; and a personal announcement during a regularly-scheduled meeting; those avenues of communication were not available for this particular group. And, with few key informants, word of mouth opportunities were also limited.

Another potential barrier to attendance may have been the group's orientation. In spite of Bridgette and Carl's endorsement of values like open-mindedness (politically and socially) and receptivity to new ideas; willingness to try new things, have dialogues and discussions, and resolve conflicts; participation in leadership; and displaying "desires and actions to make the organization constantly more meaningful;" other key informant comments suggested a somewhat narrow focus, or orientation, among members. As a whole, the group seemed to have a social orientation, where members seek to develop social relationships, business partnerships, and networking connections. However, the focus appears to be on the *personal* benefits to be obtained from those relationships. And, although the curriculum content and the invitation to participate did address the personal benefits to be obtained by living sustainably, if members did not *perceive* a benefit to themselves, it may have been a barrier to attendance. Thus, it may be that a more civic-minded group of individuals would be more receptive to this process than more inwardly-focused groups, such as this one.

It must be noted that the above reasons for lack of participation are somewhat speculative. In order to gain further insight into the potential factors that may have influenced turnout, the current draft of this report was sent to the organization's official leaders for 2011 and 2012 (all of whom were invited to participate in key informant

interviews), and to the other members who were invited to participate (including those members who did participate in interviews). Those recipients were asked to review the draft and provide any feedback that may help to make the document more accurate and representative of the organization. None replied with any substantive feedback.

#### *Adaptations in Response to Workshop Outcomes*

In response to the potential inhibiting factors identified above, I made several adaptations for subsequent iterations. For instance, for later groups, I sought a greater level of leadership support, and ideally, enthusiasm. For an intervention to be successful, it is important that members in influential positions (i.e., leaders; active members) endorse the curriculum, acknowledge its value, and encourage other members to attend the educational programming component of the intervention.

In addition to garnering higher levels of leadership support, in later iterations, I sought to reach members through the use of a greater variety of media for promotional efforts (i.e., e-mail announcements, reminder e-mails, flyers, bulletin and newsletter announcements, and verbal announcements during regularly-scheduled meetings). I also worked to encourage word of mouth endorsement on the part of key informants who were enthusiastic about the project and the curriculum.

Finally, for subsequent iterations, I tried to identify more outwardly-focused and civic-minded organizations for participation. Although still attempting to target alternatively-motivated individuals (i.e., socially and/or economically), focusing on these traits was seen as important to improved goal attainment. The adaptations outlined here, combined with feedback from key informants from the second organization, were used to

tailor the second iteration of this intervention. The details of that case are described in the next section.

### Case Description of Iteration 2

The second organization selected for participation in this project was a campus women's group at a local university. The organization is comprised of faculty members and administrators and spouses thereof, with a total membership of over 200 people. The organization's president provided me with some demographic characteristics of the group (all estimates). Ages of members range from late twenties to early nineties. Roughly 60% are employees, versus 40% spouses. Of the overall membership, only about 30% are either faculty or faculty spouses; about 70% serve in staff or administrative positions or are spouses of those who serve in those capacities. The group is about 95% white, with minorities of all kinds making up only about 5% of the membership. The president noted that this is fairly representative of the university makeup; even though it is not representative of the city's demographic composition.

This organization was selected in part based on the adaptations informed by the previous iteration, namely, to seek a greater level of leadership support and enthusiasm, to use a greater variety of media for promotional efforts, and to work with more outwardly-focused and civic-minded organizations. This organization allowed for the fulfillment of all three of those recommended adaptations.

Regarding leadership support and enthusiasm, I was able to meet with the group's president and another one of the leaders (on October 4, 2011) to discuss the possibility of working together on this project. Both expressed a great deal of interest in the project,



and struck me at the time of the meeting as being potential champions and advocates of the project. One way in which their support of the project was evident was in their willingness to personally recommend a number of potential key informants for the first phase of the intervention. In fact, the president agreed to invite (via e-mail) those potential informants to participate on my behalf, feeling confident that her personal endorsement would secure greater participation. The enthusiasm displayed by both of the women was promising.

In addition to expressing support and interest in the project, both of the leaders with whom I met had a number of ideas for how to format and promote the educational programming event, and were willing to advertise it via several forms of media. In addition, they indicated having the freedom to approach the group's members through those various media outlets, which was lacking in the first iteration. Among the avenues they suggested for promotion were: a "save the date" notice, an announcement in the monthly e-newsletter, and an e-mail invitation to the group's membership. Later, we decided that I would also make an announcement at the group's annual Christmas luncheon, giving greater detail about the workshop and extending a personal invitation to participate. Those various options for conveying information about the workshop were expected to improve the likelihood of members participating.

In terms of an outward and civic-minded focus, the organization's theme for the year was: "Caring Together in Friendship and Service." That theme highlights not just the outward focus of the group (i.e., service), but also its broader social orientation (i.e., friendship). The organization's overall mission, which involves promoting the social and

cultural life of the university, also attests to the social-orientation of the group. Some of the group's activities indicate the potential presence of economic motivations among members (as described below in the description of members' values and priorities), however the group's overall orientation seems to be largely social, with both inward and outward areas of emphasis. Although the university itself has begun to work toward sustainability through various initiatives, awareness of and identification with those efforts remain limited (community sustainability professional, personal communication, September 13, 2011), indicating that environmental motivations among the organization's members are likely less salient than social and/or economic motivations. Thus, the organization was chosen based on its potential to overcome some of the inhibiting factors that had limited the success of the previous iteration, as well as on the interest expressed by its leadership in participation.

#### *Key Informant Interviews*

Between November 8 and December 9, 2011, I invited 23 of the organization's members to participate in key informant interviews. The first invitation was sent via e-mail to 22 members who had been identified by the group's leadership as active and representative members. Five of those agreed to participate in an interview. One of those five was able to recommend another member to interview that had not been on the original list (although several reiterated names of people who had already been invited to participate). A reminder invitation was sent to all 23 potential key informants (the original 22 and the 1 that was recommended during the key informant interview process). Of those, five agreed to serve as key informants, for a total of ten (Table 4.2). Thus, 43%

of those who were contacted agreed to participate in the key informant interview process. The initial goal had been to conduct between four and six key informant interviews, so the high level of participation was encouraging, moving forward with the planning process for the workshop. I was able to identify many recurring themes throughout the interviews. However, the last informant that I interviewed exhibited a “negative case” perspective for many of the questions, and therefore added a lot of new insight that had not been brought up in previous interviews. While the quality and breadth of the data collected benefited from this added perspective, it does mean that data saturation was not fully achieved.

Table 4.2

*Key Informant Descriptions for Iteration 2 (All Informant Names are Pseudonyms)*

| Informant | Sex    | Origin    | Description   | Group involvement |
|-----------|--------|-----------|---|-------------------|
| Deborah   | Female | TX        | A married mother of grown children and university employee        | Highly involved   |
| Elaine    | Female | TX        | A mother and university administrator                             | Highly involved   |
| Francis   | Female | MA        | A married mother and faculty member                               | Highly involved   |
| Gail      | Female | TX        | A married mother and faculty member                               | Nominal           |
| Heidi     | Female | IN        | A single mother and university employee                           | Limited           |
| Iris      | Female | TX        | A married university employee                                     | Highly involved   |
| Jackie    | Female | TX        | A married great-grandmother and former missionary; faculty spouse | Involved          |
| Karen     | Female | Northeast | A single university employee approaching retirement               | Variable          |
| Laura     | Female | TX        | A married mother and faculty member                               | Nominal           |
| Maria     | Female | SC        | A married mother and faculty member                               | Involved          |

The ten key informants with whom I conducted interviews represented a cross-section of the group's overall membership. They ranged in age from early 30s to late 70s and represented a variety of life stages and familial statuses. For instance, I interviewed mothers of young children (both single and married), mothers of teens and young adults, and mothers of grown children with children and grandchildren of their own. I also interviewed informants who were married without kids, as well as informants who were single and never married. Career paths also varied among the informants and included: assistant and associate professors, senior faculty, program directors, administrators and staff, and faculty spouses. Informants also represented a wide array of geographic origins. I interviewed six native Texans, one of whom grew up in the local area, and several of whom had experience living outside the state. Other informants hailed from the Northeast (2), the Southeast (1), and the Midwest (1). Informants' involvement in the organization ranged from nominal to substantial. The women displayed varying degrees of environmental consciousness, although all seemed to have some understanding of the concept.

Based on their combined breadth and depth of experience, the key informants were able to provide valuable insight into the constructs under investigation during this phase of the iteration, including: perceptions associated with the terms *sustainability* and *sustainable living*; barriers to living sustainably in general or in the local area; group members' values and priorities; and potential interest in, and recruitment methods for, the upcoming workshop. Again, informants' responses informed adaptations to and elements included in the educational programming component of the intervention for this iteration.

### *Perceptions of Sustainability and Sustainable Living*

The key informants were generally fairly knowledgeable about sustainability, although a number of them lacked confidence in their answers to the interview questions relating to *sustainability* and *sustainable living*. For example, Jackie—a faculty spouse and self-designated “minister of home affairs”—stated, “I know more about green and less about sustainability. . . . And I don’t know exactly how sustainability fits in with all that.” Deborah described her own definition of sustainability as “fairly narrow,” while Heidi guessed that her definitions of sustainability and sustainable living were “probably inaccurate.” In actuality, these women, and the others I interviewed, exhibited a good deal of knowledge on the topics of sustainability and sustainable living. The themes reflected in their comments included: 1) identification of key components of the terms *sustainability* and *sustainable living*; 2) the presence of an environmental emphasis within informants’ definitions and perceptions of the terms; and 3) acknowledgement and appeal of the multidimensional nature of the concepts.

Informants touched on many of the key components of a comprehensive conception of sustainability (i.e., personal responsibility/individual behavior component; degrees of sustainability; intentionality/choices/trade-offs; future implications). First, they addressed the individual aspect of sustainability that goes beyond corporate and community-level efforts to incorporate individual-level behavior choices. Deborah, for instance, mentioned the need “individually, to lessen our impact on the environment.” Likewise, Karen described sustainability as “taking a personal responsibility for resource stewardship.” Laura spoke of personal sustainability with regard to social relationships or

social networks involving colleagues, friends, and family; and the importance of sustaining, renewing, and keeping them healthy. Thus, informants were not thinking about sustainability on a strictly infrastructural or design level.

Another key component of sustainability highlighted by informants was its variable nature, that is, the fact that it occurs in degrees, along a continuum. Gail acknowledged that living sustainably can be difficult, especially in an urban or suburban context, “if you want to be really strict about living sustainably. . . . But you could be *less* wasteful.” She also shared her observations of the environmental movement:

There’s just no pleasing the environmental movement, right? I mean the logical conclusion is that humans shouldn’t be on the earth, because our very presence ruins it. So somewhere between wanton wasting of resources and ‘I don’t exist anymore,’ there has to be a point where you just try and get comfortable with trying not to be wasteful, but knowing that we’re going to have a footprint, because we exist and it’s okay to exist.

Informants also acknowledged the intentional nature of sustainability, how it involves choices, trade-offs, and compromises. Heidi’s definition of sustainable living included “being *intentional* about decisions that affect the future . . . short term or long term, but not just thinking about how the decisions we make impact today.” Maria defined sustainable living as “engaging in a lifestyle that is *intentionally* respectful of natural resources.” Deborah echoed that sentiment, stating that to live sustainably is “to use resources thoughtfully.” Karen talked about choices and decisions, and gave several

examples of compromises and trade-offs that she's faced within the realm of sustainable living. For instance, she recently bought a new car. She replaced a "gas guzzler" with a more fuel-efficient model, but chose not to buy a hybrid car because she felt that it would not suit her travel needs. Gail told me how, when she and her husband moved to the local area, they had intentionally bought a smaller, older house than what they could afford; and how that had allowed them to save money; save resources; and have confidence in the construction, location, and stability of the home. She also told me how they "try to be pretty choosy about what [they] buy," in general. Iris echoed this, stating that she and her husband are "careful" with their purchases. All of these highlight the important element of sustainability and sustainable living that is *intentionality*.

In terms of the generational aspect of sustainability, Jackie noted the importance of "sustaining our earth for generations to come." Likewise, Laura included terms like *renewal* and *replenishing* in her description of sustainability. Heidi spoke of not using resources "in such a way that they're not available in the future." Several informants also used the word *stewardship*, which implies a focus on future implications. Thus, informants' perceptions reflected a good level of understanding regarding the key components of the concepts of sustainability and sustainable living.

*Environmental emphasis.* In spite of the informants' levels of understanding regarding sustainability and sustainable living, the majority seemed to question the extent to which the broader membership was familiar with, or conscious of, issues pertaining to sustainability. Even among informants with a good understanding of the key components mentioned above, a lot of their conceptualizations of sustainability and sustainable living

focused heavily on the terms' environmental dimensions. Maria thought of sustainable living as, "just a cleaner way of living." Terms such as *green*, *biodegradable*, *environmental*, *ecological*, *resource conservation*, and *Mother Earth* also came up in the interviews quite frequently. Notably absent from this list was the phrase "climate change," although *wise use of natural resources* was a major theme woven throughout the interviews.

More than half of the respondents emphasized the importance of resources, and more specifically the *wise use of natural resources*. When thinking of sustainability, Maria said that she thinks about "respecting natural resources, and operating within those natural resources in a respectful way. . . . respecting the earth." Karen spoke of "minimizing the use of expendable resources" and "do[ing] the most for the least . . . to maximize [utility]." Likewise, Heidi advocated "figuring out how we can use our resources without depleting them." Although Gail suggested that appreciation of natural resources might be difficult in the local urban setting, other informants mentioned unique local resources such as a large lake, a preserved wetlands area, and a community zoo; and the recently-visible (due to excessive drought and heat conditions) need to maintain clean and plentiful water resources. Clearly then, an appeal to environmental motivations among this group of women might be better received if it were to focus on natural resource conservation, rather than on climate change.

In addition to using terms related to the environmental dimension of sustainability, many informants also listed various sustainable, and mostly eco-friendly, behaviors within their definitions and descriptions, the most common of which was



recycling. In fact, nine of the ten informants listed recycling as a sustainable behavior; and several of them referred to it as “the first thing that comes to mind” when they hear the word sustainability.

Reducing consumption was another behavior that was commonly cited by the informants. Iris and Gail shared similar sentiments in this regard, stating that they do not want to purchase things “just to purchase things,” or “just to have more stuff,” or “just for fun.” Instead, they buy things that they need and use what they have for as long as possible. Another way of reducing consumption, of material goods in particular, is collecting experiences and memories, rather than things. Both Deborah and Iris espoused the value of this practice. Deborah pointed out that, at her age, she and her husband have realized that “the accumulation of things is not as important as the accumulation of memories.” Informants had reduced consumption of natural resources by: conserving water, combining errands in town, carpooling to work, eating more vegetables and less meat, and keeping the ambient temperatures in their homes as close as possible to the outdoor temperature. Some other common sustainable behaviors performed by informants were: gardening, composting, and buying local and/or organic food (i.e., at the farmers market or through a community-supported agriculture (CSA) program). Several of them noted the value of biking or walking, instead of driving, but they each cited reasons why such behaviors were not sustainable for them personally (i.e., the need to coordinate childcare, the distance from home to work).

*Acknowledgement and appeal of the multidimensional nature of the concepts of sustainability and sustainable living.* Despite the emphasis placed on the environmental

dimension of sustainability, several informants did touch on the multidimensional nature of the terms, a difference between the first and second iterations. Deborah, for example, acknowledged both the environmental and economic motivations and dimensions of sustainability in describing energy costs; and she recognized the social dimension in her comparison of things versus memories, and the relative importance of the latter over the former. Similarly, Gail noted the importance of being frugal, and highlighted the connection between frugality and environmental consciousness. Heidi spoke of sustainability in terms of expenditures, budgets, and schedules—that is, are they sustainable over the long term? Laura stated that her perceptions of sustainability and sustainable living had been dramatically altered by a visit to a sustainable community in the local area. From that experience, she realized that “the way they educate their children, maintain relationships with one another . . . that’s all part of sustainable living.” Karen spoke of a sense of “self-sufficiency” associated with sustainability, a concept that could be readily applied along all three dimensions of sustainable living. Several informants talked about a university-wide initiative designed to reduce food waste on campus by giving leftover produce and such to the needy. This reduces waste from an environmental perspective, but also addresses the social dimension of sustainability in its provision of fresh, healthy food for people who otherwise could not afford it. Community gardens, which serve a similar social purpose, were also mentioned by several informants.

One informant even thought of non-environmental dimensions of sustainability *first*, thinking more broadly. Francis stated that she “think[s] first less from an

environmental perspective,” and more from the perspective of programs and resources, that is, “how do we generate energy and value for an organization, but . . . in the context of people’s existing goal sets and their existing work capacity?” Hers, however, was a unique perspective among the informants, perhaps attributable in part to her industry and academic experience, along with her position as a program director. The other informants thought of the environmental dimension *first*, and *then* of the economic and social dimensions.

Whether or not their initial perceptions of sustainable living included a more singular focus on the environmental dimension, all of the informants were enthusiastic about the broader definition of sustainable living embraced by the workshop curriculum, and encouraged me to highlight that breadth in my communications with the group’s members.

#### *Barriers to Living Sustainably*

Informants also identified a number of potential barriers to living sustainably, both for themselves and for other members of the organization. Those barriers included: 1) *individual characteristics*; 2) *awareness, information, and education*; 3) *expectations, comfort, and social norms*; 4) *financial costs*; 5) *infrastructural barriers*; 6) *time, effort, and inconvenience*; and 7) *conflicting priorities, responsibilities, and values*.

*Individual characteristics*. For some of the organization’s members, *individual characteristics* were seen as presenting barriers or obstacles to living sustainably. Both Karen and Iris recognized the possibility that, because many of the group’s members are older, age and physical (dis)ability may prevent them from participating in some

sustainable behaviors. For instance, they may be unable to physically take their recyclables to a recycling center. In terms of the social dimension of sustainable living, Karen noted from personal experience that being single and childless can be obstacles. For example, single people lack that second household member with whom to share the tasks of living. Additionally, social relationships with married couples can be strained. Finally, not having children makes it difficult to develop some social relationships and a sense of community, because many people make connections through their children's schools and extracurricular activities. These and other individual characteristics had the potential to affect members' tendencies to perform sustainable behaviors. It was difficult to know workshop participants' personal circumstances without asking them directly. However, I undertook the educational programming component with the understanding that some of those details may be revealed by the participants during the workshop, and would need to be addressed as they were brought up. Other barriers, however, could be anticipated, and proactive measures taken to counter them.

*Awareness, information, and education.* One major barrier to living sustainably, according to informants, was a combination of *awareness, information, and education*. In fact, seven of the ten informants identified this barrier. They perceived this barrier to apply especially to older members, but also to the group's broader membership, as well as to the general public. Maria thought that "people may not understand what sustainable living means," whereas Heidi wondered "where to find [information] resources that help us make better decisions; and even knowing what are better decisions." Several informants noted their own lack of awareness, for example, in the area of glass recycling.

Most confessed a sense of guilt over not recycling their glass, and lamented that the cities in the local area do not offer curbside glass recycling. Some local recycling facilities do, however, allow residents to drop glass off for processing. The informants were largely unaware of this option, and suggested that others probably were as well. In such situations, information resources regarding the options that are available to residents were determined to be potentially helpful to them in overcoming this barrier.

Francis added an insightful observation regarding the barrier of awareness. Namely, she pointed to a lack of “role models that take [individuals] from where they are today.” She told of an article that she had read that had highlighted the sustainability efforts of several families in the local community. However, those examples seemed geared toward new home construction, specifically, as well as toward other very costly initiatives. She suggested that the general public might benefit from knowing what sustainable living might look like for people at different income levels, life stages, and so forth. She used the analogy of a popular furniture store, and how they set up models of different sized homes and apartments, and how their products fit in with those. She suggested that something similar could be done with the idea of sustainable living, arguing that, at this point, “we don’t see or hear ways in which you can move along the path of being more respectful of our resources.” The barriers that key informants identified with regard to awareness, information, and education offered insight into how to proactively address them within the workshop, and how to help participants overcome them.

*Expectations, comfort, and social norms.* Another barrier identified by many (seven) of the informants encompassed the concepts of *expectations, comfort, and social norms*. Informants noted expectations of others and social norms as important drivers of behavior, and as such, obstacles to behaving sustainably. In addition to concerns voiced about structural constraints resulting from zoning, local ordinances, and restrictions put in place by homeowners' associations, informants spoke of less formalized expectations.

For instance, Laura spoke of:

[the expectations] of the world around you...It's the keeping up with the Joneses, it's people looking at you funny when you say 'don't throw that can in the trash, throw it in the recycling bin...when you say I'm gonna leave and not be in the office for two days a week because I'll be at home with my family—it's the looks that you get for that.

Heidi pointed out that the inverse could also be true. That is, group and social norms could actually encourage sustainable behavior in some cases: “who your peer group is influences a lot of decisions. . . . if you live in a community where people regularly make these kinds of decisions. . . . I think if you're around people who think about those issues, you're going to be more inclined to think about them” (i.e., fair trade goods).

Not only can the expectations of *others* influence our behavior, but our *own* expectations can also constrain us from behaving more sustainably. Most notably, this refers to an expectation of comfort, which was identified by several informants. Elaine confessed, “We've become so accustomed to getting what we want, when we want it, no matter how much it costs. . . . It's also entitlement, like, 'it's there, I want it, I should

have it.” Jackie echoed Elaine, stating that “we’re very spoiled. . . . Just taking life for granted, I guess, as Americans [speaking of all Americans, but stating that Texans may be worse than many]. . . . We kind of want what we want when we want it. And, without much regard to the future.”

An important distinction is evident in Deborah’s claim that “stigma would not be a barrier to living sustainably.” Indeed, she thought that well-educated people, especially, “would be in favor of efforts in that direction.” However, based on the perceptions of the other informants, it might be more accurate to say that people would be in favor of such efforts only to the extent that they did not interfere with more firmly held, pre-existing expectations.

*Financial costs.* *Financial costs* were another perceived barrier to living sustainably, according to half of the informants. For instance, Heidi gave the example of organic, hand-knitted, cotton clothing, versus more processed, mass-produced clothes, and how the former is much more expensive. Elaine echoed her, stating that “a lot of times it’s more expensive” to buy recycled or organic products, although she also acknowledged that living sustainably can sometimes be less expensive. Specifically, Elaine’s family has a garden at home—which serves an environmental and a health purpose, but also an economic purpose. First, they save money on produce, and it’s an educational tool for her kids to learn about the trade-offs between the cost and work involved with gardening, and the money saved on groceries at the store. Deborah agreed with Elaine, in that she actually had to think for a few moments about whether or not it

would be more expensive to live sustainably, finally concluding that it might for some behaviors (i.e., eating organic food), but not for a lot of others.

Iris highlighted the role of limited financial resources from the perspective of social sustainability (e.g., lacking enough money to donate to the poor). Such limitations may actually result from attempts to live more sustainably in other areas. Laura's family situation reflects this: "for us, my husband stays home with our son. That was a choice we made for our family, which I think is sustainable for us. But it makes it hard for us, living on one professor's salary." That emphasis on trade-offs and compromises was woven throughout informants' responses. They each seemed to recognize that *total* sustainability is extremely elusive; that decisions made to behave more sustainably along one dimension may actually constitute barriers to sustainability along another. The tension involved with those trade-offs was seen as a potential source of frustration for workshop participants, and possibly an obstacle that they must overcome in order to move forward in a more sustainable direction.

*Infrastructural barriers.* As in the first iteration, key informants noted many *infrastructural barriers* to living more sustainably. Some of those obstacles are specific to the study area, whereas others apply more broadly to society as a whole. Only four informants touched on infrastructural barriers, but each listed numerous barriers. Concerns about the layout of the city, the safety concerns surrounding the local public transportation system, the level of (in)convenience associated with the city's recycling program, and the availability and accessibility of sustainably-produced food and consumer goods were largely echoed from Iteration I (with the exception of one



informant who specifically referred to the *ease* of recycling, both in the local area and in general).

Informants also added public infrastructure concerns that did not surface during the first iteration. For instance, whereas informants from the previous iteration saw the city's layout as a barrier to walking, biking, or taking public transportation, Karen viewed it as a barrier to community—the social dimension of sustainability. Namely, she compared the study community to much older New England communities, the latter of which were laid out in much closer proximity. One difference between the two is the location of churches, and their proximity to parishioners' residences. In New England, where churches were located within walking distance of residences, Karen found that much more conducive to developing a sense of community with other church-goers. Iris noted another infrastructural barrier that none of the informants from the previous iteration had mentioned, namely, that the city (at least to her knowledge) designates only one day each year for the recycling of hazardous wastes. She also spoke of the extensive requirements that accompany disposal of an old air conditioner, for example (i.e., having to have the Freon drained by a professional; having to schedule a time for them to come out to the house, and so on), and the time, convenience, and cost barriers imposed by such stringent restrictions.

Elaine and Maria referred to infrastructure more in terms of our society, our culture—beyond the local area. Elaine talked about how “we live in such a credit-inundated era;” how “we charge too much, we're in too much debt.” She discussed this as a problem at the individual and the governmental level; at the household level, she stated

that “a family can’t continue to pay out more than they bring in over the long haul.” Maria’s examples focused more on the structural violence that she has observed, including: a white flight mentality in the school system, racial segregation in housing markets, limited employment prospects for minorities, and health care disparities among different subpopulations.

*Time, effort, and inconvenience.* Even in cases where the infrastructure was not seen as a barrier in itself, informants still perceived barriers in terms of the *time, effort, and inconvenience* associated with sustainable behaviors. Heidi talked about how much more time it takes to fix dinner from fresh ingredients than using packaged and processed foods, although it would be better for her family’s health and the environment. With regard to inconvenience, Heidi gave one example of riding a bike to work, rather than driving, but what about the distance to work, the time it would take, and her need to drop her son off at day care? Maria, Laura, and Karen argued that, while the infrastructure is in place, recycling is not made very easy either in the local area or on the university campus where they work. So, there is a certain level of inconvenience associated with having to seek out or go pick up a recycling container, or with having to cart recyclables from home to campus if one’s apartment complex does not offer recycling, for example.

Francis spoke more abstractly about the inconvenience involved with having to take the time to have a plan. Instead, she prefers to have as many “automatic behaviors” and “routines” as possible. And, of course, she would like those behaviors and routines to make sense for both her and the environment. But, on the other hand, she also does not want to have to “invest a whole lot to develop the routine.”

Effort was another barrier for informants, and likely other members of the organization. Deborah gave an example about her own personal interest in local food and possible participation in a CSA, but said that “I haven’t yet made the effort to go to the farmers’ markets or to find the places where you can buy the food in bulk.” She attributed this lack of action to “the time and effort. . . . we’re pulled in so many different directions.” She added that such action would require “being motivated enough to make that a priority.” Laura, speaking of composting, added that you get “so little yield for the effort,” particularly because she and her family are currently living in a rental property.

Regarding this barrier involving time, effort, and inconvenience, Gail argued that some of that is perceived, rather than actual. She asserted that “it looks complicated, and really time consuming. But it doesn’t have to be.” In many instances, she is right. For example, one could counter the time barrier associated with cooking fresh by cooking enough for a whole week at once, and then just reheating portions for the rest of the week. On the other hand, some of the arguments made by informants were legitimate. It would be practically impossible to ride a bike to and from a workplace that is 15 miles from home, especially when considering the need for childcare as well. Saving up recyclables and hauling them to campus because you do not have curbside recycling at home is an inconvenience, by any measure. Taking the time to learn about local options and resources, much less driving to the other side of town to buy a carton of fresh eggs or produce, does require a certain level of commitment and sacrifice. This ties back to the trade-offs mentioned among cost concerns, but goes further. There are trade-offs in terms of time and effort as well. People’s behavior, then, becomes a product of their values and

priorities, meaning that the behaviors that participants will choose to adopt will, by necessity, be highly personal decisions, reflecting not only those values and priorities, but also personal circumstances. The workshop curriculum recognizes the highly personal nature of such decisions. For that reason, workshop participants are invited to *voluntarily* commit to changing behaviors, specifically, behaviors *of their choice*. This allows them to consider the potential trade-offs and barriers that they might face, and make a commitment that they can reasonably expect to keep.

*Conflicting priorities, responsibilities, and values.* *Conflicting priorities, responsibilities, and values* comprise a separate obstacle as well, one that goes beyond the *time, convenience, and effort* barrier detailed above. This barrier can take any number of forms. Iris spoke of the priorities associated with overconsumption and materialism that drive some individuals: “they’re working all the time to make the money to buy all the stuff.” Likewise, Gail spoke of television and passive entertainment as preventing people from getting outside, and getting to know other people, such as neighbors. Whereas these two examples might be seen as self-centered priorities, there are more selfless pursuits that can, nonetheless, pose problems for people who seek to live more sustainably. Iris spoke of family responsibilities, caring for young children and/or aging and ill parents. Laura talked about the conflicting priorities of spending time with family and meeting economic needs. She also cited an unwillingness to say “no” to people or things as a barrier that many people face. Even values, more generally, she saw as capable of constraining a sustainable lifestyle: “your own personal values, for good or for bad, could be an obstacle. . . . I mean, what you prize” (i.e., do you give to your church,

or another charity, or to the poor?). Clearly, values play an important role in decisions to live more sustainably.

### *Members' Values and Priorities*

Key informant responses for the second iteration indicated that the most important values and priorities among their organization's members were (in order of importance): family, spirituality or faith, social relationships and community, health, money, and time.

*Family.* The most important value to group members, according to informants, is *family*. Half of the informants suggested family as an important value, even before being introduced to the ranking question. One informant mentioned that a lot of the members are mothers, and others spoke of the time that members spend supporting their children's activities and nurturing their families. Maria had observed among members what she referred to as "a culture of domesticity." In response to the ranking question, all informants ranked family as either the number one (by seven informants) or the number two (by three informants) priority among members. This finding suggested that family should be emphasized in the workshop curriculum.

*Spirituality or faith.* *Spirituality*, or *faith*, was perceived to be the second most important value or priority among members. A number of informants listed faith as an important value in the open-ended question, and included within that term such concepts as: church involvement, a relationship with Christ, Christian missions, and Christian values (i.e., social justice, kindness, hospitality). Importantly, though, one informant (Maria) provided a negative case perspective, stating that what seems to be of more value than true spirituality among the organization's members is *religiosity*, which she defined

as “the appearance of spirituality for identity’s sake; not necessarily lived out.”

Nonetheless, all informants ranked spirituality between first and fourth in importance in the closed-ended question. This finding is not surprising, given the members’ shared affiliation with a Christian university. They are (active or retired) faculty, staff, or administrative personnel, or spouses of the same, and thus profess some degree of faith in keeping with that affiliation.

*Social relationships and community.* Informants saw *social relationships* and *community* as equally important among the organization’s members. Their total point values in the ranking question were the same, and both were mentioned frequently in the open-ended question about members’ values and priorities, often in connection with one another. Jackie, speaking of social relationships, stated that “[social relationships] and community would kind of go together.” Francis provided a good example. She spoke of volunteering as a hobby and a service activity, but one that allows her to meet and socialize with like-minded people for whom volunteering is also important. Others highlighted values such as: relationship, friendship, and community building; social interaction; shared experience; fellowship; commitment to one another; power from gathering; social influence; and social capital. There was also a strong emphasis on purpose, in the form of volunteer work, philanthropy, outreach, and service; although Maria asserted that much of that service supports the upper class community to a greater extent than the lower classes (note, though, that in the month following the workshop, the organization sponsored an event specifically designed to raise awareness regarding a number of community service opportunities, many of which are designed to assist those

less fortunate). Possibly even more important to members than involvement in the local community, many informants highlighted a commitment among members to the university community. They referenced such ideas as: the [University] family, the [University] community, [University] tradition, [University] obligation, acting in the best interest of [the University], service to the [University] community, and [University] loyalty. Such a strong outward focus was seen as a potentially powerful leverage point for encouraging socially-sustainable behavior.

*Health.* *Health* was ranked higher in overall importance than both money and time, with informants listing it as anywhere from third most important (by three informants) to least important (by one informant) among predetermined priority categories in the ranking exercise. Still, it was not listed at all among members' values and priorities as a response to the open-ended question. Informants did, however, acknowledge the importance of health, when questioned. Jackie, for instance, stated that "certainly, if you don't have it, you don't have much, really." And Deborah suggested that "people are interested in being healthy and that's an important issue for everyone." And yet, most informants who expressed concerns about health did so in reference to the health of their families, their children, and/or their elderly parents. Both Maria and Gail spoke of examples whereby they had made conscious behavioral decisions for health reasons. Maria is a vegetarian, for example; and Gail gardens and cooks with a lot of fresh ingredients and with less meat than vegetables. However, by and large, health did not appear to be squarely on the radar of most of the organization's members, at least from the perspective of my informants. Gail stated astutely that "[health is] something

where you don't appreciate it while you have it. We're pretty healthy, so we don't think about it that much."

*Money.* *Money* was ranked as anywhere from third most important (by two informants) to least important (by two informants) among members. As with health, money was not directly referenced at all in responses to the open-ended question about values and priorities. Instead, informants discussed the importance of meaningful or rewarding work (paid or unpaid), making a contribution, and maintaining themselves and their homes. Several informants also mentioned a shift in the demographic composition of the organization over the past 25 years, whereby many more of the women are working outside the home, a decision that likely reflects a financial motivation. Maria spoke of an "assumption of money" that she views as an artifact of the upper-class nature of the organization. Rather than members placing explicit value on money, they seem to imply its importance through many of the interests and activities pursued by members: brunches and teas; shopping trips; theater groups; Bridge club; and so forth. Although Maria does not see this assumption as "malicious," she does recognize it as underlying many of the organization's activities. Yet, even among the informants that I interviewed, several acknowledged tight budgets and financial constraints. Thus, responses indicated that the economic aspect of the workshop material would likely be worthwhile for the organization's members.

*Time.* Finally, *time* was seen as the lowest-ranked priority of members. It was ranked anywhere from third least important (by four informants) to least important (by four informants) in the closed-ended question. And yet, in the open-ended question about



values and priorities, informants mentioned the need for work/life balance, as well as the proliferation of activities that their families pursued (“too many activities,” according to one informant). And Deborah acknowledged that “[the members are] all very busy, usually, so time is something they have to balance and juggle.” Maria, referring to the extensive involvement of some members in the organization, stated, “I don’t think there’s a value on time at all. It is very time consuming to be active in [the organization].” She seemed to believe that overly-active members should allocate their time more judiciously. Expressing an opposing view, Karen argued that “they make time for the things they deem are important; and for folks in [the organization], they find [the organization] important.” Similarly, Francis observed:

I don’t get a sense of people trying to protect their time. . . . Whereas, in other places that we’ve lived, you’d hear that: ‘I don’t have time for that.’ Where there’s almost a protection of that time. We have a department of 22 people, and the other day we had an event to celebrate the success of a colleague, and all but two people made the time to be there. . . . to celebrate the other person’s success. And I think that’s a mark of the community here.

She said that this willingness to be involved in activities, to make time for important events, was evidence of people’s ability to set priorities. So, informants disagreed, to some extent, about the value or priority level that members place on time. But Gail made an insightful observation; that time plays an important role in all of the other values that people espouse. She asked, rhetorically, “How do you divide up your *time* between

family, work, and church?” Thus, overall, it seemed that—in spite of the low priority assigned to time by informants—workshop participants would likely still benefit from workshop content addressing time constraints, and how to juggle conflicting priorities and responsibilities.

### *Recruitment Recommendations*

*Potential interest.* For this second iteration, I asked informants to speak to the potential interest in a sustainable living workshop among the organization’s members. All of the informants assured me of their *own* personal interest in such a workshop, and some thought that other members would be interested as well (whereas others confessed that they were not sure whether others would be interested). Deborah enumerated what she thought were the most appealing aspects of the curriculum: the three-dimensional focus; the local food movement component; and the emphasis on health benefits of living sustainably. Informants also brought up some potential challenges that could impact interest and subsequent attendance. The most prominent challenge brought up by informants was that the name of the workshop, and the use of the terms *sustainability* and *sustainable living*, might be misunderstood. The informants did not see this as an insurmountable challenge, however, as indicated by their related suggestions in the next section.

*Suggestions for increasing appeal.* Laura suggested altering the title in such a way that the broader definition of sustainable living would be made clear, but agreed that a description of the workshop following the title might suffice. Karen spoke of the positive impact on attendance that may result if that three-dimensional focus were clearly

communicated: “I think they’ll find it surprising. I think the definition of sustainability tends to be environmentally oriented. So I think that thinking about the social and social justice aspects—I think they’ll be interested in it, yes. I think they would find it surprising, pleasing, and challenging. And I think that will be a really unique aspect. I think that people are looking for ways to improve the world that they live in.” Elaine added that a broader focus might make people feel that there is “something new to learn,” beyond the environmentally-focused information that they may have already received through campus sustainability efforts. Likewise, Iris described members as “always looking for new ideas, new things to think about.”

As with the first iteration, informants offered a number of practical suggestions for recruiting participants for the January 17 workshop. Those included: a verbal announcement at the annual Christmas luncheon; an e-mail announcement and reminder; presidential endorsement and support of the event; and word of mouth promotion among the organization’s members. In terms of the workshop itself, refreshments were brought up again as an incentive to come. Karen suggested the possibility of offering childcare, possibly with the help of a service sorority on campus. Jackie thought that the time of the workshop could be problematic for some, with families needing to get dinner ready and get children to their respective activities, but added that it would not be a problem for others.

Beyond logistical recommendations, the informants provided several suggestions regarding the content of the workshop. Heidi thought that it would be important to provide practical tips, things that people can do to live more sustainably. In addition,

informants thought that it would be good to: focus on the frugality of living sustainably; connect sustainable behaviors to the higher goals of the organization; and promote sustainability as a way to help others. Finally, Francis noted the importance of making the workshop “fun.” She thought perhaps having a raffle, or door prizes, would encourage participation.

The above recommendations for recruiting workshop participants, along with the themes outlined in relation to the other constructs investigated during the key informant interview phase of this iteration, served to inform a number of adaptations to, and elements included in, the second phase of research for the second iteration. Those adaptations and included elements are detailed in the section below.

#### *Adaptations in Response to Key Informant Interview Findings*

Key informant responses suggested a number of adaptations that should be made to the educational programming component of the intervention for this organization, as well as elements that should be included in that phase of research. Those adaptations and elements fall under the following themes: 1) application of a *three-dimensional focus and terminology*; 2) appeal to the value of *spirituality*, or *faith*, among members; 3) acknowledgment of, and appeal to, *various values* present among the membership; 4) effort toward *overcoming potential barriers* to living sustainably; and 5) incorporation of promotional suggestions and recommendations made by informants.

*Three-dimensional focus and terminology.* Key informants’ responses regarding perceptions of sustainability and sustainable living (theirs and those perceived of other members), members’ values and priorities, and recruitment suggestions made clear that

the three-dimensional definition of sustainable living embraced by the curriculum should be highlighted in promotional materials (Appendices L-N), communications, and the workshop content and presentation. Specifically, informants expressed concerns that the terms might be misunderstood by the broader membership.

In response to those findings, I clearly spelled out the three-dimensional nature of sustainable living in: the save-the-date notice for the workshop, my Christmas luncheon announcement (made on December 6), the e-mail invitation to the workshop, and the workshop material itself.

In the save-the-date notice (Appendix A0B), I included the following description of the workshop:

It's a one-time only interest-group designed to help you live a lifestyle that is smarter, more balanced—in short, more sustainable. And by sustainable, we're not just talking about environmentally-friendly. A sustainable lifestyle is one that is deeply satisfying, fulfilling, and appealing because it is socially, economically, and environmentally responsible. It's about decisions that you make on a daily basis, at work and at home.

In addition to using words like *smarter* and *more balanced*, I included a simple but colorful graphic, as was suggested by several of the informants. The notice was included in the organization's e-newsletter for November (sent out on December 1, 2011). My announcement at the Christmas luncheon contained this same information, but allowed members to put a face with a name.

I again described the multidimensional definition of sustainable living in the formal event invitation (sent via e-mail on December 12, 2011; Appendix A0C), stating that “it goes beyond environmental stewardship to include both social and economic responsibility. The three-dimensional focus reflects a sense of balance that we all seek in our lives, in order to benefit not only ourselves, but also our families and our communities.” I also asked them a number of rhetorical questions: 1) Do you feel like you could use a little bit more balance in your life?; 2) Do you find it hard to juggle family, finances, and work responsibilities?; 3) Do you often find it difficult to make ends meet, financially speaking?; 4) Do you ever feel like your life is cluttered with too much “stuff”?; 5) Do you want to live more sustainably, but are not quite sure *how* to do that?; 6) Do you enjoy learning about new things and ideas?; and 7) Do you enjoy spending time with other [organization] members in fellowship and thoughtful conversation? I then stated that affirmative answers to any of the above questions may indicate that they would benefit from attending the workshop. Clearly, the questions reached beyond the environmental dimension of sustainable living.

The three-dimensional nature of sustainability was highlighted in the workshop material for the first iteration, so that was not altered. That is, I shared: the three-dimensional definition of sustainable living; the focus on balance between quality of life and environmental responsibility; the profiles of unsustainable lifestyles; the continuum perspective of sustainability; the encouragement to change behavior along all three dimensions; and the examples of sustainable behaviors from Iteration I.

*Spirituality or faith.* The importance of spirituality and faith to the organization's members suggested several implications for the content and focus of the workshop. Specifically, it was important to appeal to participants' sense of biblical stewardship, and to help them see how behaving sustainably tracks with biblical teachings. I was also required to maintain a certain degree of sensitivity to possibly dissenting perspectives. As Gail commented:

Sometimes people see a conflict between sustainability and Christianity. I can't help you with the why of that. But it seems like conserving and not wasting should be a conservative value, right? And yet people will say, "We have dominion!" and then wantonly waste things, and [say] "Take that!" to the lefties. It would be nice if it wasn't so ideologically charged. But you could take care of your community because you live here and you love it and you don't want to waste things.

I modified my workshop presentation from the first iteration in several ways, in order to appeal to this sense of spirituality. First, rather than suggesting that participants may be suffering from some degree of disconnection with spirituality, as the original curriculum does, I acknowledged the importance of faith and spirituality to the group's members, and began with the presumption that they all possessed a deep spiritual connection. Then, I shared parts of Gail's quote above, acknowledging the potential for perceived conflict between sustainability and Christianity. I countered that, however, with three passages of scripture from the Bible, which address the three dimensions of sustainability, respectively (Luke 12: 15, 23, and 34 (economic dimension); Psalm 104:

24 (environmental dimension); and Matthew 25: 34-40 (social dimension). In response, I encouraged participants to think more consciously about their choices; arguing that when made from a biblical perspective, those choices will naturally “come out on the side of sustainable living.” Finally, I removed the slide that concerned the idea of reconnection with nature, opting to focus more heavily on spirituality—although I did still touch briefly on the importance of a connection with nature, giving a few examples of natural amenities at the local (i.e., the lake, wetlands, and zoo) and state level (i.e., hill country, piney forests, coasts, Big Bend).

*Various values.* Key informants identified a number of values vying for the time and attention of their organization’s members. Although there was some level of agreement about which values were most highly prioritized, it was clear that an appeal to a number of different values (i.e., family, community, health, money, time, etc.) would likely be beneficial to participants. One of the activities included in the workshop was designed to help participants identify their values and evaluate their current lifestyle in light of their professed values. In addition, participants were encouraged to change their behavior in ways that are in keeping with those values, while also moving them toward a more balanced and sustainable lifestyle.

I also included several elements in the workshop presentation materials designed to highlight specific values determined by key informants to be of importance to members. As noted above, family was the most important value among members, as perceived by informants. I determined that the best place to highlight this family aspect of sustainable living would be in the section describing the ideal-type profiles of



economically, socially, and environmentally-motivated individuals. So, after describing the extremes—the wealthy, single executive; the over-extended soccer mom; and the stereotypical, anti-humanity, environmentalist—I described three profiles that were probably closer to their own personal experiences, based on the value that the average member likely places on her family. On the economic side, I described someone who is part of a two-income family, but one in which they are making just enough to cover the bills—or maybe even taking on some debt, to make ends meet, “all so that your kids can have the best, newest, name-brand stuff, or go to the best private school, or study under the best piano instructor in town; or so that your parents can go to the best nursing home.” On the social side, I described someone who is so focused on their kids “getting into the best college, with the most scholarships, that they’re involved in everything from sports, to music, to dance, to volunteer work—you name it. And what they’re involved in, you’re involved in—by default.” Finally, on the environmental side, I described someone who takes “anti-consumption to an unhealthy extreme, in the interest of your family’s future, or their offspring’s future.” I also added how one of the group’s members had said to me that it seems like the environmental movement believes that our very existence, as humans, is inherently bad. In contrast, I also shared her conviction that we have to find a balance where we “try and get comfortable with trying not to be wasteful, but knowing that we’re going to have a footprint, because we exist and it’s okay to exist.” And I assured participants that it is okay to exist. It would be easy for a mother to make the kinds of decisions described above, for the sake of her family, thinking that she was

acting in their best interest. For that reason, I acknowledged that the decisions are made with good, even the best, intentions.

To address the value that members place on a community, or outward, focus, I mentioned a community service fair being hosted by the organization in the month following the workshop. This event was organized to give members more information about local charities with which they could get involved in order to live more sustainably (particularly from a social perspective). I tied that event into the workshop by encouraging participants to attend and invite friends to that event. In addition, I added a resource sheet containing opportunities for socially-sustainable living, including social, outreach, political, and cultural organizations in the community.

Although health was not a value identified by informants prior to being prompted, I determined that the present attitudes of members regarding health may provide a fruitful avenue for encouraging sustainable behavior. The workshop material and presentation highlighted the important health benefits of sustainable choices, along with the deleterious effects of unsustainable behaviors, in hopes of prompting participants to begin to think more consciously about those decisions on a daily basis, and opt for healthier choices.

Money, although again not considered among the top priorities of members, was still present as a value among the informants, and presumed to be important, on some level, to other members of the organization. The workshop's content was designed to help people to think about their finances more deliberately, and to prioritize their giving, saving, and spending. Thus, I addressed the idea of economically-sustainable living

within the workshop, along with validating cost concerns associated with certain sustainable behaviors (and offering suggestions for overcoming them). Furthermore, I added economic resources to the resource table to help those participants who might need to focus more on economically-sustainable living.

As noted above, time, whether perceived as a high priority or not, plays an important role in how individuals juggle their other priorities and obligations. Thus, as with the previous iteration, there remained a section in the workshop presentation discussing “the time crunch,” which was accompanied by a workbook activity that participants completed and discussed during the workshop.

Finally, at least among key informants, some value was placed on the environment. And yet, it was clear that an appeal to that value should focus on wise use of natural resources, as opposed to climate change. Thus, I did not mention climate change during the workshop at all. When I talked about the video, *The Story of Stuff* (because there was insufficient time to actually show the video within a short workshop), I highlighted the materials cycle in terms of: “extraction and exploitation of natural resources” to produce the goods that we consume; distribution processes that “result in waste and further environmental damage;” and planned obsolescence of consumer goods, leading to contamination and waste of landfill space. This focus illustrates how an appeal to sustainable living need not focus on climate change, nor convince participants of climate change implications, in order to be effective. By appealing to the diverse values likely to be represented among the group’s members, I hoped to point out to participants the many benefits to be obtained from a more sustainable lifestyle.

*Overcoming potential barriers.* Key informants identified a number of barriers that might be present among the membership of their organization. Therefore, it was necessary that the curriculum presentation address those barriers and attempt to help participants overcome them. *Infrastructural barriers* were a major concern for informants. Unfortunately, some infrastructural barriers go beyond the scope of a one-time workshop. The print resources that I provided (Appendix K) to workshop participants were designed to make it easier to navigate the infrastructural nuances of the local area, but they did not address infrastructural challenges at broader scales. It is possible, however, that participants may begin to call for community-level changes, having first become motivated to live more sustainably at an individual or household level. If so, that would constitute a positive unintended consequence of my project, although one that is not measured during the current project. Instead, it would likely become evident in future research following up on participants' actual behavior choices.

Not only were the print resources provided to participants designed to help them overcome some of the infrastructural barriers that they might face in their efforts to live sustainably, but they were also geared toward improving *awareness, information, and education*, another barrier identified by key informants. As noted above, in addition to the resources that I had prepared for the first iteration, I included (per Laura's suggestion) more resources focusing on the social and economic dimensions of sustainable living, in keeping with the holistic nature of the definition embraced within the curriculum.

Armed with greater levels of awareness, information, and education regarding how to live more sustainably, workshop participants could still face barriers related to

*expectations* of themselves and others. This is a challenging barrier to overcome, particularly over the span of a short workshop. However, one thing I did to get participants thinking less in terms of immediate gratification and materialistic pursuits was to highlight the specific community and personal benefits to be obtained from sustainable living, as well as the negative impacts of living unsustainably. In the workshop presentation, I pointed out that:

When a community's members live more sustainably, both the community and the individuals benefit in a number of ways. Governments, businesses, and economies run more efficiently; resources are conserved and distributed more equitably; and individuals tend to be happier, more satisfied, and healthier, both physically and psychologically. In contrast, some negative impacts of unsustainable lifestyles include: dissatisfaction; health problems, such as obesity, diabetes, and heart disease; and increased consumer debt and bankruptcy rates.

*Time, effort, and convenience* were also identified by key informants as potential barriers to living sustainably among organization members. That theme is evidence of the trade-offs and compromises that are sometimes involved in efforts to live more sustainably. Encouraging people to make small changes of their choice allowed participants to make changes that fit in with their lifestyle, and did not pose what they perceived to be too great a burden. In accordance with existing research findings, the hope with this approach was that small changes in behavior would lead to more and larger changes in future behavior. Iris spoke of the time it takes to go out and search for

information about how to live more sustainably—another concern that was addressed within the workshop through the information table resources. Those print resources were designed to save participants the time and effort required to find information about how to adopt more sustainable behaviors, although they would still need to make changes to their routines. However, if participants chose to commit to small changes or one-time actions toward sustainability, their routines may not be greatly interrupted. Encouraging small changes that move a person’s behavior further *toward* the center of the sustainability triangle, as I did in the workshop, was an attempt to avert participants’ tendencies to see the prospect of living sustainably as an overwhelming, or futile, effort.

Finally, Francis’s suggestion to provide participants with role models for individuals with various budgets and circumstances may be best fleshed out through future research. Meanwhile, however, the workshop content introduced participants to smaller-scale behavior changes that they could adopt immediately, and encouraged them to start small, to make changes relevant to their lifestyle, and to consider the implications that those changes might have, both for them and for others, along all three dimensions of sustainability. The intent here was that participants not leave the workshop feeling that the only way that they could achieve a sustainable lifestyle would be to buy a brand new, “green” home, or install a geothermal heating and cooling system, for instance. Instead, they were invited to make changes based on their own life circumstances, and on what they could reasonably commit to doing.

*Promotional suggestions and recommendations.* Key informants offered a number of suggestions and recommendations for recruiting participants for the January 17

workshop. Some of those were very practical, and included promoting the workshop through: a verbal announcement at the annual Christmas luncheon (made on December 6); an e-mail announcement and reminder (sent on December 12 and January 9, respectively); presidential endorsement and support of the event (communications were accompanied by an introduction from the president, promoting the workshop); and word of mouth promotion among the organization's members (informants all agreed to endorse the event among friends, and the invitation asked members to invite a friend or a spouse to participate with them). In response to the recommendations that I serve refreshments, I arranged to serve: soda, water, vegetables and dip, and brownies. Although the suggestion to provide childcare may have helped to increase attendance, I determined that it would add exponentially to the amount of planning and logistical coordination associated with the workshop, and possibly some degree of liability that I was not prepared to undertake. Although one informant suggested that the time of the workshop might be problematic for some, unfortunately, there was not much flexibility with the time frame during which I could offer the workshop, due to logistical constraints, such as the workshop venue's hours of operation. In keeping with other suggestions, though, I did try to ensure that the workshop would not conflict with local academic, sports, or cultural events. And, I reasoned that the amount of advance notice given to members would allow them to adjust their schedules accordingly and make childcare arrangements if they were interested in attending the workshop.

Regarding informants' requests that I provide practical tips regarding how to live more sustainably, the print materials offered at the resource table were designed to do just

that, especially with the addition of the economic and social resources and opportunities. Frugality was addressed in the workshop presentation within the economic section. The goals of the organization were woven throughout the presentation, through the discussion of the importance of faith, family, and social service. Finally, sustainability was presented as a way to help others through the enumeration of the personal, family, and community benefits associated with sustainable living.

One informant recommended some ideas for how to make the workshop more “fun.” Specifically, she suggested offering a raffle, or door prizes. Although including such features may have had a positive impact on attendance, they are difficult to provide without a budget. If I were more connected within the community, had been here longer, and developed more social capital, I may have been able to solicit donations from local businesses to provide those types of incentives. With each iteration of this project, it becomes clearer that strong ties within the community are essential for anyone seeking to conduct sustainable living education at the local level. This finding has practical implications for those seeking to develop sustainable living programs within their communities, in terms of hiring practices, time lines for outcome expectations, and so forth. Those implications are addressed in more detail in the Discussion and Conclusions section.

#### *Educational Programming (Phase II)*

Between December 12, 2011 and January 17, 2012, 13 of the organization’s members responded to the invitation and reminder about the workshop, indicating that they intended to attend. Three of those planned to bring friends and one had invited



members of another group to which she belonged, along with hoping to bring her husband. Two of the women who planned to participate notified me of schedule conflicts that ultimately prevented them from attending, and several others failed to attend without notification (even in spite of a second reminder that I sent on January 12 to those intending to participate). Two women who had not indicated their intent to attend did participate (one was a member, and the other was her friend). Thus, a total of eight participants attended the workshop, seven group members and one guest. Three of the participants had also served as key informants for the first phase of research for this iteration.

All of the participants were white women, their ages ranging from 31 to 64 years old (median age = 37). Their lengths of residence in the local area ranged from 7.5 to 42 years (median length of residency = 12 years). Prior to moving to the local area, the majority of participants had lived elsewhere in Texas. All but one participant indicated having graduate or professional training. The one who did not had completed high school. Participants' household income levels ranged from \$30,000 per year to \$90,000 or more per year (median income range = \$60,000 to \$69,999). From my previous interactions with some of the participants, I learned that some are single, some are married; some have children, some do not; and most, if not all, are employed at a local Christian university. At the same time, key informants told me that many members are married, and "most" are mothers. Thus, the workshop participants may not have been fully representative of the more general membership of the organization in that regard.

Nonetheless, those that did attend the workshop encountered a curriculum designed to help participants think more consciously about their decisions, and how well or poorly those decisions reflect what they hold to be values and priorities. This was accomplished through several activities, wherein participants filled out worksheets designed to get them thinking about: 1) what really matters to them in life; 2) how they spend their time; 3) the true value of their possessions; and 4) their level of interaction with the natural world. Through those activities, participants were exposed to what sustainable living is, and to how they might live more sustainably.

#### *Participation among Non-environmentally-motivated Individuals*

The first goal of this formative experiment has been to foster participation in sustainable living educational programming among participants who would not be considered environmentally motivated. The extent to which that goal was reached for the second iteration is detailed below, as I outline the findings obtained regarding the various constructs designed to reflect that goal.

*Perceptions of sustainable living.* When asked to share what comes to mind upon hearing the phrase *sustainable living*, participants' responses ranged from general to specific. For instance, one participant indicated that sustainable living is "helping the environment and making the most of what you have;" whereas others listed specific behaviors, such as: buying locally, knowing your neighbors, recycling, composting, conserving water and energy, and using resources wisely. Many of the responses focused on the environmental dimension of sustainable living, although several included concepts such as living with balance and living within one's means, "financially, socially, and

environmentally.” Participants’ responses were accurate, albeit some were incomplete, particularly given the announcements, invitations, and reminders—all of which contained the three-dimensional definition of sustainable living adopted throughout this project. Thus, a number of participants seemed to view sustainable living as largely an environmental endeavor, whereas several seemed to have a greater understanding of the balanced nature of the definition.

*Environmental worldview.* Again, environmental worldview for this iteration was measured using the NEP scale and the NHIP scale. Workshop participants’ mean scores for the biocentric dimension of the NEP scale ranged from 2.67 to 4.17 (mean = 3.67; SD = .50) out of 5; whereas means for the anthropocentric dimension ranged from 2.00 to 4.00 (mean = 2.63; SD = .60), again on a 5-point scale. Thus, the participants, on average, demonstrated a higher level of agreement with the items comprising the biocentric worldview than with those comprising the anthropocentric worldview. However, taken in tandem, their scores for the entire NEP scale were on the low end of average, compared with mean scores of representative samples from within the United States over the last two decades (Hawcroft & Milfont, 2010). Compared with white-collar samples from the same meta-analysis, their scores were even lower. In terms of the NHIP scale, all workshop participants had mean scores of greater than 3.0 (neutral), with scores ranging from 3.20 to 4.40 (mean = 3.80; SD = .39), meaning that participants recognized the importance of conserving nature for achieving human progress.

Table 4.3

*Attitudinal Characteristics for Iteration 2 Participants*

| Construct                          | <i>N</i> | Minimum | Maximum | <i>Mean</i> | <i>SD</i> |
|------------------------------------|----------|---------|---------|-------------|-----------|
| Frugality                          | 8        | 3.86    | 5.00    | 4.39        | 0.39      |
| Anthropocentric Worldview          | 8        | 2.00    | 4.00    | 2.63        | 0.60      |
| Biocentric Worldview               | 8        | 2.67    | 4.17    | 3.67        | 0.50      |
| New Human Interdependence Paradigm | 8        | 3.20    | 4.40    | 3.80        | 0.39      |
| Possessiveness                     | 8        | 1.50    | 5.00    | 3.81        | 1.10      |
| Nongenerosity                      | 8        | 1.14    | 2.29    | 1.88        | 0.40      |
| Envy                               | 8        | 1.86    | 3.57    | 2.57        | 0.61      |
| Benevolence                        | 8        | 4.00    | 5.00    | 4.38        | 0.44      |
| Universalism                       | 8        | 3.67    | 5.00    | 4.33        | 0.50      |

*Economic motivations.* As detailed in the Methods section, the analysis of economic motivations was conducted using a materialism scale and a frugality scale. Participants' responses to the materialism scale comprised of the subscales of possessiveness, nongenerosity, and envy indicated that they were not very materialistic (see Table 4.3). Specifically, participants' mean scores for the possessiveness subscale ranged from 1.50 to 5.00 (mean = 3.81; SD = 1.10). Although the overall mean score for possessiveness was above neutral, participants' mean scores for nongenerosity were very low, with scores ranging from 1.14 to 2.29 (mean = 1.88; SD = .40). The highest mean score for the nongenerosity subscale was 2.29, indicating that all participants disagreed on average with items reflecting nongenerosity. Although their mean scores were slightly higher than those for the nongenerosity subscale, workshop participants also failed to exhibit high levels of envy, with scores ranging from 1.86 to 3.57 (mean = 2.57; SD = .61). Thus, participants were not highly materialistic, in general.

The finding that participants were not materialistic, overall, does not necessarily indicate a lack of economic motivations. Indeed, participants scored much higher on the frugality scale than on the materialism scales. With few exceptions, participants agreed or strongly agreed with all items reflecting frugality. None of the participants indicated either disagreement or strong disagreement with any of those items. On a scale of 1 to 5, participants' mean scores ranged from 3.86 to 5.00 (mean = 4.39; SD = .39), well above neutral. These scores indicate that the participants value frugality, or wise use of their financial resources, indicating the likely presence of economic motivations to some extent.

*Social motivations.* Regarding social motivations, participants' mean responses to items comprising the benevolence and universalism scales indicate that they valued both (see Table 4.3). Benevolence scores ranged from 4.00 to 5.00 (mean = 4.38; SD = .44), well above neutral. Thus, participants, on average, agreed or strongly agreed with the ideas reflected by the construct of benevolence. Participants' scores for the universalism scale ranged from 3.67 to 5.00 (mean = 4.33; SD = .50), again indicating a presence of this value.

*Specific motivations for pre- and post-intervention behavior.* In terms of participants' reasons for partaking (or not partaking) in various sustainable behaviors, their most important considerations were: 1) health and wellbeing (median = 2.50; SD = 1.60); 2) cost savings (median = 3.00; SD = 1.04); and 3) the environment (median = 4.00; SD = 1.41); whereas social responsibility (median = 4.50; SD = 1.73); time management (median = 4.50; SD = 1.89); and convenience (median = 4.50; SD = 1.96)

were less influential in their decisions. It is likely that convenience and time management were considered *barriers* to adopting sustainable behaviors; whereas health and wellbeing, social responsibility, and the environment were likely reasons for *adopting* sustainable behaviors. It is difficult to assert from an empirical perspective whether cost was seen as a barrier or an incentive to adopting sustainable behaviors. It is possible that its role varied, depending on the behavior in question. Importantly, using the Wilcoxon Signed Rank Test, I determined that participants' reasons for their decisions did not change significantly from before to after the workshop.

It appears, from the above measures, that participants exhibited a combination of social, environmental, and economic motivations. The presence of environmental motivations (although weak by comparison to other samples) among the participants indicates that participants may have been more environmentally motivated than would have been preferable ideally. That is, their environmental, rather than their social or economic, motivations may have compelled their decisions to attend the workshop, as well as the changes they chose to make as a result. That possibility is discussed in further detail in the section below describing the inhibiting factors potentially affecting the achievement of the first goal of this project.

#### *Behavior Change Commitments among Workshop Participants*

The second goal of this project has been to obtain behavior change commitments from workshop participants. In addition, the workshop was designed to encourage participants to adopt sustainable behaviors beyond those to which they officially committed. As noted in the Methods section, both of those constructs were measured via

items included in the post-workshop questionnaire. For this iteration, only seven of the eight participants in the workshop completed the post-workshop survey, because one participant had to leave partway through the workshop.

Of the seven participants who completed the post-workshop survey, six committed to changing two behaviors each, in the direction of greater sustainability. One participant even committed to changing a third behavior. The behaviors chosen were all ongoing in nature, as opposed to one-time actions. The most common behavioral change commitments related to waste reduction, through reduction in consumption, more careful thought to purchasing decisions, recycling, purchasing recycled products, and composting. One participant committed to reducing water waste by installing rain barrels.

Socially-sustainable behaviors were also common commitments. Those included health-related commitments, such as getting regular exercise; walking to work, church, and so forth; and using nontoxic products. Social commitments also involved time management decisions, such as spending more time outdoors, and less time reading online news reports; and relational decisions, such as sharing meals and other items with friends. Importantly, a number of the commitments made were more general, and less specific, than would ideally be preferable. Research shows that more specific commitments are easier to keep than more general commitments (Geller, 1992), thus participants may face barriers in that regard.

Participants' responses to the before-and-after behavioral frequency question were promising. I used paired-samples t-tests to determine significant differences in responses from before the workshop and after. All but one behavior (mowing one's lawn less

frequently) saw an increase in planned frequency across participants, with 16 of those behaviors exhibiting significant ( $p \leq .05$ ) increases (see Table 4.4). The greatest changes were planned for the following behaviors: exercising regularly (pre-workshop mean frequency = 3.14; pre-workshop SD = 1.46; post-workshop mean frequency = 5.71; post-workshop SD = 1.11; t-value = -8.65;  $p < .001$ ); reducing clutter (pre-workshop mean frequency = 4.00; pre-workshop SD = 1.53; post-workshop mean frequency = 6.00; post-workshop SD = .82; t-value = -3.46;  $p = .013$ ); avoiding consumption of unnecessary products (pre-workshop mean frequency = 4.29; pre-workshop SD = 1.11; post-workshop mean frequency = 6.14; post-workshop SD = .69; t-value = -4.60;  $p = .004$ ); buying organic and/or “fair-trade” food (pre-workshop mean frequency = 3.43; pre-workshop SD = 2.07; post-workshop mean frequency = 5.14; post-workshop SD = 1.35; t-value = -3.29;  $p = .017$ ); and walking, biking, carpooling, or taking public transportation to work (pre-workshop mean frequency = 1.57; pre-workshop SD = 1.13; post-workshop mean frequency = 3.29; post-workshop SD = 2.36; t-value = -2.83;  $p = .030$ ). In contrast, only 10 behaviors failed to show significant increases in planned frequency of participation. Overall, then, participants’ responses indicated that they expected to change their behavior in the direction of a more sustainable lifestyle, thus constituting achievement of the second goal, to some extent.

### *Enhancing Factors*

Before discussing the factors that may have inhibited even greater goal achievement for this iteration, it is important to highlight the factors potentially



Table 4.4

*Pre/Post-workshop Behavioral Frequency for Iteration 2 Workshop Participants*

| Behavior  | Pre-workshop |           | Post-workshop |           | <i>t</i> | <i>p</i> |
|---|--------------|-----------|---------------|-----------|----------|----------|
|   | <i>Mean</i>  | <i>SD</i> | <i>Mean</i>   | <i>SD</i> |          |          |
| Take short showers  | 5.14         | 1.07      | 6.00          | 0.58      | -2.52    | .045     |
| Turn off faucet while brushing teeth  | 5.29         | 2.06      | 6.71          | 0.49      | -2.34    | .058     |
| Wash only full loads of laundry/dishes  | 5.67         | 1.03      | 6.33          | 0.52      | -2.00    | .102     |
| Water lawn in the early morning   | 6.67         | 0.52      | 6.67          | 0.52      |          |          |
| Sweep (instead of hose) the driveway  | 5.17         | 2.56      | 6.33          | 1.21      | -1.94    | .110     |
| Landscape using native vegetation   | 5.00         | 1.55      | 6.00          | 1.10      | -1.94    | .111     |
| Mow lawn only as necessary  | 6.17         | 0.75      | 5.83          | 1.17      | 1.58     | .175     |
| Turn off lights when not in use   | 5.86         | 1.35      | 6.57          | 0.79      | -1.99    | .094     |
| Turn off electronics when not in use  | 4.86         | 1.21      | 5.86          | 0.69      | -2.65    | .038     |
| Use heat/air conditioning as little as possible   | 4.17         | 0.98      | 5.50          | 1.05      | -6.32    | .001     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 5.17         | 0.75      | 6.00          | 0.63      | -2.08    | .093     |
| Buy recycled products   | 4.29         | 0.49      | 5.43          | 0.98      | -4.38    | .005     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 4.67         | 1.51      | 5.83          | 1.17      | -2.91    | .034     |
| Buy local food  | 4.14         | 1.68      | 5.57          | 0.79      | -2.97    | .025     |
| Buy organic and/or “fair-trade” food  | 3.43         | 2.07      | 5.14          | 1.35      | -3.29    | .017     |
| Eat a healthy, balanced diet  | 4.29         | 0.76      | 5.71          | 0.76      | -3.87    | .008     |
| Allot adequate time for sleep   | 4.29         | 1.25      | 5.86          | 1.07      | -3.67    | .010     |
| Allot adequate time for family (eating meals together, etc.)                              | 4.71         | 1.50      | 6.00          | 0.82      | -3.06    | .022     |
| Exercise regularly  | 3.14         | 1.46      | 5.71          | 1.11      | -8.65    | .000     |
| Walk, bike, carpool, or take public transportation to work                                | 1.57         | 1.13      | 3.29          | 2.36      | -2.83    | .030     |
| Combine errands to reduce car trips   | 5.29         | 0.49      | 6.29          | 0.76      | -3.24    | .018     |
| Drive a fuel-efficient vehicle  | 3.71         | 1.98      | 4.86          | 1.68      | -2.49    | .047     |
| Recycle   | 5.71         | 1.70      | 6.14          | 0.90      | -0.89    | .407     |
| Compost   | 4.50         | 2.81      | 6.33          | 0.82      | -2.10    | .090     |
| Avoid consumption of unnecessary products   | 4.29         | 1.11      | 6.14          | 0.69      | -4.60    | .004     |
| Reduce clutter  | 4.00         | 1.53      | 6.00          | 0.82      | -3.46    | .013     |
| Volunteer for a cause   | 5.43         | 0.79      | 6.43          | 0.53      | -2.29    | .062     |

contributing to the *increase* in goal achievement for this iteration, as compared to the first, that is, the enhancing factors. Some of those factors influenced achievement of the first goal, participation among non-environmentally-motivated individuals. Others influenced achievement of the second goal, obtaining behavior change commitments among participants. Still others influenced achievement of both goals.

The first enhancing factor was the appeal of the promotional materials and curriculum content and presentation to participants' existing motivations. Survey responses indicated that participants' reasons for their decisions did not change significantly from before to after the workshop, indicating the importance of appealing to existing values, motivations, and considerations of participants; rather than attempting to change them. The promotional materials and communications for the workshop were designed to appeal to potential and actual participants in that regard. That factor may have encouraged participants to attend. Further, participants may have found the legitimacy afforded to existing motivations throughout the workshop disarming. Consequently, they may have been more willing to commit to changing their behavior.

Participation rates (Goal 1) may have also been enhanced by the support and enthusiasm demonstrated by the organization's leadership, as demonstrated by the willingness of the group's president both to endorse promotional communications, and to allow me access to the group members through an announcement made in person at one of the organization's well-attended functions.

Also likely improving participation rates (Goal 1) was the fact that I was able to use personal influence to encourage participation. I had that opportunity largely because I

am a member of this group, albeit a new member. Other members may have sensed a personal affiliation with me on the basis of that shared identity. Additionally, by conducting key informants with ten different members, many of them very active and involved in the organization, I was able to develop relationships with them and secure their support and endorsements for the project. While I did not measure the influence of word of mouth promotion, each of those key informants did agree to promote the workshop among other members that they knew, on the basis of the rapport that I was able to develop with them.

Factors enhancing the success of the intervention, in terms of achieving the second goal, were determined largely through the post-intervention measures comprising the construct entitled, “participant engagement and learning.” For example, each participant who completed the post-workshop survey shared one thing that they had learned from the workshop. The learning outcomes experienced by workshop participants were reflective of the effectiveness of several strategies that I employed in response to key informant interviews. For instance, two participants discussed the sense of balance among the three dimensions of sustainable living, and two others discussed balance in relation to time and scheduling. One participant highlighted “the importance of connecting nature with faith.” As noted above, I intentionally emphasized the three-dimensional definition of sustainable living, as well as the relationship between sustainable living and the values of family, faith, and time. In addition, one participant wrote that she was excited to learn of a CSA in town, which I mentioned as one of the local opportunities for living sustainably.

Participants' responses to the question asking them to share what they liked best about the workshop echoed their responses above, and added even further insight. For example, one participant specifically mentioned liking that I shared local details, but encouraged me to share even more of those, as well as some stories with examples of sustainable practices. In addition, four different participants commented positively on the curriculum content, namely, the workbook. They liked the practical application provided by the activities, which were described as both good and through-provoking, as well as the tips and ideas included. Finally, in terms of length, one participant noted that the workshop was "not too long, but [provided an] adequate amount of information" (although another mentioned that the pre-workshop survey was a little bit long). The observer noted that participants generally "seemed satisfied, not terribly drained." At the same time, I think it is important to keep the workshop length where it is, rather than allowing it to run longer.

As evidenced by these enhancing factors, several of the features that I included in the workshop as a result of key informant input appeared to resonate with workshop participants. That finding offers support for the *process* that I have used for this project, namely, engaging members in key informant interviews in order to effectively tailor the content and presentation of the workshop to the organization. In the previous iteration, when the key informant process failed to produce the intended results, the key informants were: 1) relatively new members of the organization; 2) likely non-representative of the broader membership; and 3) possibly not familiar enough with the broader membership to be able to identify the values and motivations held by those members. For the second

iteration, not all of the key informants were active in the organization, and not all were representative of the “typical” member; however, it is clear from the workshop outcomes that they were familiar enough with the broader membership to be able to respond to my questions from the perspective of the average member.

### *Inhibiting Factors*

In spite of the enhancing factors that were observed for this iteration, several factors were identified as inhibiting the success of the intervention, in terms of goal achievement. One of the main inhibiting factors potentially contributing to lower than desired participation among non-environmentally-motivated individuals was the limited understanding of sustainable living demonstrated by a number of the participants. In spite of promotional efforts (announcements, invitations, and reminders) designed specifically to highlight the three-dimensional definition of sustainable living adopted throughout this project, some of the participants failed to internalize that broad definition.

Additionally, from a logistical perspective, the organization’s members may have faced barriers to attendance related to: timing and location of the event; schedule conflicts; childcare needs; etc. Some of those barriers (i.e., childcare needs) could possibly have been overcome with more resources (time and finances). For example, the organization hosts monthly workshops or presentations that may have been conducive to a presentation of the workshop material. However, those monthly meetings are all planned before the beginning of the academic year, and were therefore unavailable at the time that this project was conducted.

In spite of the inhibiting factors noted above, however, the workshop met with some degree of success in accomplishing the first goal of the intervention. Namely, eight participants attended the workshop. Those participants exhibited a variety of motivations, with environmental motivations comprising only a weak motivation among those in attendance.

In terms of achievement of the second goal, inhibiting factors were, again, determined largely via the measures comprising the construct entitled, “participant engagement and learning.” The first inhibiting factor was that the workshop format and content allowed insufficient time for extended dialogue and discussion. Two participants suggested that more dialogue and discussion time would improve the workshop. That recommendation was in keeping with several of the suggestions made by the qualitative observer. The observer also pointed out the second potentially inhibiting factor by noting that some participants seemed unsure at times of the purposes of the workbook activities. He suggested that I give a more detailed introduction for each beforehand. However, we also talked about the importance of not leading participants’ answers too much. After discussing this, we agreed that debriefing after each exercise might be an alternate solution.

In addition to these content-related factors, the observer made several comments regarding my delivery of the workshop material, to aid in improving future presentations. First, he suggested that I include a little bit more detail on my slides, so that I would not have to rely so much on my notes. That might also, he suggested, help participants when they want to jot down notes from my presentation (i.e., he had noticed participants

writing down the title of the short video that I described and recommended, as well as the references for Bible verses that I shared in relation to each of the dimensions of sustainability). Second, the observer suggested that I take more time talking at the beginning of the workshop to allow participants to trickle in a few minutes late, before having them start the pre-workshop questionnaire.

#### *Adaptations in Response to Workshop Outcomes*

The finding that participants displayed environmental motivations (albeit weaker than the general population and their white-collar peers), along with economic and social motivations, indicated that a greater effort would be required for future iterations to achieve participation among less environmentally-motivated individuals. One way in which I attempted to do that was by highlighting even more clearly the three-dimensional definition of sustainable living. To the extent possible, I also sought to address potential logistical barriers in subsequent iterations, with the intent of making it easier for alternatively-motivated individuals to attend.

Regarding the possibility of increasing opportunities for dialogue and discussion, there were several points during the workshop where the qualitative observer could foresee improved engagement. First, he suggested that I engage participants in discussion right away at the start of the workshop. For example, he suggested asking participants what sustainability or sustainable living means to them. Because of the level of detail included in the communications about the workshop, and because there was a very similar question on the pre-workshop questionnaire, I chose instead to ask participants in subsequent iterations why they chose to attend the workshop, and what they hoped to

take away from it. I determined that those questions would lead well into a summary or outline of what I planned to cover and what participants could expect going forward (which the observer also recommended). Additionally, after the second exercise, which addresses the time crunch that many of us face, I asked for volunteers to share a category within their schedule that receives either too much or too little attention. Finally, once participants finished filling out their commitment cards, I asked for volunteers to share one or two of the behaviors that they had committed to changing.

In addition to providing the opportunity for further discussion, I determined that the latter suggestion would likely have a couple of added benefits. First, it would replace an audience participation question that I asked participants during the second iteration (that is, “Can you think of other behaviors that would be sustainable along all three dimensions?”), but for which participants had no responses. Second, it would provide a break between filling out the commitment cards and filling out the post-workshop questionnaire. This would be beneficial because the observer had noticed some overlap at the end of the previous workshop among several activities. I was explaining the post-workshop questionnaire and wrapping up the workshop while participants were filling out both forms. This overlap may have led to some confusion, and could be avoided by asking for feedback during that sequence of activities.

To accommodate the extra time needed to add opportunities for audience participation, I shortened the section on “too much stuff,” and eliminated the exercise that typically accompanies that section. Instead, I shared a short personal example about having too much stuff, in an attempt to prompt their consideration of their own



possessions. I did this because the observer had noted that some participants in the previous workshop had seemed unsure of how some of the workbook activities, and that one in particular, fit into the curriculum. Focusing more carefully on the content of the exercise, it is clear that the questions are tangentially appropriate, but likely not the most meaningful for participants. In addition, we learned from this iteration that the post-workshop questionnaire takes less than 10 minutes to complete, whereas I had originally allotted 15 minutes for participants to complete that questionnaire. That extra time was also divided up among the added audience-participation questions.

As noted above, it was also important to adapt the workshop to encourage more specific, rather than general, behavioral commitments among participants in subsequent iterations. One way in which I attempted to accomplish that task was to provide participants with a number of specific examples of sustainable behaviors throughout the workshop presentation. Many of those examples were taken from my own experience, or the experiences of other people with whom I am acquainted. Also, in response to a suggestion by one of the Iteration 2 participants (and in keeping with a suggestion by one of the Iteration 3 key informants), I included examples of local opportunities to live more sustainably.

In response to the observer's recommendations regarding my presentation and delivery, I made several additional changes. First, I modified my PowerPoint presentation to include more detail on a number of the slides: 1) the benefits of living sustainably at various scales; 2) a graphic depicting the materials cycle; 3) a graphic depicting the work-earn-spend cycle; and 4) the references for the Bible verses that support a sustainable

lifestyle. Second, I began the event by: asking people to share their expectations, sharing with them an outline of my presentation, and including a bit more instruction regarding the pre-workshop questionnaire (i.e., explaining the research aspect of the project, letting participants know how long it would take). In that way, I was able to build in extra time at the beginning of the workshop to allow latecomers to arrive and get settled in.

In addition to the above adaptations, the enhancing factors detailed in this section suggested a number of elements that should be maintained for subsequent iterations: an appeal to existing motivations of group members; leadership support and enthusiasm; and the continued targeting of well-connected, or influential, organization members to serve as key informants. Thus, those elements were carried over into the next iteration. The description of that case, and the outcomes achieved, are detailed in the following section.

### Case Description of Iteration 3

The third organization selected for this project was a prominent evangelical church in the local area. In addition to responding to a commonly-occurring suggestion among influential community members and key informants that I look into working with one or more church groups in the area, this choice maintained the recommendation made based on previous iterations that I secure leadership support and enthusiasm for the project. The expectation of interest in, and support for, the project was based upon a sermon series delivered by the pastor that focused on ideas related to consumption and simplicity. Those sermons occurred around the end of the 2011 calendar year, and were part of a church-wide effort to curb consumption during the holidays. In fact, the church's

members were strongly encouraged to participate in a nationwide initiative called “Advent Conspiracy,” which was designed to do just that.

Following one particularly relevant sermon on this topic, I wrote to the pastor via e-mail, introducing my project and inquiring of the church’s interest in participation. In response, he wrote that he would “love to hear more about this opportunity,” and that he was “definitely interested in hosting a seminar.” He recommended that I first discuss the project with the church’s Missions Associate, which I did. She and I met for about an hour, during which I told her about the project. I gave her the details associated with the curriculum, and explained how I thought that the material tied in well with the current sermon series on simplicity. She agreed and expressed enthusiasm about the project. She asked for details about what would be required from the church and from participants, and agreed to bring the information to the pastor to get his approval for the workshop and all that it would entail. A couple of items she thought would be important to ensure the success of the program were: 1) getting the right individuals to participate in the key informant interviews—those that would be representative, for example; 2) convincing church members that it’s not “just another meeting;” and 3) ensuring attendance among non-environmentally-motivated folks. Logistically speaking, she said that reserving a meeting space at the church should not be a problem. Thus, with the support of the church’s leadership, we moved forward with the intervention.

#### *Key Informant Interviews*

Between February 14 and February 28 of 2012, I interviewed 10 members of the church. An invitation to participate was sent via e-mail on January 26, 2012, to leaders of

small groups called Life Groups. These groups tend to be organized by age and life stage, although several of them are classified as “multi-stage.” Leaders were invited to either participate themselves, or to pass the invitation on to the members of their Life Groups. Thus, there is no way to determine the exact number of people who received the invitation. There are, however, roughly 40 Life Groups in the church, 12 of which are specifically for college students, and 28 of which are geared toward the general membership. During the two weeks following the initial invitation, only one Life Group leader agreed to participate in an interview. Several church staff members indicated that this response was not surprising, stating that they often receive similar responses to e-mails sent to Life Group leaders or other members. In order to try to improve responses, I sent invitations to people I know personally, asking them to participate (sent February 8, 2012). Upon sending those invitations, I had received seven responses by the end of the first day, and another three by the second day. I had several others express interest during the days following as well. Additionally, since none of the volunteers were college students, and college students comprise roughly half of the church congregation, I was able to secure an interview with one college student through a mutual contact. Two of the adult members who had expressed interest in participating failed to follow up to schedule an interview, so I ultimately interviewed 10 members (see Table 4.5). As with the previous iterations, I was able to identify many recurring themes throughout the interviews, along with “negative case” perspectives regarding several themes. There was a good deal of continuity among the responses, indicating that data saturation was reached for this iteration. With roughly 1,100 regular attendees, it is likely that some

viewpoints were not represented by the key informants, but there was enough consistency across informants to conclude that the viewpoints represented are common among the church's members.

Table 4.5

*Key Informant Descriptions for Iteration 3 (All Informant Names are Pseudonyms)*

| Informant | Sex    | Origin | Description   | Church involvement |
|-----------|--------|--------|---|--------------------|
| Nancy     | Female | AR     | A 57 year old married mother and grandmother              | Growing            |
| Olivia    | Female | KS     | A married mother of two and entrepreneur                  | Growing            |
| Penny     | Female | OK     | A college senior and Recreation major                     | Limited            |
| Quincy    | Male   | CA     | A practicing attorney; married father of two              | Highly involved    |
| Renee     | Female | OH     | A married mother of three boys, all school-aged and older | Highly involved    |
| Stacy     | Female | TX     | Married mother of four                                    | Highly involved    |
| Tom       | Male   | TX     | Married father of two and entrepreneur                    | Highly involved    |
| Vera      | Female | TX     | Married mother of two and administrator                   | Highly involved    |
| William   | Male   | MI     | Married father of two and corporate manager               | Growing            |
| Xavier    | Male   | AR     | Married father of two working in ministry                 | Involved           |

The ten key informants with whom I conducted interviews represented a variety of ages and life stages. For instance, along with the (female) college student mentioned above, I interviewed: mothers with children of all ages, fathers with teenagers, and one grandmother of four. Informants also had varying levels of education. One informant was a senior in college and seven others had completed undergraduate degrees (three of whom held graduate or professional degrees). Information on educational background

was not obtained from the remaining two informants. Career paths also varied among the informants and included: administrative, entrepreneurial, managerial, and professional. Informants represented a variety of geographic origins. I interviewed three native Texans, each from different parts of the state (none raised locally). Other informants hailed from the Midwest (4), the Southeast (2), and the West Coast (1). Their involvement with the church ranged from involvement in both Sunday services and Life Groups on one end to “over the top” involvement (i.e., elders, deacons, Life Group leaders, staff members, staff supervisors, Sunday school leaders) on the other end, as described by one of the informants.

As with the previous iteration, informants were able, based on their combined breadth and depth of experience, to provide valuable insight into the four constructs under investigation during this phase of the iteration, including: perceptions associated with the terms *sustainability* and *sustainable living*; barriers to living sustainably, both in general and in the local context; church members’ values and priorities; and potential interest in, and recruitment methods for, the upcoming workshop. And again, their input was used to adapt and structure the educational programming component of the intervention for this iteration.

### *Perceptions of Sustainability and Sustainable Living*

*Presence of environmental and non-environmental emphases.* The key informants were generally divided into two groups with regard to their perceptions of *sustainability* and *sustainable living*—those *with* environmental perceptions of the terms, and those *without*. Only half of them viewed the terms first from an environmental perspective,

which is fewer than for the earlier iterations. Some responses shared by those informants included: green (by three informants), environmentally-conscious, reusable, and good for the environment. As with the previous iteration, eco-friendly behaviors were also noted by the informants who viewed sustainability and sustainable living from a strictly or primarily environmental perspective, including: recycling (by three informants), biking to work, limiting consumption of bottled water, being wise about the kinds of cars we drive and homes we live in, using what we have, and operating with as little environmental impact or solid waste as possible.

Among the half of informants that did not immediately think of the environmental dimension of sustainability and sustainable living, the economic dimension was commonly mentioned. Tom, for instance, spoke of sustainable living as having one's basic needs (food, shelter, income, and resources) met, and being debt-free. Olivia stressed the importance of "living within your means . . . not spending more than what you take in . . . [not] being extravagant . . . paying off our credit cards." Nancy described a sustainable lifestyle as one in which "you don't spend more than you make . . . try to be responsible . . . don't waste." At a broader scale, Penny—who thought first of the environmental aspects—also considered the economic dimension of sustainability. Thinking from a business perspective, she stated that sustainability would involve "creating a business . . . that will last and bring profits."

Interestingly, four different people highlighted the idea of *consistency* or *continuity*, "maintaining [something] over a long period of time." Thus, they seemed to be thinking of the terms' literal definitions, without the environmental connotations that

have been so common throughout previous iterations, and that were identified by the other half of the church's informants.

Finally, the idea of *self-sufficiency* was brought up in the group with non-environmental perceptions. Nancy thought of it as being “able to make it on our own . . . to get food and provide for our needs.” Olivia spoke of a family preoccupation with the uncertainty of our nation's economic future, and the question of whether they would be able to take care of themselves in the event of a national emergency. Thus, they have been fascinated with the idea of growing their own garden, and being able to “work the land and that whole thing.”

I have been unable to identify any characteristics that are notably different between these two groups (those with and those without environmental perceptions of sustainability and sustainable living) that might account for this difference in perspective. In both groups, informants represented different genders, life stages, education levels, income levels, and geographic origins.

*Identification of the key components of sustainability and sustainable living.* In spite of differences in terms of the environmental connotations of the terms *sustainability* and *sustainable living*, informants from both groups touched on the individual aspect of sustainability, as did informants from the previous iteration. In fact, every single informant touched on the individual aspect. However, rather than *extending* the scope of the terms beyond corporate and community-level efforts to incorporate individual-level behavior choices, many of the informants addressed *only* the individual and family scales. Only three of the informants acknowledged efforts at the corporate level, and none



explicitly mentioned efforts at broader (i.e., community, national, global) scales. This pattern is unusual, as sustainability efforts typically begin as top-down efforts, and more often neglect the importance of individual contributions than focus on them exclusively.

Whereas informants from the previous iteration discussed other key elements of the definitions of sustainability and sustainable living (i.e., their continuous nature, their intentional nature, and their generational implications), informants from this group did not. The college student I interviewed, Penny, did mention the generational aspect of sustainable living in her account, stating that it was, “taking care of the environment so that it will last for longer. . . . for younger generations. . . . more forward thinking,” but the others did not. When prompted, several informants alluded to the longer-term implications of living sustainably, in terms of maintaining natural resources for their grandchildren, or educating their children in sustainable practices, however those aspects did not come to mind for them initially.

*Perceptions of other members’ perceptions.* Informants’ impressions of other church members’ perceptions of the terms *sustainability* and *sustainable living* were also informative. Penny, for instance, stated, “I think when people hear sustainable living, they think it’s like, moving out to a farm, sewing my own clothes, you know. . . . sustainable is an intimidating word for a lot of people, I think.” Quincy added, “I think most people would have a pretty narrow understanding of sustainable living.” Both informants, however, were excited about the broad, three-dimensional definition of sustainable living that I shared with them. Quincy exclaimed, “I like that!” He also added, “I think everyone ought to hear that definition of sustainable living, because it’s

kind of eye-opening. I've never heard it that way. . . . I think folks—if they understood how broad the definition is—I think they would find it interesting and it would be applicable to them. . . . I think that everybody would love to have more balance; to live more simply.”

Several other informants also referenced balance and simplicity. For instance, when framed as “a workshop designed to promote sustainable living,” Nancy said that she hoped there would be an interest in attending, but did not seem confident that there would be. When I asked her, instead, about possible interest in a workshop promoting a “balanced, simple lifestyle,” as opposed to sustainable living, and whether that would improve the appeal, she answered affirmatively: “Balanced and simple. I do definitely think that people my age go back to more of a simple living; we want simpler things, we want everything to be simple. So honestly, I think that would be a great way to promote it.” Vera echoed that sentiment, saying, “I think using the word balance . . . would be a huge help.” Xavier acknowledged, “I can see where a simple lifestyle with less consumption, less needs, would be a big advantage. . . . I think a lot of people will embrace it.” Similarly, when Olivia thought of the three-dimensional definition of sustainable living, she thought that people might be interested, as long as it was promoted in a balanced way: “I think the biggest thing is being balanced. I mean, you don't want to come off as a ‘Greenpeace’ theme, because that could turn people off. But, really, God wants us to be good stewards of what He's given us.” Stewardship also came up frequently during interviews as a synonym for sustainability. Penny commented, “When I think sustainable, I think of stewardship, more than responsibility. I think that people in

the church would respond to stewardship, because we're called to be good stewards of what we've been given. That's a less intimidating word." Informants' perceptions of sustainability and sustainable living helped to inform a number of the adaptations to, and elements included, in the educational programming component of the intervention for this iteration. Those are detailed in the section below on adaptations in response to key informant interviews.

### *Barriers to Living Sustainably*

Informants also identified a number of potential barriers to living sustainably, both for themselves and for other members of the organization. Those barriers included: 1) *image, social norms, and peer pressure*; 2) *culture*; 3) *financial costs*; 4) *time, effort, and inconvenience*; 5) *knowledge, education, and awareness*; 6) *habits*; and 7) *spiritual barriers*. As in previous iterations, an understanding of the barriers experienced by individuals, and potential workshop participants, was important in the effort to proactively address those barriers, and help participants to overcome them, thus minimizing factors inhibiting achievement of the second goal of the intervention, obtaining behavior change commitments from participants.

*Image, social norms, and peer pressure.* *Image, social norms, and peer pressure* comprised the most commonly-cited barrier to living sustainably, according to informants. Several informants talked about how "keeping up with the Joneses" is an ongoing temptation, especially when you consider the influence of social media and marketing, which, according to Renee, constantly "make you want to live beyond your means." Penny also talked about people's willingness to go into debt to have "the nice,

new, fancy thing.” Xavier referred to the work-earn-spend cycle as a “vicious circle,” but also noted people’s desire to blend in and “not be looked upon as different.” Just as image, social norms, and peer pressure can be a barrier to living more sustainably, a lack of social norms and positive peer pressure can also fail to promote sustainable living. Olivia, who had lived in California for several years after growing up in the Midwest, stated that: “Our move to California really changed a lot for the two of us, because [sustainability] was promoted so much out there.” She also mentioned feeling, there, as though, “all of the neighbors [were] recycling and they would talk about us if we didn’t.” So, not only can image and social norms be barriers to living sustainably, but they can also be leveraged to promote sustainable lifestyles.

*Culture.* One determining factor in whether the above are obstacles or opportunities is *culture*, which was another commonly-cited barrier to living sustainably that was highlighted by informants. Six informants brought it up in their interview responses. Informants described the culture of our society, as a whole, as one of: impatience, immediate gratification, excess, and consumerism. Technology, according to Quincy, plays a significant role here. He mentioned specifically that:

The ability to communicate instantaneously...has driven some professions...to crazy paces of work. And so, because we can always get everything done at all times from anywhere, there’s an expectation among clients and customers that we should and, frankly, must be doing that. So that’s an obstacle to having balance.

Other informants spoke of easy access to credit, and how that plays into our, “I want it, I want it now, in the easiest way possible” mentality. Xavier commented, “culture’s got us eat up with the consumerism. It’s buy, buy, buy.” Several informants also talked about the influence of culture at a smaller scale, that is, “how you were raised . . . brought up—the important things to your family.” Tom offered the example of the small Texas town where he grew up, and how, there, “you’re looked down upon if you’re green.” He added that “there’s not a person there who gives a flying crap about recycling a can.” Another barrier that Tom identified in smaller communities is a resistance or aversion to change, which is again reflective of culture. Therefore, different people may face different cultural barriers, but key informant responses indicated that culture can impact behavior. As with image, social norms, and peer pressure, though, the ability to establish a culture of sustainability may influence people’s behavior in a positive direction.

*Financial costs.* Five different informants discussed the *financial costs* of sustainable behavior as a barrier to living more sustainably. Nancy determined that it “would probably be my biggest barrier.” Some of the behaviors that were highlighted as being more expensive include: buying “the right things,” eating sustainably-produced food, retrofitting an older home to save energy, and buying a hybrid car. Xavier pointed out that the cost of living is so high these days that people can barely make ends meet just covering necessary expenses, without paying more to live more sustainably. Beyond the individual-level cost barriers associated with living more sustainably, William’s industry perspective allowed him to offer insight into barriers to sustainability at that scale. He noted how both individuals’ unwillingness to pay a premium for sustainably-produced

goods and corporations' inability to compete with overseas companies that are "not willing to abide by the same, more costly, principles" make it more difficult for companies to operate sustainably. The matter of cost is a commonly-cited barrier to living sustainably. While an in-depth discussion of the potential for incentives and disincentives that might encourage sustainability the corporate level is beyond the scope of this work, there are several appropriate responses for encouraging sustainable behavior at the individual or household level. For example, sustainable living educators can offer a wide array of behaviors that people can adopt to live more sustainably, including those that do not cost more (or a lot more), and especially those that can actually lead to cost savings. In this way, people may be promoted to make small, cost-effective changes that may lead to bigger changes in the future.

*Time, effort, and inconvenience.* As in previous iterations, *time, effort, and inconvenience* comprised a significant barrier to living sustainably. Six different informants alluded to this barrier. Living more sustainably can, at least initially, require time and effort, making sustainable behaviors seem inconvenient. For instance, as noted by informants, researching and understanding the process of gardening and growing your own food take time and effort. And several informants noted how short people are on time in general, citing church, family, youth, school, and work commitments as vying for valuable time. Interestingly, poor stewardship of time as a resource was cited as a barrier to living sustainably, but better stewardship of one's time is one of the hallmarks of a sustainably lifestyle. Thus, living more sustainably may, in itself, help to alleviate that particular barrier.

In addition to time, informants commented on the effort that it takes to bring and use canvas bags for groceries, to buy things made of recycled products, and to recycle. In fact, access to comprehensive recycling was the informants' most frequently-noted concern in relation to inconvenience. Some of the informants' cities/neighborhoods do not offer curbside recycling. Others, as mentioned in previous iterations, would have access to curbside recycling, but would have to go out of their way to pick up a recycling bin from the recycling facility. Even where curbside recycling is made convenient through standard drop-off of a recycling bin, the issue remains that glass cannot be picked up curbside in some of the community's neighborhoods. William offered the following perspective: "So, in my neighborhood, they don't recycle glass—which is crazy. But, that's a perfect example, in my estimation, of missed opportunities for increasing the level of sustainability." Penny echoed that concern, stating that "there are different rules, and [the city] doesn't recycle glass, so people get frustrated, because . . . they do glass in [other places]." Again, there may be a place for infrastructural changes that would promote sustainable behavior by removing the barriers of time, effort, and inconvenience, but that is beyond the scope of this work. Rather, it is important for sustainable living educators in situations like these to: 1) promote sustainable behaviors that will not be constricted by these barriers and 2) make as many behaviors as possible as convenient as possible (for example, through the provision of print resources at workshops).

*Knowledge, education, and awareness.* *Knowledge, education, and awareness* comprised a barrier to sustainable living that was cited by four different informants.

Penny argued that education is “the biggest thing . . . the more educated you are, the more you know about sustainable living, and the better you would be at practicing it.” Stacy listed a lack of information and equipping (particularly regarding social sustainability) as a significant barrier. Olivia and William both spoke about more specific knowledge and information. For example, Olivia gave the example of gardening, and how you need to know how to do it in order to be successful. And William, again speaking from the perspective of industry, discussed a lack of awareness among consumers regarding where products are made, and how that affects human rights issues, for example. He credited consumers with having a lot of potential influence over how companies behave, but questioned the extent to which they were aware of that influence or of how to effectively wield it. Offering a workshop on sustainable living is a first step to overcoming barriers of knowledge, education, and awareness; promoting attendance at the workshop is a second step; and providing general and local resources to aid individuals in their efforts to change their behavior is a third.

*Habits.* Several informants talked about their own *habits* as barriers to living sustainably. Quincy, for instance, drives a pick-up truck, even though he acknowledges that he really does not need to. He does simply because he always has. Another example that he gave related to ambient home temperature. He spoke of how his wife’s parents regularly keep their home temperature closer to the outside temperature, and have drastically lowered their energy costs. And yet, even in spite of the potential for cost savings, Quincy and his family choose to keep the temperature in their home higher in the winter and lower in the summer than do his in-laws. When a certain habit is in place, it



takes discipline to change it. Nancy pointed out that if you are not used to behaving in a certain way, you have to “train yourself to do [it] regularly.” The changing of existing habits is a gradual and ongoing process.

*Spiritual barriers.* *Spiritual barriers* were also observed by several informants. Penny suggested that there seems to be a “tension” for Christians, because they see scriptural guidance not to worry about tomorrow as conflicting with the idea of good stewardship of our resources. For instance, Matthew 6: 31-34 states:

So do not worry, saying, ‘What shall we eat?’ or ‘What shall we drink?’ or ‘What shall we wear?’ For the pagans run after all these things, and your heavenly Father knows that you need them. But seek first his kingdom and his righteousness, and all these things will be given to you as well.

Therefore do not worry about tomorrow, for tomorrow will worry about itself. Each day has enough trouble of its own.

Likewise, Stacy confessed, “For me that boils down to, ‘God made the earth, and He’s in control.’ I really don’t know that we’re so powerful that we can break the world that He made,” although she did not use this belief as an excuse for poor stewardship, and she and her family do their part to be environmentally responsible. Tom, on the other hand, spoke of a relative of his whose attitude is that, “there’s no need to recycle, God will provide. We’re over-analyzing and over-thinking all this stuff. It’s all just a waste of time. . . . being a good steward of those resources, or looking after this environment that’s with us, is just bunk.” He attributed that kind of attitude to a “warped sense of biblical perspective; that abundant resources mean that we don’t have to be good stewards of our

resources.” Stacy echoed that a lack of understanding about what stewardship is and what it means prevents people from living sustainably.

Although informants identified a number of potential barriers to living sustainably, those barriers may be: minimized, overcome, or leveraged as positives. An understanding of the barriers that each organization’s members may face can help sustainable living educators to provide the most effective programming possible.

#### *Church Members’ Values and Priorities*

As in previous iterations, in order to gain insight into the values and priorities to which I should appeal in my communications with church members and within the workshop material and presentation, I asked informants to share what they perceived to be the most important values and/or priorities in the lives of their organization’s members; and also to rank a set of priorities, in order of importance, from the perspective of the average church member. One difference between the previous iterations and this one was the addition of “the environment” to the list of priorities, for a total of eight priorities in the ranking question (i.e., time, money, family relationships, social relationships, health, community, faith, and the environment). This priority was added because my data from the previous iteration allowed me to assess the environmental attitudes of workshop participants, but not of the group’s broader membership. The ability to assess both of those in the present iteration allowed me to more accurately evaluate my level of effectiveness in identifying organizations whose members’ motivations are not explicitly environmental.

As in previous iterations, the themes that emerged from the open-ended question were consistent with the predefined categories in the ranking question. Therefore, I have organized my analysis according to those categories. The quotes shared for each category include comments made in relation to the open-ended question, as well as elaborations upon the informants' responses to the ranking question.

*Spirituality or faith.* The most important value to the church's members, according to informants, is *spirituality*, or *faith*. Seven informants suggested faith as an important value prior to being introduced to the ranking question. Xavier touched on the daily nature of members' relationship with Christ, rather than just Sunday church attendance, namely, that their faith would permeate their lives. Quincy suggested that members have "a love of God and a love of people; and a desire to serve Jesus Christ."

In response to the ranking question, most informants ranked spirituality as either the number one (by six informants) or the number two (by three informants) priority among members. One respondent, Penny, actually ranked spirituality as number seven in priority, particularly among her college peers. In explanation of this ranking, though, she offered, "living a life that glorifies God is a big deal for them. . . . kind of the umbrella under which all things [fall]. . . . but they would invest more time in their social relationships . . . [spirituality] can be in the back burner of our mind while we're doing things; and what motivates us to do things." Thus, in spite of that low ranking, even Penny would likely argue that appealing to spiritual motivations would be effective in promoting sustainable behavior among the church's college population. Thus, spirituality

was the highest value or priority for the entire congregation as a whole, as perceived by informants.

*Family.* *Family* was the second most important value to members, according to informants. Six different informants suggested it in their responses to the open-ended question, referring to important aspects of family like marriage and parenting. Quincy shared that a number of church members had left lucrative positions in bigger cities, or passed up job opportunities, in order to make more time for their families. Vera pointed out the number of young families that attend the church, and how “family is a big thing.”

In terms of the ranking question, most of the informants ranked family as either first (by three informants) or second (by five informants) in priority. Penny, my college-aged informant, ranked it fourth in importance, arguing that although college students may be physically separated from their families—and therefore not “super intentional” about those relationships right now—they still lean on family members during times of stress. Tom, a father of two teenage sons, actually ranked family as seventh in importance, and provided an explanation that represents a negative case perspective:

We have the most discombobulated sense in our young families, in my opinion, of family. None of them want to do anything with their kids. . . . that’s our biggest complaint coming from children’s ministry. As far as, just what I hear, from young couples, ‘hey, we can’t go to Life Group, because we don’t have anyone to watch our kids,’ or ‘we can’t go out to eat with you guys, because we don’t have anyone to watch our kids.’ Well, guess what, you’re going to look back on these days and wish you’d had

your kids at the table more. . . . we have a lot of young married couples who isolate their kids away from themselves at every opportunity that presents itself, instead of engaging their kids in that.

So, taking into account the general impression that most informants have that family is a huge priority, there remains some question as to how that plays out in day-to-day interactions. It is possible that parents *believe* they are doing the best things for their children, without realizing some of the aspects of the family relationship that may be missing. That relates back to the discussion from the previous iteration about recognizing that workshop participants' intentions are good, but that the actions that follow may not be sustainable. Perhaps by highlighting the problem that Tom pointed out within the workshop itself, it would be possible to encourage people to integrate their children into more social activities, as Tom suggested. That decision, and actions taken in that direction, would move a family toward a greater level of socially-sustainable living.

*Social relationships.* Informants saw *social relationships* as third in importance among church members, according to the ranking question. However, this value was only mentioned twice in response to the open-ended question. Olivia talked about the importance of “truly making connections” with other members in the church, for example. Penny discussed social relationships, but in conjunction with the sub-themes of community, service, and outreach. She explained college students' motivations for joining groups and teams as follows: “Anything done in community, and socially, is important. Spending time together, people just want to be part of something bigger than themselves.” Her response illustrates how social relationships and a sense of community

can go hand in hand with community service and outreach for the church's members, and particularly its college students.

*Time.* *Time* was ranked fourth in importance by informants overall, but was only raised by one informant in response to the open-ended question. Yet, when asked to elaborate on their responses to the ranking exercise, many informants offered insight into the importance of time to church members. Time was referred to as: “a big deal” (by one informant); “a big concern” (by one informant); “huge” (by two informants); and “critically important” (by one informant). Renee spoke about how “everybody’s so busy these days,” and Xavier discussed time as an issue of priority—that the two go hand in hand.

*Community.* Informants ranked *community* as fifth in importance overall, with individual informants ranking it as anywhere from third most (by three informants) to second least important (by one informant). It was raised by five different informants in response to the open-ended question, with informants using terms such as service, social awareness, outward focus, and outreach. Penny argued that the church's college students, especially, “want to help others. They want to do things that will make the world a better place to live.” Quincy echoed that sentiment on behalf of the church's non-college-aged contingent, stating that “they want to be active in making the world a better place.” Renee, elaborating upon her response to the ranking question, mentioned the vision statement of the church, “to seek the welfare of the city,” which is the essence of community.

*Health.* *Health* was ranked sixth in importance by informants, overall, with individual informants ranking it as anywhere between third most (by two informants) and second least important (by two informants). It was only raised by one person in response to the open-ended question. Specifically, Renee said that she had recently been hearing of more and more people getting involved in a popular fitness program, which she viewed as evidence that “health and fitness [are] very important,” although possibly only among a subset of the church’s congregation. And yet, when people elaborated on their answers to the ranking question, there was some clear importance assigned to health by several informants. Quincy made the point that a number of prominent church members have suffered serious health concerns of late, and that “it’s been a reminder to everyone that health is precious.” Of course, others admitted that health was not as important in their daily lives as it should be. Olivia’s response is a good illustration of that sentiment:

I know for us personally, it’s important, but it’s not something that we spend a lot of time consciously focusing on. We try to eat healthy, I cook healthy, but we’re not as healthy as what we need to be. We don’t work out. . . . I can’t say that it’s not as important, but I don’t know . . .

It seems that informants were all aware that health should be an important priority, whether or not they believed that it was considered important by members.

*Money.* *Money* was ranked as anywhere from third most important (by two informants) to least important (by one informant) among church members. Two informants brought money up in response to the open-ended question. They spoke of the importance of having sufficient resources, but not in a materialistic sense. Quincy

asserted that members, for the most part, try to “live within reasonable boundaries from a financial and material standpoint . . . from a cultural standpoint, there’s less of an emphasis on material things at [the church] than at other churches with similar demographics.” In elaborating on their responses to the ranking exercise, informants largely agreed that money is important. Some informants were clearly wealthier than others, and income-levels may contribute to the level of importance placed on money, but my impression was that the informants were envisioning the value that “the typical member” would place on money, to the best of their ability. Nonetheless, some spoke of the above-average incomes of many of the church members, and how financially “blessed” members are; whereas others acknowledged finances as a struggle. Vera, for instance, argued that “unless you have a ton of it, this is always a struggling point for people. . . . I just think that unless it’s not an object or a problem, this is always an issue for people.”

*The environment.* Finally, *the environment* was seen as the lowest-ranked priority of members. Not a single informant suggested it as a value in response to the open-ended question. Furthermore, it was ranked as least important by all but one informant (and second least important by that informant) in the ranking exercise. In fact, one of the informants, William, did not rank it at all—he left it blank. When Stacy was filling out the ranking exercise, she quickly ranked spirituality as number one in importance, and then next ranked the environment as number eight, before filling in the rest of the rankings. And yet, when I asked each of the informants to elaborate on their answers, all acknowledged that the environment is important, however the overwhelming perception



among them was that it is just not as important as the other values and priorities listed. Quincy's comment illustrates not only the mentality that informants seemed to share, but the appeal that a three-dimensional definition of sustainable living can have for people who share that mentality: "I think they do care about it. I just think if you're forced to rank these things—but maybe that's what sustainability is about; we're not going to be forced to rank them, we're going to find ways to integrate all of them together."

### *Recruitment Recommendations*

*Suggestions for increasing appeal.* As with the previous iteration, I asked informants to speak to the potential interest in a sustainable living workshop among church members. Also like the previous iteration, the extent to which informants perceived other members as potentially interested was largely dependent on how the workshop would be promoted and formatted. In fact, informants' responses centered around their recommendations for increasing appeal, rather than simple descriptions of the level of appeal that might already be present within the congregation. Those recommendations are described here.

In keeping with previous iterations, informants suggested offering practical tips and steps for how to live sustainably. Penny talked about "little daily things . . . like turning lights off if you aren't using them . . . and water usage . . . here's where you can recycle or how you can compost." Xavier added that it would be important to make suggestions specific to the local area, saying for example, "here's how you can do that, and practical ways in our society . . . obtainable goals that we can use. Set out, you know, 'here are ten things that couldn't work in our culture . . . [but] here's what you *can* do.'"

Several suggestions offered by informants were of a logistical nature. The first was that I use a multimedia approach to written communications announcing the workshop (announcing the workshop in the Sunday morning bulletin, the monthly e-newsletter, and an e-mail message to leaders of Life Groups.) It was also suggested that I visit as many Life Groups as possible, in order to introduce myself and the workshop, to extend a personal invitation to participate, and to answer any questions that people might have about the workshop.

Penny suggested using word of mouth promotion, attesting that “word of mouth is hands down—you can spend all the money in the world, but nothing gets people like word of mouth, being intentional, and one-on-one conversations.” Tom also noted that successful programs at this church, specifically, have always been promoted through word of mouth. The final logistical recommendation was to provide food (which I did). That seems to be a consistent promotional tool across iterations.

In spite of the above recommendations, which informants thought would increase interest and improve attendance, many remained concerned that members might be unable or unwilling to sacrifice the time to attend the workshop, because “people are so busy,” as Stacy noted. Renee asked rhetorically whether people would see it as “important enough to make the time for it in their week.” Ironically, as noted previously, time management was cited by informants as both a barrier to living sustainably (and to attending the workshop), and a benefit thereof. Quincy suggested that, as a way to overcome this time barrier, I offer a second workshop on a Wednesday night, when Life Groups already typically meet. This would allow members to attend without carving out

additional time from their schedules, and would have the added benefit of allowing participants to utilize childcare services provided by the church on Wednesday nights. When I brought this suggestion up with subsequent informants, they were all supportive of adding a Wednesday night option.

Key informants' insight provided valuable support for efforts that I had already included in my promotion and presentation of the workshop curriculum for previous iterations, as well as suggestions that I had not thought of incorporating. Using their perceptions of sustainability and sustainable living, barriers to living sustainably, and values and priorities of members, I was able to tailor the curriculum to the church's members. In addition, I incorporated several changes as recommended both by participants in the previous iteration's workshop and by the qualitative observer present during the previous workshop. The various adaptations made and elements included in the second phase of research for this iteration are detailed in the next section.

#### *Adaptations in Response to Key Informant Interview Findings*

Key informant responses suggested a number of adaptations that should be made to the educational programming component of the intervention for this organization, as well as elements that should be included in that phase of research. Those adaptations and elements fall under the following themes: 1) application of a *three-dimensional focus and terminology*; 2) appeal to the value of *spirituality*, or *faith*, among members; 3) acknowledgment of, and appeal to, *various values* present among the membership; 4) emphasis on the *benefits of living sustainably*; 5) effort toward *overcoming potential*

*barriers* to living sustainably; and 5) incorporation of *promotional suggestions and recommendations* made by informants.

*Three-dimensional focus and terminology.* Informants were excited about the broad, three-dimensional definition of sustainable living that I shared with them. Several also referenced the ideas of balance and simplicity. Stewardship was another term offered for use within this three-dimensional focus. In spite of informants' enthusiasm regarding the three-dimensional definitions of the terms *sustainability* and *sustainable living*, their perceptions regarding the terms, as well as their recruitment recommendations, made it clear that the terminology used for workshop communications and the curriculum presentation would have to be modified to allow potential participants to understand what the workshop was going to be about. Thus, my intention was not to use the terms *sustainability* or *sustainable living* in the e-newsletter or bulletin announcements. Instead, I sent the church staff the following text to use for the e-newsletter announcement:

**Stewardship: Simplicity Meets Balance**

Could you use a bit more balance in your life? Could God be calling you to better stewardship of your time, money, relationships, or resources?

[The church] will be hosting a workshop on Tuesday, April 17, from 6:30-8:00 p.m. (with refreshments served at 6:00) to help each of us answer these questions. You'll also learn how living a simpler, more balanced lifestyle will benefit you, your family, your church, and your community—today and in the future. To learn more or to RSVP, contact [Researcher's name and e-mail address].

For the bulletin, I wrote a shortened version of this text, due to space limitations. Drafts of each text were sent to key informants for feedback, and all but one approved of them as written. One informant suggested using the word sustainability, but given the confusion observed during the majority of the interviews, I opted to leave it out. And yet, when I received the e-newsletter, I realized that the staff had included the announcement, but had modified it in two ways: 1) in bold print, they had titled the announcement, “Sustainability Workshop;” and 2) they had used an even shorter version of the announcement than the short version I provided. The text they included, which failed to touch on the different areas of life that would be encompassed by the presentation (i.e., time, money, relationships, and resources) or the different scales at which benefits may accrue from participation (i.e., individual, family, church, and community), follows:

[The church] will host a workshop on April 17, from 6:30 - 8 pm  
(refreshments served at 6 pm) to teach people how to live a simpler, more  
balanced life, and how making just a few small changes can be beneficial.  
Please RSVP to [Researcher’s name and e-mail address].

This miscommunication meant that I would not be able to evaluate the effectiveness of omitting potentially confusing or intimidating terminology (*sustainability* and *sustainable living*) from promotional materials. Therefore, that recommendation had to be deferred to the final iteration. However, the experience does represent the type of encounter that professional sustainable living educators likely face on a regular basis, and points to a more practical and immediate recommendation. Namely, it is important to clearly communicate the essential components of the workshop, the promotional

materials, and so forth, with the people responsible for assisting in preparations. That way, those people will know the extent to which they can modify the materials provided to them for dissemination.

In addition to my attempts to focus on the stewardship, simplicity, and balance aspects of sustainable living in the promotional materials and communications for the workshop, the three-dimensional nature of sustainability was highlighted in the workshop material, as in both the first and second iterations. Again, I shared: the three-dimensional definition of sustainable living; the focus on balance between quality of life and environmental responsibility; the profiles of unsustainable lifestyles; the continuum perspective of sustainability; the encouragement to change behavior along all three dimensions; and the examples of sustainable behaviors from both previous iterations (although with more personal examples added).

*Spirituality or faith.* To appeal to the value of spirituality, or faith, among the congregation's members, and to overcome any potential spiritual barriers, I kept the changes that I had made in Iteration 2 to accommodate the faith-based nature of that organization. I acknowledged the value and importance of faith to the church's members, and focused on the stewardship aspect of living sustainably. I also highlighted several Bible verses (the same ones used for Iteration 2) demonstrating the scriptural consistency of a lifestyle of balance and simplicity. I again left out the previously-removed slide dealing with connection to nature; although again highlighting the local and regional natural amenities that people might appreciate in their efforts to live more sustainably. In addition, my unsuccessful attempt to omit the words *sustainability* and *sustainable living*

in promotional communications was an effort to temper any potential conflict perceived by church members between faith and sustainability.

*Various values.* Key informants agreed that a number of values (beyond spirituality, or faith) were important to the church's members. Thus, I made an effort to appeal to each of the potential values that might be high priorities for workshop participants. For instance, to ensure that workshop participants understood the importance of social relationships as a part of the social dimension of sustainable living, I highlighted the breadth of that social dimension throughout the workshop. That is, while community outreach and social equity are important, so are participants' relationships with others in their immediate sphere of influence, and the time that they devote to developing and maintaining those relationships.

As with previous iterations, I used the workbook's discussion of "the time crunch" to appeal to the value that many participants may place on time. Participants completed an exercise designed to encourage them to think about how they spend/prioritize their time, and how potentially altering their current habits might lead to a more sustainable schedule. I also, as in the previous iteration, described a profile of a busy, flustered, overextended mother as one in which social responsibility might be overemphasized, at the expense of economic and environmental responsibility. I even noted the possibility that too great a focus on certain areas of social responsibility may lead to insufficient focus on other areas of social responsibility. That is, I pointed out how running from one activity to the next (children's sports and other activities, social and

community outreach, etc.) might leave a family with little time to spend together socially, “just enjoying one another’s company.”

Regarding the value of community, I reiterated during the workshop the church’s vision statement, and highlighted how that vision is in keeping with scripture. I also reminded participants of a recent effort by the church’s staff to try to encourage members to participate in community outreach and missions through their Life Groups, and challenged them to make this an ongoing effort.

The value of health among members was seen as underlying, at least by some informants. Health as related to fitness was seen as more prominent among some members, but the general consensus regarding health more generally was that it becomes a higher priority when it is in jeopardy. Thus, the workshop highlights the important health benefits of sustainable choices, along with the deleterious effects of unsustainable behaviors (as detailed in the above section on barriers), in an effort to prompt participants to begin thinking more consciously about those decisions on a daily basis, and opt for healthier choices.

Money as a value or priority was viewed as more important to some members than to others. However, the workshop’s content included economic information in order to help people to think about their finances more deliberately, and to prioritize their giving, saving, and spending. For the wealthier participants, the goal was to help them evaluate consumption in terms of needs versus desires. For those with greater financial concerns, the workshop offered suggestions for how to live in a more economically-sustainable manner (particularly through resources at the resource table), along with



validating cost concerns associated with certain sustainable behaviors (and providing options for overcoming them).

*Benefits of living more sustainably.* For a number of reasons, I chose to highlight the benefits of living more sustainably within this iteration. First, in response to the informants' placement of the environment as the least important among the values to church members, it was crucially important to structure the workshop content and presentation in a manner demonstrating that sustainable living is consistent with participants' existing value sets. While other values were assigned a great deal of importance, faith and family were clearly predominant. Thus, it was important to emphasize the spiritual and family-level benefits to be accrued from living more sustainably. My hope was that these two values may serve as "umbrellas" under which other values could be addressed. For instance, the value of spirituality could be leveraged to appeal to participants' stewardship in the areas of finances, community, and social relationships. Likewise, appeals to improved health, time management, and environmental responsibility could be tied to the value of family. As with the previous iteration, however, it was essential to acknowledge and validate participants' existing values as legitimate motivators for behaving sustainably.

For this particular organization, highlighting the benefits of living sustainably also seemed the best way to counter barriers associated with *image, social norms, and peer pressure*; and *culture*, because both of those barriers stem from the perceived benefits associated with consumption. Quincy recommended that I point out to potential participants that "this is something that is good for [them], and for us as a church."

Likewise, William argued that it would have to align with “other things that are important to them,” that they would have to see the “mutual benefit . . . how it’s going to help in other areas of my life.” Stacy echoed that “[members are] going to have to come in with a clear understanding of, ‘How is this going to impact in my life in a favorable way?’”

While my efforts to highlight the benefits of living sustainably in the workshop promotional materials were less than successful due to the miscommunication with staff detailed above, I did place greater emphasis on those benefits during the workshop itself. Whereas during the last iteration, I mentioned the benefits, for this iteration, I included a PowerPoint slide listing and describing those benefits, to emphasize their importance.

*Overcoming potential barriers.* As noted in previous iterations, the workshop curriculum recognizes the highly personal nature of individuals’ decisions, and invites participants to *voluntarily* commit to changing behaviors *of their choice*. This allows them to consider the potential trade-offs and barriers that they might face, and make a commitment that they can reasonably expect to keep, based on perceived barriers. However, to facilitate meaningful and impactful decisions, I made explicit efforts to help participants overcome potential barriers that might prevent them from making those types of meaningful and impactful commitments.

The *financial costs* of living sustainably were identified as a barrier within this iteration, as in other iterations. Thus, I attempted to counter that barrier through similar tactics. Namely, I acknowledged that some behaviors that would be classified as socially and/or environmentally sustainable might not be economically sustainable, at least not for everyone. At the same time, I pointed out a number of behaviors that would be

sustainable along all three dimensions of sustainability. I also encouraged participants to commit to changing behaviors *of their choice*, to allow them to choose those that would not pose any undue financial burden. Finally, I noted the value of even small changes (i.e., conserving water by turning the faucet off when brushing one's teeth; changing the ambient temperature in one's home by a degree or two) toward greater sustainability.

With regard to *time, effort, and inconvenience*, the freedom that participants had to choose which behaviors they wanted to change allowed them to select behaviors that would not be, in their estimations, too taxing in this regard. Additionally, as with previous iterations, print resources were provided to keep participants from having to invest a lot of time and effort finding information about how to adopt more sustainable behaviors. Finally, the possibility existed that participants would begin to see the value of adopting certain behaviors—perhaps tied to the benefits of those behaviors—and consequently begin to view them as worth a minor sacrifice in terms of time, effort, or inconvenience. That same motivation might then drive them to make a concerted effort to change their *habits*, which were a related barrier identified by key informants. Also in response to the barrier presented by individuals' existing habits, the workshop encouraged people to think more consciously about their decisions on a daily basis, so that in time, those decisions would become habits.

The workshop in itself constituted an effort to overcome barriers related to *knowledge, education, and awareness*. By participating in the workshop, participants learned what it meant to live sustainably, how a sustainable lifestyle was in keeping with their values and priorities, and how they could go about living more sustainably. Finally,

the print resources available also addressed participants' concerns regarding awareness, information, and education; in addition to assisting them in navigating the infrastructural nuances of the local area.

*Promotional suggestions and recommendations.* In response to informants' promotional suggestions and recommendations, I promoted the workshop(s) in several ways. I drafted announcements for the church's monthly e-newsletter and the weekly bulletin (detailed above). In addition, I created a flyer that was made available in the church foyer for several weeks prior to the workshops. Appendices O through R contain the recruitment materials used for the workshop. The longer announcement was included in the April e-newsletter, and the bulletin announcement appeared in the bulletin for two weeks prior to the event.

I also contacted Life Group leaders via e-mail and told them about the workshop, giving them a list of dates when I would be available to visit their groups to talk a little bit about the workshop. Twelve Life Group leaders replied to schedule visits (although some were ultimately postponed or cancelled), and I ultimately visited nine Life Groups, with a total of 83 members in attendance. In addition to visiting those Life Groups, I encouraged word of mouth promotion by asking each of the informants if they would pass the information about the workshop along to people they knew, and encourage them to attend. All were willing, and several offered to help in any other way that I might need. In addition, Quincy added the following words of encouragement:

I would just encourage you. I mean, you've made me excited about it, and I didn't even really know what sustainability was. But I think there's just a

real opportunity there. I think it will be good for our church, and would be good for our whole community. It really would be.

In addition to using a multimedia approach to communications and promotion, I added a second workshop date to this iteration. Specifically, during the week following the originally-scheduled workshop, I added a Wednesday night (April 25) workshop. In order that people not feel that they were “missing” their regular Life Group meeting, I coordinated with two specific Life Groups to obtain commitments from the groups to attend together, in place of their normal weekly meeting. After securing two participating groups, and one day prior to the event, another group expressed interest in attending, for a total of three Life Groups. Also in line with previous iterations, and informant recommendations, refreshments were provided at both workshops.

As in the previous iteration, informants recommended that I include practical tips and steps for living more sustainably. Appealing to the reality that there are some things that just may not work for participants, whether in the local area or in general, for this workshop I shared some of my personal experiences with efforts to live more sustainably. In previous iterations, I had used generic, hypothetical behaviors when describing actions that would be sustainable along one or two dimensions, but perhaps not all three. This time, I shared personal illustrations that I had come across through trial and error. For instance, I shared how my husband and I had decided to live more sustainably by buying a push mower when we moved into our new home in Texas, rather than a gas mower. However, it works very poorly, and we have to mow the lawn very frequently to keep it from getting too long for the mower to work. So I pointed out how, even though we were

able to save on money (the push mower was about half the cost of a gas mower) and emissions, we had to sacrifice time spent together as a family, as well as our image among our neighbors as responsible homeowners (since the yard looked so unkempt). Thus, that behavior turned out to be economically and environmentally, but not socially, sustainable. So, the compromise that we made was to buy a gas mower, but to only use it as necessary, using the push mower whenever possible. I also made it clear to participants that it is okay to make those kinds of trade-offs and compromises; that making them deliberately, with full consideration of the impacts of those decisions on all dimensions of sustainability, and with due diligence to minimize negative impacts, is what makes those choices sustainable. And again, the print materials remained available at the resource table for this iteration, in order to prompt participants toward behavioral commitments that they might find reasonable for their circumstances.

The above adaptations, suggested by key informants, along with recommendations from previous iterations, were used to tailor the educational programming component for this iteration. In the next section, I describe the outcomes of the two workshops that were conducted amongst the members of the church. I also outline the adaptations made in response to those outcomes, to be applied to the fourth and final iteration.

### *Educational Programming (Phase II)*

For this organization, sustainable living workshops were held on Tuesday, April 17, and Wednesday, April 25, 2012. The April 17 workshop was promoted among the church's broader membership (Appendices P-R), through announcements in the monthly e-newsletter, the weekly bulletin, and a flyer in the church foyer, along with a number of personal visits to Life Groups that allowed me to offer more information and extend a personal invitation to participate. Nine church members participated in that workshop. For the April 25 workshop, I invited several Life Groups to participate, as a group, in the workshop, in place of their normal Wednesday night activities. Across 3 Life Groups (with a total of approximately 36 members), 16 people participated in that workshop. Of the 25 participants across both workshops, 6 had also served as key informants for the first phase of research for this iteration.

Participants' ages ranged from 25 to 61 years old (median age = 40). Females comprised 68.2% (n = 15) of the participants. All but one of the participants (95.5%) were white, and the other identified herself as Asian. Participants' lengths of residence in the local area ranged from 1.5 to 20 years (median length of residency = 6 years). Of the participants, 16 indicated previous residences, ranging from elsewhere in Texas (11 participants, 42%) to other regions across the country. All participants indicated having some college or post high school training, 18 of whom (85.7%) had received at least a bachelor's degree, and 8 (38.1%) of whom had graduate or professional training. Most of the participants (n = 18, 85.7%) earned household incomes of \$90,000 or more annually. The lowest category indicated by any of the participants was the category ranging from \$20,000 to \$29,999 in annual household income, and that was only indicated by one

participant. Thus, the workshop participants may not have been fully representative of the more general membership of the church, although income information is not available for the church's larger congregation.

#### *Participation among Non-environmentally-motivated Individuals*

As with the previous iteration, participation among non-environmentally-motivated individuals was assessed through analysis of participants' perceptions of sustainability and sustainable living, their environmental worldviews, their demonstrated levels of economic and social motivations, and their specific motivations for pre- and post-intervention behavior. This section details the results of the analyses conducted, and suggests potential factors that may have enhanced or inhibited the achievement of this first goal of the intervention, that is, fostering participation in sustainable living education among non-environmentally-motivated individuals.

I have analyzed participants' responses in several ways, in order to identify potential influencing factors between groups. Specifically, I first analyzed the entire group as a whole. Then, I analyzed the workshops separately, to determine whether there were differences between the two. Finally, I divided the group into two on the basis of whether or not they agreed to participate as a favor to me, or based on the appeal of the material and content. Any significant differences on the basis of those factors are detailed below. Where none are mentioned, t-tests showed no significant differences.

*Perceptions of sustainable living.* As with the previous iteration, participants' perceptions of the phrase *sustainable living* ranged from general to specific. In terms of general responses, several participants listed ideas such as: *simplifying* and *maintaining*.



In spite of the presence of more general responses, references to specific behaviors dominated participants' perceptions. That is, many more of their responses focused on those specific behaviors, such as: recycling, gardening/growing your own food, buying local/organic/natural products, reducing consumption, and reusing products. As evidenced by the behaviors identified as sustainable, many participants' perceptions of sustainable living focused on its environmental dimension, although (as in the previous iteration) several descriptions also included concepts such as living within one's means, or within the limits of one's resources, more generally (i.e., time, money, space, etc.). Consistent with the previous iteration, then, participants' responses evidenced that there is an environmental connotation associated with the phrase *sustainable living*, one that is difficult to overcome even through the use of more three-dimensional promotional materials.

Clearly, many of the perceptions, although largely focusing on the environmental aspect of sustainable living, were positive in their connotations. There were, however, several exceptions to that observation. For instance, participants used terminology such as: "minimalist," "BARE MINIMUM" (emphasis in original), and "hippies." While not the predominant perception, it is important to bear in mind the presence of these less positive portrayals of the theme.

*Environmental worldview.* As with the previous iteration, participants' environmental worldviews were evaluated using the NEP and NHIP scales (see Table 4.6). Importantly, mean scores for this iteration were not significantly different from those for the previous iteration, for either measure. With regard to the NEP scale,

participants' means for the biocentric worldview ranged from 1.50 to 4.83 (mean = 3.23; SD = .74) out of 5; whereas means for the anthropocentric worldview ranged from 1.67 to 4.67 (mean = 2.89), again on a 5-point scale. Comparing those means again to various representative samples within the United States over the last two decades, participants' means were *below average* for this iteration, rather than simply being on the low end of average, as they were in the previous iteration. That is especially the case when compared to white-collar samples (Hawcroft & Milfont, 2010). Participants' responses to the NHIP scale ranged from 1.80 to 5.00 (mean = 3.53), with 17 participants having individual mean scores above 3 (neutral), meaning that they recognized the importance of conserving nature for achieving human progress, which holds the same sentiment as the anthropocentric worldview. Thus, participants with anthropocentric worldviews may be effectively persuaded toward conservation and sustainable behavior by capitalizing on alternative motivations.

Table 4.6

*Attitudinal Characteristics for Iteration 3 Participants*

| Construct                          | <i>N</i> | Minimum | Maximum | <i>Mean</i> | <i>SD</i> |
|------------------------------------|----------|---------|---------|-------------|-----------|
| Frugality                          | 25       | 3.29    | 5.00    | 4.13        | 0.46      |
| Anthropocentric Worldview          | 24       | 1.67    | 4.67    | 2.89        | 0.73      |
| Biocentric Worldview               | 25       | 1.50    | 4.83    | 3.23        | 0.74      |
| New Human Interdependence Paradigm | 24       | 1.80    | 5.00    | 3.53        | 0.79      |
| Possessiveness                     | 25       | 2.00    | 5.00    | 3.56        | 0.89      |
| Nongenerosity                      | 25       | 1.14    | 3.14    | 2.30        | 0.55      |
| Envy                               | 25       | 1.14    | 3.29    | 2.39        | 0.54      |
| Benevolence                        | 25       | 3.00    | 5.00    | 4.26        | 0.48      |
| Universalism                       | 24       | 3.00    | 5.00    | 3.97        | 0.51      |

*Economic motivations.* As noted in the previous iteration, participants' levels of materialism were analyzed using their scores for three subscales: possessiveness, nongenerosity, and envy (see Table 4.6). Participants' mean scores for the possessiveness subscale ranged from 2.00 to 5.00 (mean = 3.56; SD = .89), indicating some level of possessiveness. In terms of nongenerosity, workshop participants scored low, with mean scores ranging from 1.14 to 3.14 (mean = 2.30; SD = .55). Church participants' mean scores for envy resembled those for nongenerosity, ranging from 1.14 to 3.29 (mean = 2.39; SD = .54). Again, the mean response was below neutral, indicating an overall lack of enviousness among the participants. Participants' responses indicated that they are not particularly materialistic along the three dimensions measured, although their mean responses for possessiveness were slightly above neutral. There were no significant differences between the second and third iterations for any of the materialism measures.

As previously noted, the frugality scale that was included in the survey offers another measure of potential economic motivations among participants. In the case of the church's participants, mean scores for frugality ranged from 3.29 to 5.00 (mean = 4.13; SD = .46) on a 5-point scale, indicating agreement, on average, with the items comprising that scale. These scores indicate that the participants value frugality, or wise use of their financial resources. This finding was not significantly different from that of the previous iteration.

*Social motivations.* Again, social motivations were measured by items designed to identify the human values of benevolence and universalism. Mean scores for both benevolence (mean = 4.26; SD = .48) and universalism (mean = 3.97; SD = .51) ranged

from 3.00 to 5.00, indicating that participants exhibited both values (see Table 4.6). Mean scores did not differ significantly from those of the previous iteration.

*Specific motivations for pre- and post-intervention behavior.* In terms of participants' reasons for partaking (or not partaking) in various sustainable behaviors, their most important considerations were: 1) cost savings (median = 3.00; SD = 1.53); 2) convenience (median = 3.00; SD = 1.52); and 3) health and wellbeing (median = 3.00; SD = 1.36); whereas time management (median = 4.00; SD = 1.78); the environment (median = 5.00; SD = 1.59); and social responsibility (median = 5.00; SD = 1.56) were less influential in their decisions. Results of the Wilcoxon Signed Rank Test showed that the only significant difference between the before and after rankings for the participants was a change in the mean importance of cost savings. Namely, its median importance was 3.00 (SD = 1.53) at the beginning of the workshop, and 2.00 (SD = 1.24;  $p = .046$ ) at the end. Bearing in mind that more important considerations were ranked lower, this result means that cost savings became even more important, on average, to participants once they had participated in the workshop. The fact that (as in the previous iteration) the order of importance participants placed on the various motivations for their behavioral decisions did not change significantly from before to after the workshop reiterates the importance of appealing to existing values, motivations, and considerations of participants; rather than attempting to change them.

There were several significant differences in motivational rankings on the basis of which workshop participants attended. Namely, convenience was more important to participants attending the second workshop than to those attending the first. Prior to

attending the workshop, the median ranking of convenience as a motivator was 4.00 (SD = 1.36) for participants in the first workshop, compared with 2.00 (SD = 1.34;  $p$ -value = .020) for participants in the second workshop. That difference remained following the workshops. In addition, though, *following* participation in the workshop, time management was ranked significantly higher in importance for participants in the second workshop (median = 2.00; SD = 1.68) than for participants in the first (median = 5.00; SD = 1.51;  $p$ -value = .037). Again, lower median scores indicate a higher rank. The value placed on both convenience and time by participants in the second workshop is in keeping with expectations, in that the second workshop was intentionally scheduled to replace existing activities for which participants already regularly allot time. This was done to overcome barriers related to both convenience and time that might otherwise have prevented those individuals from attending a workshop. The result indicates that effort was successful in that regard.

The above analyses indicate that participants demonstrated a combination of social, environmental (again, weaker than the general population), and economic motivations. Their scores on the NEP and NHIP scales indicate the presence of both biocentric and anthropocentric worldviews, as well as a recognition among them of the importance of conserving nature for achieving human progress. In terms of economic motivations, the church's participants (like those of the previous iteration) did not exhibit strong tendencies toward materialism, based on any of the three dimensions of the construct. They did, however, exhibit some level of possessiveness. They also had high scores for the frugality scale, indicating the likely presence of economic motivations. As

far as social motivations, participants' mean scores for both benevolence and universalism were above neutral, indicating the presence of social motivations. And again, when looking at more specific motivations (i.e., cost savings, convenience, the environment, social responsibility, health and wellbeing, and time management), I observed that: 1) cost, convenience, and health and wellbeing were important motivating factors in participants' decisions; and 2) the order of importance assigned to those motivations did not change significantly on the basis of participation in a sustainable living workshop (that is, before and after motivation rankings remained the same, statistically). These findings, however, did not differ significantly from those of the previous iteration. Nonetheless, this iteration did produce an increase in overall participation, from eight to twenty-six, indicating an improvement in the extent to which the first goal of this intervention was reached.

#### *Behavior Change Commitments among Workshop Participants*

Regarding the second goal of this project, to obtain behavior change commitments from workshop participants, participants in this iteration shared the behaviors that they had committed to changing in the direction of a more sustainable lifestyle. In addition, their responses to the before-and-after behavioral frequency question in the surveys indicated their behavioral expectations for a number of other sustainable behaviors. It should be noted that three participants in the workshop failed to complete the post-workshop survey, due to time constraints requiring them to leave early.

Eighteen participants committed to changing two behaviors each, and another three committed to changing one behavior each (for a total of thirty-nine behaviors that

participants committed to change), in order to move their lifestyles further in the direction of sustainability. With only a few exceptions (i.e., “buy a fuel-efficient vehicle,” “get a recycle bin,” “call the city about getting a larger recycle bin”), the behaviors chosen were all ongoing in nature, as opposed to one-time actions. Even those few exceptions imply ongoing behaviors to follow (i.e., saving gas/reducing emissions, recycling/recycling more). Three themes, or categories of behavior change, emerged consistently across all participants, regardless of which workshop they had attended or whether they attended as a favor: *reducing consumption*, *recycling/recycling more*, and *consuming more local/organic/home grown produce*. In addition, the theme of *health and wellbeing* emerged among participants in the second workshop who had attended as a favor.

Participants committed to reducing consumption in several areas of life. A number of participants committed to reducing water consumption, some more generally (i.e., “use less water”) and some indicating intentions to adopt specific behaviors (i.e., turning water off while brushing teeth). Some of the behaviors within the category of *reducing consumption* focused on eating out less. Potential reasons for adopting this behavior might be to save money or to eat more healthfully, although that cannot be determined from participants’ responses. Consumption of consumer goods more generally was targeted by commitments to simplify and reduce clutter, use second-hand products when possible, share goods among friends, and reduce usage of disposable plastics. Finally, one participant committed to buying a fuel-efficient vehicle, an action that would reduce gas consumption, financial expenditures (in the long term), and

potentially-hazardous carbon emissions. In all, 15 of the behaviors that participants committed to changing fell within the category, or theme, of *reducing consumption*.

*Recycling/recycling more* was another very common theme among the behavioral commitments of workshop participants. Ten different participants committed to making changes in their recycling behavior. Many learned during the workshop that the city recycles glass, so six different people expressed intent to add glass to their current recycling habits. (Interestingly, I ran into two of those participants about six months later, and both had kept that commitment.) Several others committed to recycling “more,” in general. Notably, this theme differed somewhat between participants who had attended the workshop as a favor and those who had not. Namely, three out of five of the participants who had attended the workshop as a favor and committed to changing their recycling behavior were committing to *start* recycling, rather than to increase their level of recycling. In contrast, all seven of those who made commitments related to recycling from the “non-favor” group were planning to *add* to existing recycling habits. This may indicate that individuals who participate based on the perceived merit of workshop content are more likely to already participate in certain sustainable behaviors than those who participate for other reasons. That observation may have valuable implications for the use of personal influence in encouraging and promoting participation. Namely, that technique may improve participation among less environmentally-motivated individuals.

Another common theme among the behavioral change commitments of participants was *consuming more local/organic/home grown produce*. This theme was present across all participants, but was more prevalent among participants of the first



workshop than the second, and among those who had not participated as a favor. That finding may indicate that people who are intrinsically motivated to attend a workshop like this one (that is, those who do not attend as a favor, or because logistical barriers have been removed) are more likely to commit to changing these kinds of behaviors. One reason for that may be that these behaviors are more costly and less convenient for participants to adopt. Workshop participants with other motivations may be more likely to adopt behaviors that are less costly and more convenient.

As noted above, behaviors related to *health and wellbeing* (apart from those related to the consumption of local, organic, or home grown produce) were chosen only by participants of the second workshop who had participated as a favor. These behaviors included some personal commitments (e.g., “eat better,” “drink more water,” and “exercise”) and some more family-related commitments (e.g., “work with kids” and “focusing more on family and church”). These behaviors seem to tap into the personal and family benefits to be obtained from living more sustainably, indicating that the self-interest aspect of sustainable living may have appealed to this group of participants.

One further fascinating observation from the behavioral commitments that participants made was how closely they tracked with the content of the presentation of the workshop material. Specifically, 31 of the 38 behaviors that participants listed (82%) were behaviors that had been specifically referenced in the workshop presentation. For instance, at one point in my presentation, I offered some examples from my own personal experience about behaviors that had proven to be sustainable for my family and me. As an example, I discussed how we recycle a lot, including glass. That example segued into

the fact that the city offers glass recycling, which has proven to be a little-known fact throughout my research. And as mentioned above, six different people committed to recycling glass in the future. Likewise, I talked about how much healthier and more sustainable it is (socially and environmentally) to eat *all* organic and local produce. I also, however, noted that this was not an economically sustainable decision for our family, and that we had, instead, decided to join a CSA. I also mentioned that we buy organic varieties of the most contaminated produce. Again, participants' behavioral commitments reflected all three of these examples. I also talked about conserving water, giving the specific example of turning off the faucet while brushing our teeth. Two different people then committed to adopting that *specific* behavior. These are just a few of many examples of this phenomenon, indicating that the more specific and personal examples educators can provide over the course of a workshop, the more effectively they may be able to promote those behaviors among participants.

In addition to making specific commitments regarding behaviors that they intended to change, participants' responses to the before-and-after behavioral frequency question showed that there were a large number of behaviors in which they expected to participate more frequently than they did prior to attending the workshop, some of which echoed their behavioral commitments. Again, I used paired-samples t-tests to determine significant differences in responses from before the workshop and after. As with the previous iteration, all but one behavior (mowing one's lawn less frequently) saw an increase in planned frequency across participants. Unlike the previous iteration, however, *all* of those increases were statistically significant ( $p \leq .05$ ) (see Table 4.7). The

Table 4.7

*Pre/Post-workshop Behavioral Frequency for Iteration 3 Workshop Participants*

| Behavior  | Pre-workshop |           | Post-workshop |           | <i>t</i> | <i>p</i> |
|---|--------------|-----------|---------------|-----------|----------|----------|
|   | <i>Mean</i>  | <i>SD</i> | <i>Mean</i>   | <i>SD</i> |          |          |
| Take short showers  | 4.14         | 1.28      | 5.18          | 1.10      | -3.80    | .001     |
| Turn off faucet while brushing teeth  | 5.17         | 2.25      | 6.57          | 0.66      | -3.87    | .001     |
| Wash only full loads of laundry/dishes  | 6.09         | 1.11      | 6.73          | 0.46      | -3.31    | .003     |
| Water lawn in the early morning   | 5.59         | 1.84      | 6.41          | 1.10      | -2.14    | .044     |
| Sweep (instead of hose) the driveway  | 4.74         | 2.28      | 6.53          | 0.61      | -3.87    | .001     |
| Landscape using native vegetation   | 3.71         | 2.15      | 5.05          | 1.91      | -4.51    | .000     |
| Mow lawn only as necessary  | 4.86         | 1.93      | 4.59          | 1.44      | 0.72     | .480     |
| Turn off lights when not in use   | 5.52         | 0.73      | 6.39          | 0.66      | -6.01    | .000     |
| Turn off electronics when not in use  | 4.95         | 1.46      | 6.05          | 0.72      | -4.61    | .000     |
| Use heat/air conditioning as little as possible   | 4.18         | 1.56      | 5.00          | 1.41      | -3.81    | .001     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 4.57         | 1.40      | 5.57          | 1.50      | -3.87    | .001     |
| Buy recycled products   | 3.77         | 1.15      | 5.09          | 1.02      | -8.63    | .000     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 3.14         | 1.36      | 4.82          | 1.30      | -6.99    | .000     |
| Buy local food  | 2.62         | 1.07      | 4.67          | 1.32      | -7.80    | .000     |
| Buy organic and/or “fair-trade” food  | 2.82         | 0.96      | 4.50          | 1.22      | -6.99    | .000     |
| Eat a healthy, balanced diet  | 4.41         | 1.10      | 5.73          | 0.70      | -5.94    | .000     |
| Allot adequate time for sleep   | 4.05         | 1.43      | 5.55          | 0.94      | -6.10    | .000     |
| Allot adequate time for family (eating meals together, etc.)                              | 5.10         | 1.09      | 6.00          | 0.71      | -4.17    | .000     |
| Exercise regularly  | 4.59         | 1.97      | 5.95          | 0.95      | -4.36    | .000     |
| Walk, bike, carpool, or take public transportation to work                                | 1.79         | 1.44      | 3.00          | 1.86      | -3.49    | .003     |
| Combine errands to reduce car trips   | 5.19         | 1.25      | 5.67          | 1.39      | -3.21    | .004     |
| Drive a fuel-efficient vehicle  | 3.09         | 1.77      | 3.91          | 1.66      | -3.65    | .002     |
| Recycle   | 5.32         | 1.94      | 6.32          | 0.72      | -2.87    | .009     |
| Compost   | 1.59         | 1.47      | 3.27          | 2.21      | -4.24    | .000     |
| Avoid consumption of unnecessary products   | 3.71         | 1.27      | 5.14          | 0.85      | -4.26    | .000     |
| Reduce clutter  | 4.67         | 1.28      | 5.62          | 1.07      | -3.21    | .004     |
| Volunteer for a cause   | 4.81         | 1.54      | 5.86          | 1.11      | -4.30    | .000     |

behaviors for which the greatest expected change was indicated include: buying local food (pre-workshop mean frequency = 2.62; pre-workshop SD = 1.07; post-workshop mean frequency = 4.67; post-workshop SD = 1.32; t-value = -7.80;  $p < .001$ ); sweeping, instead of hosing off, the driveway (pre-workshop mean frequency = 4.74; pre-workshop SD = 2.28; post-workshop mean frequency = 6.53; post-workshop SD = .61; t-value = -3.87;  $p = .001$ ); using nontoxic products, including cleaning supplies, hair/skin products, and so forth (pre-workshop mean frequency = 3.14; pre-workshop SD = 1.36; post-workshop mean frequency = 4.82; post-workshop SD = 1.30; t-value = -6.99;  $p < .001$ ); buying organic and/or “fair-trade” food (pre-workshop mean frequency = 2.82; pre-workshop SD = .96; post-workshop mean frequency = 4.50; post-workshop SD = 1.22; t-value = -6.99;  $p < .001$ ); and composting (pre-workshop mean frequency = 1.59; pre-workshop SD = 1.47; post-workshop mean frequency = 3.27; post-workshop SD = 2.21; t-value = -4.24;  $p < .001$ ).

Among the church’s participants, though, it is important to acknowledge several differences on the basis of which workshop they attended, and whether or not they had attended as a favor. First, six pre-workshop behaviors were significantly different on the basis of the workshop attended (see Table 4.8). Specifically, participants in the first workshop engaged more frequently in the following behaviors prior to attending the workshop than did participants in the second workshop: taking short showers (Workshop 1 mean frequency = 4.89; Workshop 1 SD = 1.05; Workshop 2 mean frequency = 3.63; Workshop 2 SD = 1.20; t-value = 2.63;  $p = .015$ ); turning off the faucet when brushing

Table 4.8

*Iteration 3 Participant Pre-workshop Behavioral Frequency Comparison by Workshop*

| Behavior  | Workshop 1  |           | Workshop 2  |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Take short showers  | 4.89        | 1.05      | 3.63        | 1.20      | 2.63     | .015     |
| Turn off faucet while brushing teeth  | 6.67        | 0.50      | 4.56        | 2.45      | 3.32     | .004     |
| Wash only full loads of laundry/dishes  | 6.22        | 0.67      | 5.94        | 1.24      | 0.64     | .531     |
| Water lawn in the early morning   | 4.22        | 2.11      | 6.53        | 0.74      | -3.91    | .001     |
| Sweep (instead of hose) the driveway  | 5.00        | 2.00      | 4.83        | 2.48      | 0.17     | .871     |
| Landscape using native vegetation   | 4.38        | 2.00      | 3.53        | 2.17      | 0.91     | .373     |
| Mow lawn only as necessary  | 4.89        | 1.83      | 4.87        | 1.96      | 0.03     | .978     |
| Turn off lights when not in use   | 5.67        | 0.71      | 5.19        | 0.98      | 1.28     | .212     |
| Turn off electronics when not in use  | 5.22        | 0.83      | 4.81        | 1.64      | 0.83     | .417     |
| Use heat/air conditioning as little as possible   | 5.11        | 1.17      | 3.75        | 1.69      | 2.13     | .044     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 4.44        | 1.01      | 4.44        | 1.71      | 0.01     | .991     |
| Buy recycled products   | 4.00        | 1.00      | 3.56        | 1.15      | 0.95     | .351     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 3.11        | 1.54      | 3.19        | 1.28      | -0.13    | .895     |
| Buy local food  | 2.67        | 0.71      | 2.75        | 1.61      | -0.18    | .860     |
| Buy organic and/or “fair-trade” food  | 3.00        | 1.12      | 2.56        | 0.89      | 1.08     | .293     |
| Eat a healthy, balanced diet  | 4.22        | 0.97      | 4.31        | 1.49      | -0.16    | .872     |
| Allot adequate time for sleep   | 3.63        | 1.69      | 4.44        | 1.09      | -1.43    | .166     |
| Allot adequate time for family (eating meals together, etc.)                              | 5.00        | 1.12      | 5.13        | 1.15      | -0.26    | .794     |
| Exercise regularly  | 4.33        | 1.94      | 4.50        | 2.13      | -0.19    | .848     |
| Walk, bike, carpool, or take public transportation to work                                | 2.13        | 1.55      | 1.67        | 1.50      | 0.69     | .497     |
| Combine errands to reduce car trips   | 4.63        | 1.51      | 5.38        | 0.96      | -1.49    | .150     |
| Drive a fuel-efficient vehicle  | 2.22        | 1.56      | 4.06        | 1.81      | -2.56    | .018     |
| Recycle   | 6.22        | 1.09      | 4.69        | 2.12      | 2.39     | .026     |
| Compost   | 2.22        | 2.17      | 1.38        | 0.81      | 1.13     | .287     |
| Avoid consumption of unnecessary products   | 3.44        | 1.13      | 3.75        | 1.39      | -0.56    | .580     |
| Reduce clutter  | 4.33        | 0.87      | 4.69        | 1.66      | -0.70    | .491     |
| Volunteer for a cause   | 4.67        | 1.12      | 4.69        | 1.96      | -0.03    | .973     |

their teeth (Workshop 1 mean frequency = 6.67; Workshop 1 SD = .50; Workshop 2 mean frequency = 4.56; Workshop 2 SD = 2.45;  $t$ -value = 3.32;  $p$  = .004); using heat and air conditioning as little as possible (Workshop 1 mean frequency = 5.11; Workshop 1 SD = 1.17; Workshop 2 mean frequency = 3.75; Workshop 2 SD = 1.69;  $t$ -value = 2.13;  $p$  = .044); and recycling (Workshop 1 mean frequency = 6.22; Workshop 1 SD = 1.09; Workshop 2 mean frequency = 4.69; Workshop 2 SD = 2.12;  $t$ -value = 2.39;  $p$  = .026). The greater frequency of participation in those behaviors may have been the result of a greater level of initial interest in pursuing a sustainable lifestyle among participants in the first workshop.

On the other hand, participants in the second workshop engaged more frequently in the following behaviors prior to attending the workshop than did participants in the first workshop: watering their lawns early in the morning (Workshop 1 mean frequency = 4.22; Workshop 1 SD = 2.11; Workshop 2 mean frequency = 6.53; Workshop 2 SD = .74;  $t$ -value = -3.91;  $p$  = .001); and driving a fuel-efficient vehicle (Workshop 1 mean frequency = 2.22; Workshop 1 SD = 1.56; Workshop 2 mean frequency = 4.06; Workshop 2 SD = 1.81;  $t$ -value = -2.56;  $p$  = .018). Analysis of other variables of interest does not suggest a causal relationship between workshop attended and greater participation in those two behaviors. It is possible that the relationship is spurious. Upon completion of the workshop, only three behaviors exhibited significant differences in expected frequency of participation (Table 4.9). Namely, those who had attended the first workshop planned to participate in the following behaviors more frequently than

Table 4.9

*Iteration 3 Participant Post-workshop Behavioral Expectation Comparison by Workshop*

| Behavior  | Workshop 1  |           | Workshop 2  |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Turn off faucet while brushing teeth  | 6.89        | 0.33      | 6.36        | 0.74      | 2.33     | .031     |
| Wash only full loads of laundry/dishes  | 6.78        | 0.44      | 6.69        | 0.48      | 0.42     | .676     |
| Water lawn in the early morning   | 6.11        | 1.36      | 6.62        | 0.87      | -1.06    | .301     |
| Sweep (instead of hose) the driveway  | 6.56        | 0.73      | 6.09        | 1.45      | 0.88     | .393     |
| Landscape using native vegetation   | 5.89        | 1.27      | 4.62        | 2.14      | 1.59     | .127     |
| Mow lawn only as necessary  | 5.11        | 1.17      | 4.23        | 1.54      | 1.45     | .163     |
| Turn off lights when not in use   | 6.33        | 0.71      | 6.43        | 0.65      | -0.33    | .743     |
| Turn off electronics when not in use  | 6.22        | 0.67      | 5.92        | 0.76      | 0.95     | .352     |
| Use heat/air conditioning as little as possible   | 5.78        | 0.83      | 4.46        | 1.51      | 2.37     | .028     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 5.67        | 1.22      | 5.50        | 1.73      | 0.25     | .809     |
| Buy recycled products   | 5.33        | 0.71      | 4.92        | 1.19      | 0.93     | .366     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 5.22        | 1.09      | 4.54        | 1.39      | 1.23     | .232     |
| Buy local food  | 5.00        | 0.87      | 4.42        | 1.56      | 1.01     | .328     |
| Buy organic and/or “fair-trade” food  | 4.56        | 1.01      | 4.46        | 1.39      | 1.73     | .864     |
| Eat a healthy, balanced diet  | 5.67        | 0.71      | 5.77        | 0.73      | -0.33    | .745     |
| Allot adequate time for sleep   | 5.67        | 0.87      | 5.50        | 1.00      | 0.40     | .694     |
| Allot adequate time for family (eating meals together, etc.)                              | 5.89        | 0.60      | 6.08        | 0.79      | -0.61    | .547     |
| Exercise regularly  | 5.67        | 1.00      | 6.15        | 0.90      | -1.20    | .246     |
| Walk, bike, carpool, or take public transportation to work                                | 2.57        | 2.07      | 3.25        | 1.76      | -0.76    | .458     |
| Combine errands to reduce car trips   | 5.00        | 1.80      | 6.15        | 0.69      | -1.83    | .098     |
| Drive a fuel-efficient vehicle  | 3.11        | 1.69      | 4.46        | 1.45      | -2.01    | .058     |
| Recycle   | 6.44        | 0.53      | 6.23        | 0.83      | 0.68     | .505     |
| Compost   | 4.11        | 2.15      | 2.69        | 2.14      | 1.53     | .142     |
| Avoid consumption of unnecessary products   | 5.78        | 0.67      | 4.67        | 0.65      | 3.83     | .001     |
| Reduce clutter  | 5.78        | 0.67      | 5.50        | 1.31      | 0.63     | .536     |
| Volunteer for a cause   | 5.89        | 0.93      | 5.83        | 1.27      | 0.11     | .913     |

those who attended the second workshop: turning off the faucet when brushing their teeth (Workshop 1 mean frequency = 6.89; Workshop 1 SD = .33; Workshop 2 mean frequency = 6.36; Workshop 2 SD = .75; t-value = 2.33;  $p = .031$ ); using heat and air conditioning as little as possible (Workshop 1 mean frequency = 5.78; Workshop 1 SD = .83; Workshop 2 mean frequency = 4.46; Workshop 2 SD = 1.51; t-value = 2.37;  $p = .028$ ); and avoiding consumption of unnecessary products (Workshop 1 mean frequency = 5.78; Workshop 1 SD = .67; Workshop 2 mean frequency = 4.67; Workshop 2 SD = .65; t-value = 3.83;  $p = .001$ ). The first two of those behaviors were among those in which participants participated more frequently prior to the workshop, so the post-workshop responses likely indicated expected continuation of those same behaviors. Regarding consumption of unnecessary products, it is possible that, because those participants had already adopted some of the more basic sustainable behaviors (low-hanging fruit), participation in the workshop helped them to realize that reducing unnecessary consumption was the next most accessible sustainable behavior.

Five different pre-workshop behaviors, and two post-workshop behaviors, also differed among participants on the basis of whether or not they had attended the workshop as a favor. Prior to attending the workshop (Table 4.10), those who had *not* attended as a favor more frequently took short showers (Nonfavor mean frequency = 4.91; Nonfavor SD = 1.04; Favor mean frequency = 3.43; Favor SD = 1.09; t-value = 3.43;  $p = .002$ ) and recycled (Nonfavor mean frequency = 6.36; Nonfavor SD = 1.03; Favor mean frequency = 4.36; Favor SD = 2.06; t-value = 3.18;  $p = .005$ ) than those who *had* attended as a favor. In contrast, those who had attended as a favor more frequently participated in the



Table 4.10

*Iteration 3 Participant Pre-workshop Behavioral Frequency Comparison by Favor*

| Behavior  | Favor       |           | Non-favor   |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Turn off faucet while brushing teeth  | 6.18        | 1.78      | 4.64        | 2.34      | 1.81     | 0.084    |
| Wash only full loads of laundry/dishes  | 6.36        | 0.67      | 5.79        | 1.25      | 1.38     | 0.181    |
| Water lawn in the early morning   | 4.73        | 2.20      | 6.46        | 0.78      | -2.49    | 0.028    |
| Sweep (instead of hose) the driveway  | 4.82        | 2.27      | 5.00        | 2.31      | -0.18    | 0.858    |
| Landscape using native vegetation   | 3.80        | 2.15      | 3.85        | 2.15      | -0.05    | 0.960    |
| Mow lawn only as necessary  | 4.64        | 2.06      | 5.08        | 1.75      | -0.57    | 0.577    |
| Turn off lights when not in use   | 5.64        | 0.67      | 5.14        | 1.03      | 1.38     | 0.182    |
| Turn off electronics when not in use  | 4.64        | 1.50      | 5.21        | 1.31      | -1.03    | 0.315    |
| Use heat/air conditioning as little as possible   | 4.64        | 1.50      | 3.93        | 1.73      | 1.08     | 0.294    |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 4.82        | 1.25      | 4.14        | 1.61      | 1.14     | 0.264    |
| Buy recycled products   | 4.09        | 1.14      | 3.43        | 1.02      | 1.54     | 0.138    |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 2.91        | 1.51      | 3.36        | 1.22      | -0.82    | 0.420    |
| Buy local food  | 2.36        | 0.92      | 3.00        | 1.57      | -1.19    | 0.246    |
| Buy organic and/or “fair-trade” food  | 2.82        | 1.08      | 2.64        | 0.93      | 0.44     | 0.666    |
| Eat a healthy, balanced diet  | 4.36        | 0.92      | 4.21        | 1.58      | 0.28     | 0.784    |
| Allot adequate time for sleep   | 3.50        | 1.51      | 4.64        | 1.01      | -2.23    | 0.036    |
| Allot adequate time for family (eating meals together, etc.)                              | 5.18        | 1.08      | 5.00        | 1.18      | 0.40     | 0.695    |
| Exercise regularly  | 4.82        | 2.04      | 4.14        | 2.03      | 0.82     | 0.419    |
| Walk, bike, carpool, or take public transportation to work                                | 2.40        | 1.90      | 1.38        | 0.96      | 1.55     | 0.147    |
| Combine errands to reduce car trips   | 5.00        | 1.56      | 5.21        | 0.89      | -0.43    | 0.674    |
| Drive a fuel-efficient vehicle  | 2.18        | 1.47      | 4.36        | 1.69      | -3.38    | 0.003    |
| Recycle   | 6.36        | 1.03      | 4.36        | 2.06      | 3.18     | 0.005    |
| Compost   | 2.00        | 2.00      | 1.43        | 0.85      | 0.89     | 0.392    |
| Avoid consumption of unnecessary products   | 3.73        | 1.27      | 3.57        | 1.34      | 0.30     | 0.771    |
| Reduce clutter  | 4.45        | 1.21      | 4.64        | 1.60      | -0.32    | 0.749    |
| Volunteer for a cause   | 4.91        | 1.22      | 4.50        | 1.99      | 0.60     | 0.556    |

following behaviors: watering their lawns early in the morning (Nonfavor mean frequency = 4.73; Nonfavor SD = 2.20; Favor mean frequency = 6.46; Favor SD = .78; t-value = -2.49;  $p = .028$ ); allotting adequate time for sleep (Nonfavor mean frequency = 3.50; Nonfavor SD = 1.51; Favor mean frequency = 4.64; Favor SD = 1.01; t-value = -2.23;  $p = .036$ ); and driving a fuel-efficient vehicle (Nonfavor mean frequency = 2.18; Nonfavor SD = 1.47; Favor mean frequency = 4.36; Favor SD = 1.69; t-value = -3.38;  $p = .003$ ). Those behaviors, for the most part, reflected the behavioral frequency differences observed on the basis of which workshop was attended. That was to be expected, as there was substantial overlap between which workshop was attended and whether or not the workshop was attended as a favor. The one exception observed here was the allocation of adequate time for sleep by participants who had attended the workshop as a favor. It is likely that this behavior is generally seen as having limited economic and environmental implications. However, participants who were not economically or environmentally motivated may have seen the personal- and family-level social benefits of the practice. Thus, they may have already adopted that behavior prior to workshop attendance.

As with the comparison of participants in Workshop 1 versus Workshop 2, upon completion of the workshop (Table 4.11), those who had not attended as a favor planned to more frequently take short showers (Nonfavor mean frequency = 5.64; Nonfavor SD = 1.12; Favor mean frequency = 4.73; Favor SD = .90; t-value = 2.09;  $p = .049$ ) and avoid unnecessary consumption (Nonfavor mean frequency = 5.64; Nonfavor SD = .67; Favor mean frequency = 4.60; Favor SD = .70; t-value = 3.46;  $p = .003$ ). That finding, again,

Table 4.11

*Iteration 3 Participant Post-workshop Behavioral Expectation Comparison by Favor*

| Behavior  | Favor       |           | Non-favor   |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Take short showers  | 5.64        | 1.12      | 4.73        | 0.90      | 2.09     | .049     |
| Turn off faucet while brushing teeth  | 6.82        | 0.40      | 6.33        | 0.78      | 1.90     | .075     |
| Wash only full loads of laundry/dishes  | 6.82        | 0.40      | 6.64        | 0.50      | 0.93     | .362     |
| Water lawn in the early morning   | 6.27        | 1.27      | 6.55        | 0.93      | -0.57    | .573     |
| Sweep (instead of hose) the driveway  | 6.55        | 0.69      | 6.00        | 1.58      | 1.04     | .314     |
| Landscape using native vegetation   | 5.36        | 1.86      | 4.91        | 2.02      | 0.55     | .589     |
| Mow lawn only as necessary  | 4.91        | 1.45      | 4.27        | 1.42      | 1.04     | .310     |
| Turn off lights when not in use   | 6.36        | 0.67      | 6.42        | 0.67      | -0.19    | .852     |
| Turn off electronics when not in use  | 6.00        | 0.89      | 6.09        | 0.54      | -0.29    | .776     |
| Use heat/air conditioning as little as possible   | 5.36        | 1.21      | 4.64        | 1.57      | 1.22     | .237     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 5.82        | 1.17      | 5.30        | 1.83      | 0.78     | .444     |
| Buy recycled products   | 5.36        | 0.67      | 4.82        | 1.25      | 1.27     | .222     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 4.73        | 1.62      | 4.91        | 0.94      | -0.32    | .751     |
| Buy local food  | 4.73        | 1.19      | 4.60        | 1.51      | 0.22     | .831     |
| Buy organic and/or “fair-trade” food  | 4.36        | 1.21      | 4.64        | 1.29      | -0.51    | .614     |
| Eat a healthy, balanced diet  | 5.64        | 0.67      | 5.82        | 0.75      | -0.60    | .557     |
| Allot adequate time for sleep   | 5.55        | 0.93      | 5.60        | 0.97      | -0.13    | .897     |
| Allot adequate time for family (eating meals together, etc.)                              | 5.90        | 0.57      | 6.09        | 0.83      | -0.61    | .550     |
| Exercise regularly  | 5.91        | 1.04      | 6.00        | 0.89      | -0.22    | .829     |
| Walk, bike, carpool, or take public transportation to work                                | 2.78        | 2.22      | 3.20        | 1.55      | -0.48    | .634     |
| Combine errands to reduce car trips   | 5.27        | 1.74      | 6.09        | 0.70      | -1.45    | .163     |
| Drive a fuel-efficient vehicle  | 3.27        | 1.62      | 4.55        | 1.51      | -1.91    | .071     |
| Recycle   | 6.55        | 0.52      | 6.09        | 0.83      | 1.54     | .140     |
| Compost   | 3.55        | 2.30      | 3.00        | 2.19      | 0.57     | .575     |
| Avoid consumption of unnecessary products   | 5.64        | 0.67      | 4.60        | 0.70      | 3.46     | .003     |
| Reduce clutter  | 5.91        | 0.70      | 5.30        | 1.34      | 1.29     | .220     |
| Volunteer for a cause   | 6.00        | 0.89      | 5.70        | 1.34      | 0.60     | .558     |

reflects the overlap between the variables of workshop attendance and participation as a favor.

In addition to behavior change commitments and expectations, participants' responses to items asking what they liked best about the workshop and what they had learned gave a clear indication of participant learning over the course of the workshop. Specifically, four themes emerged in response to those two survey items as learning outcomes: 1) awareness of the three-dimensional concept of sustainability and sustainable living; 2) awareness of the levels of sustainability exhibited in participants' current lifestyles; 3) practical examples for application in efforts to live more sustainably; and 4) awareness of local resources, options, and opportunities.

Many participants, across both workshops of this iteration and regardless of whether they had attended as a favor, gained an understanding of the three-dimensional nature of sustainability and sustainable living. The qualitative observer pointed out that this three-dimensional definition seemed to resonate with people, and that many indicated agreement with the synonyms for sustainable living that I put forth in my presentation (i.e., stewardship, simplicity, and balance). One participant described this as a "new way to think about things." A number of participants zeroed in on the idea of balance and the importance of "getting life in balance." Participants were also interested in the scriptural basis for living sustainably along social, economic, and environmental dimensions. Only one participant listed this in response to the post-workshop questionnaire items, however the qualitative observer noted that participants seemed interested in the passages related

to spirituality and sustainability. Specifically, a number of participants jotted down scriptural references, particularly during the first workshop. Participants in the second workshop were less apt to take notes in general, but the observer noticed that they reengaged in the presentation at the mention of biblical ideas, whereas they had lost focus, somewhat, during the discussion on nature that had occurred immediately prior to the subject change. Finally, participants emphasized specific topics that they had learned about, such as time management and the environmental impact of actions and decisions.

In learning what it means to live sustainably, many participants became aware of the degree of sustainability displayed in their current lifestyles (regardless of which workshop they attended, or whether they attended as a favor). While one participant was encouraged to learn that she does a lot of things right (i.e., recycling, line drying laundry, not watching too much television), the rest of the participants who commented on this theme came away with a sense of conviction about their shortcomings in living sustainably. Many were concerned about how they were spending their time, either spending too much time working, and not enough time with family and friends, or not even being able to identify where and how they spend their time. One realized for the first time how impressed he/she was by material things, and another realized that his/her living was “out of balance with the environment.” Overall, a recognition of the need for more balance in life, and a recognition that this was a common struggle, were voiced by many participants.

Participants also learned from the many practical examples that were shared throughout the presentation, as evidenced by both their responses to the post-workshop

survey and the qualitative observations, although they expressed a desire to learn even more in that regard. They enjoyed hearing personal examples from my experience, and learning about different options that exist. The observer pointed out that the participants seemed to identify or engage with the different personal examples I shared (especially in the first workshop), and several listed those examples as their favorite part of the workshop. Some participants were encouraged by the fact that a number of my examples involved “small, everyday” changes. Some of the practical examples that people highlighted came from the resource table, for instance, information on sustainable landscaping, and on which types of nonorganic produce were the most and least contaminated. Along those lines, the observer noticed that many participants perused and took resources from the table.

In sum, participants left the workshop having: 1) learned a number of new things about sustainable living; 2) committed to changing existing behaviors; and 3) indicated expectations of performing a number of other sustainable behaviors more frequently than they did prior to attending the workshop. Thus, the second goal of the project was achieved for the members of this organization to a greater extent than for members of the previous iteration’s organization. A number of factors likely enhanced the intervention’s ability to achieve that goal. At the same time, as with the previous iteration, there remains room for improvement. A number of inhibiting factors likely prevented the intervention from achieving its second goal to an even greater extent. Those enhancing and inhibiting factors are described below; followed by the adaptations that were made for the fourth, and final, iteration in response to those factors.

### *Enhancing Factors*

Several factors likely contributed to the improvement in participation achieved in this iteration. First, for this iteration, I attempted to highlight, even more clearly than in other iterations, the three-dimensional definition of sustainable living. Although conveying this definition remains a challenge, the greater the extent to which promotional efforts respond to this challenge, the higher the level of participation that is achieved. Thus far, this observation relates more to actual *numbers* of participants than to the motivations held by those participants. In addition, however, the workshops' outcomes were also clearly improved by efforts to further clarify the explanation and description of the three-dimensional definition of sustainable living. The enhancing value of that factor is evidenced by the fact that participants left the workshop with a better understanding of the three-dimensional nature of a sustainable lifestyle, and how to go about achieving that on a daily basis. Clarification of that three-dimensional definition further allowed for the increased awareness observed among participants regarding the levels of sustainability demonstrated in their own lifestyles. Both of those learning outcomes can be largely attributed to the ongoing effort made to highlight this crucial component of sustainable living.

Second, this iteration's promotional materials, as well as the workshops' content, continued to appeal to the existing motivations of potential participants. As with the previous iteration, the participants exhibited a combination of motivations. It is possible that, absent the explicit appeal toward those various motivations, participants as well as

their behavioral change commitments may have been limited to those with largely environmental motivations.

Third, participation was likely enhanced by attempts made for this iteration to remove a number of logistical barriers that participants may have otherwise encountered in their effort to attend the workshops. Specifically, the second workshop was scheduled during a time when the participants already had an existing weekly commitment; in lieu of that existing commitment. Thus, they did not need to carve out additional time in their busy schedules in order to attend. Free childcare was also available to participants in the second workshop, removing another potential barrier to attendance and potentially improving workshop outcomes. One illustration of this is the fact that, due to the provision of childcare, more *couples* were able to attend the workshop together than was the case for the first workshop of this iteration. And, as noted by the qualitative observer, when participants came with their spouses, they seemed more engaged, actively discussing surveys, workshop content, and activities with one another (regardless of which workshop was attended). Finally, both workshops were held at the church, where participants are accustomed to going for various activities. The effectiveness of efforts to remove logistical barriers can be seen in the difference in attendance observed between the first workshop and the second. That is, nine church members attended the first workshop, for which the location was convenient, but for which time constraints and childcare needs were not addressed. On the other hand, 16 members attended the second workshop, for which all three logistical concerns were removed.



Increased attendance across the workshops may have been influenced by a fourth enhancing factor: relational influence. Specifically, this factor involved the use of personal invitations and Life Group visits. The leaders of two of the Life Groups whose members participated in the second workshop were personal acquaintances of mine. Thus, I was able to leverage those relationships to encourage participation. A number of participants in the first workshop were from one of the Life Groups that I had visited. One participant in the first workshop had served as a key informant for the first phase of the project, through which I became personally acquainted with her. Thus, she accepted my personal invitation to attend, and also encouraged other members of her Life Group to attend (word of mouth promotion), two of whom participated in the first workshop.

Regarding achievement of the second goal of the intervention, most of the enhancing factors reflect the positive impacts achieved by the adaptations made on the basis of feedback from the previous iteration. First, the qualitative observer discussed the value of the increased opportunities for dialogue and discussion that I had added to the workshops. He also noted an improvement in audience engagement during the exercises and the post-exercise discussion sessions due to better explanations of the activities and their purposes on my part.

Third, behavioral commitments and increases in expected behavioral frequency were likely enhanced by the provision of numerous specific (often personal) behavioral examples, along with a continued emphasis on local resources, options, and opportunities. A number of participants commented that specific examples were helpful to them; and the qualitative observer noted an increase in audience engagement at times

when I was sharing personal examples. Furthermore, the fact that a majority of behavioral commitments made by participants directly reflected the specific examples shared provides evidence of the effectiveness of that strategy.

The value of learning about local resources, options, and opportunities was evident in participants' responses, but was more prevalent among those who had *not* attended the workshop as a favor. A number of participants were excited to learn that the city recycles glass, even though it is not picked up at the curb, but rather collected at the central recycling center. Two participants specifically noted that they had learned what a CSA (community supported agriculture program) is, and/or that the community is home to several CSAs, in which people can participate. Another learned about, and was encouraged to start shopping at, a local consignment store that sells baby and kids' clothes and other such items. Some of the print material at the resource table also contained local information and opportunities that people had the option to take with them.

Finally, the incorporation of a number of recommendations for improvement in terms of presentation and delivery likely enhanced the overall impression that participants had of the workshops. For instance, in response to the qualitative observer's suggestions, I had included: more detail on several of my slides; an outline of my presentation at the beginning of each workshop; a more detailed introduction to the pre-workshop questionnaire, especially; and better explanations of the audience-participation activities and their purposes. Additionally, I had gained a greater level of comfort with

the material since the previous iteration. The combination of all of the enhancing factors described here likely improved goal achievement for this iteration of the intervention.

### *Inhibiting Factors*

Although outcomes improved from the second to the third iteration, particularly in terms of the number of participants in the educational programming component, there is still room for improvement in terms of goal achievement. Several factors may have inhibited efforts toward even greater improvement in participation (Goal 1). First, in spite of efforts to make the three-dimensional definition of sustainable living more clear with each iteration, the understanding demonstrated by workshop participants has remained limited. Although some participants had a fairly comprehensive idea of the definition, most either demonstrated some level of confusion or focused too narrowly on the environmental dimension of the term. And, while an environmental focus may not be detrimental to those with more biocentric environmental worldviews, that emphasis may be distasteful for other potential participants. It is possible that the perceived environmental focus of the term prevented some nonparticipants from attending the workshop.

The impact of this factor may have been influenced by a second inhibiting factor, namely, the miscommunications that occurred with the organization's leadership. Although the staff expressed interest in the project, and willingness to aid in promotional efforts for the workshops, my efforts to overcome the limited understanding of sustainable living that might be present within the congregation were adversely affected by those miscommunications. Specifically, I was interested in how the outcomes of the

workshop might be positively influenced by the omission of the terms *sustainability* and *sustainable living*. Findings during the key informant phase of this iteration indicated that church members might be more responsive to terms such as *balance*, *simplicity*, and *stewardship*. I did not, however, convey that explicit intent to the staff, when providing them with the texts for various announcements regarding the workshops. Thus, the term *sustainable living* was inadvertently included in some of those correspondences. It is possible that participation among non-environmentally-motivated individuals was adversely impacted by that factor. The section detailing adaptations to be employed in the fourth and final iteration contains strategies for addressing, and hopefully overcoming, these two inhibiting factors.

In addition to factors inhibiting attendance and participation, a number of factors may have also inhibited the workshops from achieving their full potential, even among those who did participate. First, although participants appeared to enjoy the opportunities provided to participate in dialogue and discussion, many of them noted a need for an even greater emphasis on that component of the workshop. Specifically, they asked for more discussion, involvement, and interaction. For this iteration, that suggestion was more prominent among participants in the second workshop and those who had attended the workshop as a favor than among the participants in the first workshop, and those who had *not* attended as a favor. In fact, only one participant from the latter group made a comment to that effect, compared with six from the former. Suggestions included: more personal worksheets, more activities, more paired/small-group discussion, and more interaction with other participants. These comments arose even *after* changes were made

from the previous iteration, meaning that even more adaptations would have been required in order to meet this need among participants.

Likewise, although the participants greatly appreciated the practical tips, examples, and suggestions that were provided regarding how to live more sustainably, a number of them thought that the workshops would benefit from an even *greater* focus in that area as well. In fact, 13 comments related to this suggestion emerged from individual responses to items eliciting participants' least favorite aspects of the workshop, and their suggestions for improvement. Some of the comments were more general in nature, asking for "more suggestions about how to be socially sustainable," or just wanting to "learn more" or go more "in-depth." Other participants had more specific ideas of what those examples could look like. For instance, one participant wanted to know how to live more sustainably when living "in apartments" and "on limited resources," whereas another was interested in discussing "efficient ways to do solar and water harvesting." One participant suggested that I "tell more stories/examples of people who have made small yet significant changes." Participants' suggestions that more examples be included are consistent with those of the qualitative observer; that participants were highly engaged with the presentation during the times when the presentation focused on such examples. Taking similar observations and comments into account with each iteration of this project, I have included more concrete examples and practical tips for how to live more sustainably (both in the workshop presentation and through the print resources available). Interestingly, though, for each workshop this suggestion remains prominent among participants.

Another factor of concern was participants' preoccupation with time and schedule conflicts, particularly during Workshop 2. Although I had been careful to allow enough time to cover all material, based on the regular meeting times of Life Groups, I was unaware that parents of middle and high school-aged children were expected to pick up their children earlier than those with pre-school and elementary-aged children. This caused some participants to rush through their responses and skip some sections of the survey, or not to fill the survey out at all. The greatest impact of that factor was added difficulty in assessing the outcomes of the workshop, but participants who were concerned about the time were probably less likely to be focused on the workshop content, particularly toward the end.

In addition to participants' observations regarding the content and the need for greater emphasis on the areas noted above, the qualitative observer made several related comments regarding the presentation and delivery. For instance, he noted that the final iteration might benefit from an even greater emphasis on the idea of *balance*, as he had observed positive and engaged responses from participants during that portion of the presentation. He also thought that I could have better explained the concept of time poverty, and possibly included a discussion component in that section. Finally, in comparing the first workshop with the second, he observed that I seemed less prepared for the latter; and less comfortable with the material. Indeed, I had practiced less during the week prior to the second workshop than I had prior to the first.

Finally, in the second and third iterations, the research component of the workshop has entailed, in addition to qualitative observations, both a pre- and a post-

workshop questionnaire that participants have been asked to fill out. With each iteration, participants have been under-enthusiastic about filling out those questionnaires. For both iterations, I acknowledged the length and potential tediousness of the questionnaires, but encouraged participants to fill them out because of the research purpose that they served. Participants were cooperative in that regard, for the most part, but clearly considered that process to be a burden and a bore. While the data obtained through that process have been very valuable in the analysis of outcomes, it has become clear over the course of the workshops that these questionnaires are an inhibiting factor to the success of the workshops, particularly in terms of appeal, especially.

The enhancing and inhibiting factors detailed here were again used to modify and adapt the curriculum format, content, and presentation, in order to improve both the outcomes and appeal of the educational component of this intervention. Those adaptations are described below.

#### *Adaptations in Response to Workshop Outcomes*

I made a number of adaptations to the curriculum presentation and other aspects of the educational programming component of the intervention following the third iteration. Some of those were informed by the third iteration alone, whereas others carried over from the second as well. The adaptations were made to improve the level of goal achievement, in terms of both project goals, for the fourth and final iteration of this intervention. Most of the adaptations involved maintaining the factors that were found to enhance goal achievement in previous iterations.

*Use of personal influence.* First, I continued to use personal influence to promote and recruit for the educational programming component of the intervention. While that adaptation echoes the adaptation suggested by the results of the key informant interview phase, it plays a different role in relation to this second phase of research. Specifically, findings from key informant interviews suggested that I use personal influence in order to improve *overall* participation in the educational programming component (Goal 1). Findings from the workshop outcomes for Iteration 3, however, suggested an added benefit: targeting *less environmentally-motivated* individuals for participation (again, Goal 1). Those individuals, as demonstrated by the outcomes of the third iteration, came into the workshop with fewer established sustainable behavior patterns, and consequently expressed intentions to change their behavior to a greater extent (Goal 2). Thus, personal influence may be an effective tool for improving achievement of *both* project goals.

*Accommodating existing schedules and commitments.* Second, it was clear from the outcomes of the third iteration, particularly the second workshop, that fitting the educational programming component into a time slot that potential participants have already allocated is crucial to achieving maximum participation among an organization's members, particularly those with alternative motivations (Goal 1). Specifically, there was greater participation in the second workshop among individuals highly motivated by convenience and time-related concerns. Thus, efforts to achieve participation among less environmentally-motivated individuals are likely to be aided by coordinating workshops with existing meetings and obligations, for which individuals have already allotted their time. For the fourth iteration, I coordinated with Life Group leaders to conduct the



educational programming component of the iteration during regularly-scheduled Life Group meetings, in order to capitalize on that particular enhancing factor.

It is important, though, to ensure that there is enough time to complete the workshop material during regularly-scheduled meeting times for each group or organization. In the case of the second workshop of Iteration 3, there were a number of people who became preoccupied with the time toward the end of the workshop, presumably shifting their attention from the post-workshop questionnaire to picking their kids up from various activities. Several had to leave early and didn't finish the post-workshop questionnaire. The more flustered state of participants during this time of preoccupation may have prevented them from thoroughly considering the implications of the workshop, in terms of their behavioral commitments and expectations (Goal 2).

*Discussion, dialogue, and interaction.* Third, responses from participants and the qualitative observer indicated that I would need to further incorporate discussion, dialogue, and interaction throughout the educational programming component of the intervention for the final iteration. Included in that effort, I would need to engage participants in discussion from the start of the workshop, and then at various points throughout. Continued feedback to this effect suggested that a traditional classroom-style presentation (i.e., using lecture, a slide presentation, and limited audience participation) may not be the most effective method of delivery for material covering sustainable living. Findings from all iterations and phases of research have indicated that increasing the length of a workshop is not a viable option; that is, individuals' schedules and attention spans would not permit a lengthening of the workshop. And yet, participants continued to

feel that there was insufficient time to go into the level of depth and detail that they desired.

In response, I determined that one way to overcome this obstacle may be to format the workshop as more of a discussion group, engaging the audience at length in each topic of discussion (Appendix G). This would allow them to share their own experiences, learn from one another, and brainstorm ways to live more sustainably. The discussion would be facilitated by a sustainable living educator (in this case, me) with knowledge of the curriculum, and would be guided by a set of discussion questions, designed to steer the conversation in a productive direction. The fourth and final iteration of this project allowed for a trial of the modified workshop format described here (see details in case description of Iteration 4).

*Practical tips and suggestions.* The discussion-based format also allowed for a fourth adaptation, namely, an increased emphasis on practical tips and suggestions, including even more personal examples than were used in the previous iterations. In fact, given the effectiveness of personal anecdotes as motivators for behavior change commitments that was observed in the third iteration, I also included opportunities for participants to share their *own* personal examples of behaviors that they had integrated into their daily lives. I did that through the use of a discussion question asking, “Do you actively make choices to live more sustainably? If so, what are some of the things that you do personally to live more sustainably—economically, socially, and/or environmentally?” Another discussion question reads: “Sustainable behaviors that a lot of people think of relate to having a home (landscaping choices, home size, etc.), but what

are some things that we haven't talked about yet that you could do now while in school?" Those two questions combined were designed to give participants a larger pool of potential behaviors to choose from when committing to make lifestyle changes toward greater sustainability.

*Three-dimensional focus and terminology in promotional materials and communications.* Fifth, although it was clear that participants valued the opportunity to learn more about the three-dimensional definition of sustainable living, most of that learning and awareness seemed to come from the content of the workshops themselves, rather than from participants' interpretations of various promotional communications. Thus, I determined that it was important to further clarify the three-dimensional nature of the concept of sustainable living, especially in promotional materials and communications (Appendices S-U). This was done primarily to increase participation among alternatively-motivated individuals who, for the third iteration, may still have viewed the workshops as environmentally-centered. One way in which I attempted to accomplish this was to remove the terms *sustainability* and *sustainable living* from all recruitment materials. Thus, for the fourth iteration, while those were still included in the curriculum presentation itself, their use in promotional communications was foregone, in favor of less intimidating words, including *balance*, *simplicity*, and *stewardship*.

There are two exceptions to that omission. The first is that, due to IRB requirements, the title of the project ("Promoting Sustainable Behavior among Diverse Audiences") appeared at the beginning of the participant information letter that was made available to all participants prior to the educational programming component. Even for

that letter, however, the text portions were altered to shift the focus away from potentially problematic terminology (a change approved by the Office of Research Compliance). The second exception is that Life Group leaders were provided with an electronic copy of the discussion guide that I planned to use to facilitate the discussion, which contains references to sustainable living. The leaders were invited to pass that discussion guide onto their groups' members, in order to give them a feel for what the discussion might look like on the evening of the educational programming event. I chose to make that discussion guide available because such a guide is made available for other weeks' meetings, and I determined that it would be important to maintain continuity in that regard. However, as can be seen in the discussion guide, a good deal of detail is also included regarding the three-dimensional nature of sustainability, balance, simplicity, and stewardship; in order to temper impressions that readers might otherwise have to the contrary. Furthermore, key informant responses for the fourth iteration suggested that few of the group members were likely to open or read the e-mail attachment containing the discussion guide, meaning that they would possibly not be influenced by that document prior to attending the meeting.

Those same key informants agreed, though, that group members were likely to read e-mails sent by their leaders. And the recruitment text that was sent to Life Group leaders to pass on to their members (Appendix A2C) made no mention of the terms *sustainability* or *sustainable living*. Instead, the text read:

...I'm writing to let you know about an exciting opportunity coming up for our Life Group. We will be having a guest facilitator...who will be

leading our discussion. Instead of covering the sermon topic that week, we will be talking about “Living a Life of Balance and Stewardship,” a topic that you all should find very interesting and applicable to your everyday lives. . . . The discussion will address many areas of life, including time management, relationships, health, finances, resource consumption, and more. . . . Again, this should be a great night of lively discussion, so I strongly encourage you to be at Life Group on [Date].

Improving understanding of the three-dimensional nature of a sustainable lifestyle includes helping participants to integrate the three dimensions of sustainable living, rather than seeing them as distinct from, or unrelated to, one another. This need was illustrated by some of the behavioral commitments made by participants in the second workshop of Iteration 3, specifically those who had attended the workshop as a favor. Namely, their focus on commitments related primarily to personal or family health and wellbeing suggested that they may not have fully grasped the integrated nature of the social, economic, and environmental components of living sustainably. Thus, for the fourth iteration, I addressed that need through the following discussion question: “What are some behaviors that might be more sustainable along all three dimensions?”

Furthermore, the observer suggested that it may be beneficial to discuss the issue of trade-offs and compromises, and how decisions are, or should be, made in those situations. This suggestion arose out of an exchange with one of the participants in the first workshop of the third iteration, who brought up the conflict between buying new items, as opposed to fixing old ones; arguing that the former is often less expensive and

less time consuming. Reasoning that others likely face those sorts of decisions regularly as well, I included another discussion question for the final iteration, asking: “Can you think of some examples where options conflict and require trade-offs and compromises among the three dimensions of sustainable living? How do you make decisions about your actions in those cases?” The intent in adding these questions, and emphasizing the three-dimensional nature of sustainable living, was to encourage participants to make behavior change commitments that would be most impactful along all three dimensions of a sustainable lifestyle, rather than having them focus on just one or two.

*Omission of pre- and post-workshop questionnaires.* In addition to maintaining and capitalizing on the enhancing factors observed during the third iteration, feedback obtained from both participants and the qualitative observer suggested one final adaptation to be incorporated in the final iteration. Specifically, in order to improve the appeal of the educational programming for participants, and to recover some of the time needed to accommodate the other adaptations, it was clear that I would need to omit the pre- and post-workshop questionnaires. One important difference resulting from this change is that analysis of outcomes relied largely on qualitative observations and participant input during the discussion sessions themselves, rather than on pre- and post-workshop questionnaires. As noted above in the section on data sources, I did create an abbreviated, two-page questionnaire (see Appendix D), containing the most pertinent content from the longer version, but the items were not designed to allow for the types of quantitative analysis that have been possible for the second and third iterations. Nonetheless, that sacrifice was deemed worthwhile in pursuit of: 1) increased goal

attainment; and 2) greater appeal to project participants. The level of success associated with this strategy, as well as the other adaptations described here, are detailed below, in the case description of the fourth and final iteration of this project.

#### Case Description of Iteration 4

After talking with several of the key informants from the church with which I collaborated for the third iteration, as well as several staff members (two of whom are also college students), it became clear that the college students within the congregation (about 400-600 in number) might have needs, values, and preferences different enough from the main congregation that they should be treated separately.

Additionally, working with college students has the potential to increase tendencies toward sustainable living amongst a generation wherein such a lifestyle is currently in decline. Today's college students, and Millennials more generally, are less likely to exhibit socially and environmentally-conscious tendencies than other generational cohorts, according to a recent study (Chau, 2012). That is, they have shown a "steep decline in concern for the environment" and a "decline in civic interest . . . as well as in concern for others" (p. 2). A change in these trends among college students would likely result in an even broader impact than a comparable change in a localized group, because college students often leave the local area upon graduation, and may therefore take their newfound knowledge and behavior to other places around the country and the world. Thus, the church's college ministry was chosen as the fourth organization for my dissertation research project.

### *Key Informant Interviews*

After meeting with the church's associate in charge of the college ministry on March 20, 2012, she agreed to send me contact information for some college students who might be willing to participate in key informant interviews for this group. I received those 11 students' e-mail addresses on March 26, and sent a message to them the following day, inviting each of them to participate in a key informant interview. In addition to the contacts provided by that associate, I requested contact information for potential interviewees from one other college-aged associate on staff at the church (who provided me with three additional contacts), and from a woman I know who leads one of the larger college-aged Life Groups at the church (who provided me with five additional contacts). Thus, a total of 19 students received the initial invitation to participate. I also used a snowball sampling technique to identify other potential participants by asking each person I interviewed, as well as the other students initially invited, to forward my invitation to other students they thought might be interested in participating in an interview. Because those students contacted other potential participants directly, rather than forwarding their contact information to me, the total number of students invited to participate through the snowball procedure is unknown.

Between April 10 and May 1 of 2012, I interviewed 10 members of the church's college student ministry (see Table 4.12). The ten key informants with whom I conducted interviews represented the different college cohorts (from freshman to senior) and consisted of seven females and three males. Both male and female interviewees confirmed that this split is roughly representative of the group's overall makeup. The



Table 4.12

*Key Informant Descriptions for Iteration 4 (All Informant Names are Pseudonyms)*

| Informant | Sex    | Year      | Origin | Major                      | Church involvement |
|-----------|--------|-----------|--------|----------------------------|--------------------|
| Yvonne    | Female | Freshman  | TX     | Philosophy/Pre-law         | Highly involved    |
| Alice     | Female | Senior    | AZ     | Piano Pedagogy             | Highly involved    |
| Beth      | Female | Sophomore | TX     | Nonprofit Marketing        | Highly involved    |
| Cindy     | Female | Junior    | TX     | Biology                    | Highly involved    |
| Dana      | Female | Junior    | TX     | Graphic Design             | Highly involved    |
| Elizabeth | Female | Sophomore | MO     | Accounting                 | Highly involved    |
| Penny     | Female | Senior    | OK     | Recreation                 | Limited            |
| Finn      | Male   | Senior    | TX     | Marketing                  | Highly involved    |
| Greg      | Male   | Senior    | TX     | Entrepreneurship           | Highly involved    |
| Hale      | Male   | Senior    | MO     | Sports Sponsorship & Sales | Highly involved    |

students that I interviewed were, for the most part, highly involved and active in the church’s college ministry. All but one of the students noted involvement beyond attendance at weekly services. Their areas of involvement included: participating in a Life Group (a small group of students that meet weekly for fellowship, discipleship, and accountability); volunteering at the church (i.e., helping in the nursery, greeting at the door on Sundays); serving in the community (i.e., at the local homeless shelter); and participating in the student leadership team for the college ministry. All informants attested to knowing quite a few other college students, though most acknowledged that the ministry’s growth over the last several years has made it difficult to keep up with all of the new names and faces. Several of the students who were involved 2-3 years ago noted that, at that time, there were only about 15-20 students actively involved in the church’s college ministry. But that number grew first to about 45 students, and now estimates are that 400-600 college students attend services regularly.

The church's records regarding the demographics of its college population are somewhat out of date, incomplete, and subject to self-reporting biases (as are their records of the larger congregation). Thus, it is difficult to say how well the ten key informants reflected the demographics present within the group as a whole. Half of the informants (five) were seniors, two were juniors, two were sophomores, and one was a freshman. Six of the informants were natives of Texas, and the remaining four hailed from the Southeast (two), the Southwest (one), and the Midwest (one). Majors within the college's business school were the most popular majors cited by informants (i.e., Nonprofit Marketing, Accounting, Marketing, Entrepreneurship, and Sports Sponsorship and Sales), but a number of other majors were represented as well (i.e., Philosophy/Pre-Law; Piano Pedagogy; Biology; Graphic Design; and Recreation). All informants attested to having close relationships with their families back home. Again, the extent to which these students represent their cohorts within the ministry cannot be determined, however, informants were asked to consider the other college students they knew when answering questions, and to answer from those students' perspectives (where appropriate) to the best of their ability.

Based on their combined breadth and depth of experience, the key informants were able to provide valuable insight into the five categories of data under investigation during this phase of the iteration, including: perceptions associated with the terms *sustainability* and *sustainable living*; personal efforts toward sustainability (added for the fourth iteration); barriers to living sustainably; organization members' values and priorities; and potential interest in, and recommended recruitment methods for, the

upcoming educational programming event(s). I was again able to identify many recurring themes throughout the interviews, and findings suggested a high degree of data saturation. As with previous iterations, the data obtained were used to adapt and structure the educational programming component of the intervention for this iteration. Some of the included elements carry over from previous iterations, where key informant feedback was consistent across the organizations.

### *Perceptions of Sustainability and Sustainable Living*

*Presence of environmental and non-environmental emphases.* Among the church's college informants, *environmental* impressions most commonly came to mind when asked about the terms *sustainability* and *sustainable living*. Five of the ten informants referenced the terms' environmental dimensions. Alice, a senior studying Piano Pedagogy, spoke of the importance of caring for the Earth, and equated sustainability and sustainable living with "the green movement." Several informants highlighted the resource aspect of the terms—their use, depletion, conservation, and reuse. A consciousness of the environmental impacts of behaviors and practices (and acting on that consciousness) was also a common subtheme among informants who viewed sustainability and sustainable living from an environmental perspective. Elizabeth, a sophomore and an Accounting major, summed it up as, "not tearing apart [God's] beautiful creation."

As with the adult congregation, there were also a number of informants (although a smaller number) who did not associate sustainability or sustainable living with the environmental dimensions of the terms. Several viewed the terms in a more general and

generic sense, providing a laundry list of synonyms for the word sustainability, including: enough, provided for, long-term, perseverance, lasting, constant, and longevity. Dana, a junior studying Graphic Design, thought of “something that is able to withstand time,” and Finn, a senior Marketing major, echoed that concept. According to him, that “something” could be a group, product, or service. Indeed, for those with more general views of what sustainability and sustainable living might mean, this nebulous “something” was a common component of their definitions and perceptions of the terms. Even those who did think of the terms from an environmental perspective included more general ideas in their definitions (i.e., lasting, continuous, enduring, replenish).

Still others addressed the economic and social dimensions of the terms *sustainability* and *sustainable living*. From a social perspective, Beth, a sophomore majoring in Nonprofit Marketing, perceived sustainable living as including an outward focus. Hale, a senior majoring in Sports Sponsorship and Sales, pointed out the importance of time, specifically “making the most of your time.” Hale also touched on the economic dimension of sustainability by defining it as “maximizing the longevity of a product, good, or service.” Similarly, Penny, a senior Recreation major, discussed sustainability from a business perspective, that is, “creating a business that isn’t just going to be a fad. . . . long-term thinking; something that will last . . .” Greg, a senior majoring in Entrepreneurship, addressed the individual and family-level economic dimension of sustainable living: “Being able to maintain. . . . a level of satisfaction. . . . Being able to provide home, food, stuff; like, the needs that we have for a decent life . . . [that is] just being able to have three meals a day; a home to live in; so, basic needs.”

*Acknowledgement of the multidimensional nature of the terms.* Finally, there were several comments that implied an understanding, albeit limited, of the three-dimensional definitions of *sustainability* and *sustainable living*. Alice referred to sustainable living as “being a good steward,” whereas Beth referred to it as “being content.” Elizabeth spoke of simplicity, and of “living with a conscience of having a positive impact on the earth and the people.” However, in spite of the understanding demonstrated by at least some of the informants, several indicated that there may be a lack of understanding among the general public, and perhaps among other college students attending the church. Beth, for example, confessed, “I never used to think environmentally. Like, green people, I guess, just kind of annoyed me.” Similarly, Penny commented, “I think when people hear sustainable living, they think it’s like, moving out to a farm, sewing my own clothes, you know. . . . Sustainable is an intimidating word for a lot of people, I think.” These perceptions demonstrate the importance of meeting potential workshop participants on their level, and their terms, and being sensitive to the various perceptions that they may have regarding sustainability and sustainable living.

#### *Personal Efforts toward Sustainability*

For this iteration, I asked informants to share any behaviors they had personally adopted in order to live more sustainably. I asked this question after explaining to them the three-dimensional definition of sustainable living, and giving them examples of all that is entailed in that definition (relationships, time management, health, community outreach and service, financial responsibility, environmental responsibility, and so forth). Informants gave examples of behaviors that were socially conscious, economically

conscientious, and environmentally responsible. Several comments also indicated an understanding of the integrated nature of the terms, by highlighting behaviors that would be considered sustainable along more than one dimension.

*Socially-conscious behaviors.* Nine different informants mentioned behaviors related to the social dimension of living sustainably. Relationships and a sense of community were common, and related, themes under the social dimension, with six different informants discussing behaviors related to those themes. For instance, Cindy stated, “I think relationships are one of the most important things in my life.” Dana described a saying that the college students use—YOLO (you only live once)—that helps them to remember that being in college is not all about the school aspect of it; but rather, that it is an opportunity to enjoy the social opportunities that come with attending college. So, Dana saw her decisions to go out with friends sometimes, and make memories, rather than spending all of her time studying, as a way in which she personally tries to live more sustainably. Beth talked about being intentional in her relationships with others, having a small group of close friends with whom she’s deeply invested. Others highlighted the importance of living in community in general, and the importance of Greek Life to the students both on campus and at church.

The informants were also very conscious of issues related to time management, and several had made deliberate efforts to manage their time effectively. Cindy spoke of the importance of “being efficient, yet intentional, with your time,” and Hale reiterated the need to “put our time into the right areas.” Yvonne highlighted her own efforts in the areas of planning and scheduling for effective time management. Finally, Dana reflected

on the fact that she has learned to “say ‘no’ to a lot of things,” in order to maintain a more manageable and sustainable lifestyle.

Community service was also an important aspect of informants’ efforts toward living sustainably. Hale asserted, “we see it as our calling and our need to help others who are less fortunate.” Likewise, Elizabeth talked about the importance of “pouring into the community,” and sharing the love of Christ. Greg also talked about his community service efforts, in which he has been involved through the church and its college ministry.

*Economically-conscientious behaviors.* Six different informants highlighted ways in which they had intentionally incorporated economically-sustainable behaviors into their lifestyles. While only one attested to having created an official “budget,” others spoke of financial responsibility more generally. Elizabeth said that she lives sustainably by “not overspending money gluttonously.” Similarly, Greg talked about being “smart” with his money, not “blowing through” it. An overall awareness of expenditures was also common among informants. Yvonne talked about keeping an eye on her money, and being aware of how much she has, and how long it needs to last her. Beth argued that this increased awareness was a result of living on her own, and seeing her monthly spending on gas and various other expenses more concretely. Likewise, Finn talked about his impending graduation as helping him to realize that he was going to be really living on his own soon, and making him more aware of how he’s spending his money.

*Environmentally-responsible behaviors.* Five different informants included environmentally-sustainable behaviors in their descriptions of their own personal efforts toward living more sustainably. Yvonne referred to the “simple ways” in which she lives

more sustainably from an environmental perspective. She recycles, which she claims is “very easy” living on campus, and she tries not to “live excessively,” in terms of resource consumption. Beth also recycles, although she never would have in the past, because she’s always viewed it as a “hassle.” By living with a roommate who recycles, she was able to see “how easy it is.” On the other end of the spectrum, Hale noted that he has recycled in the past, but that living with roommates who don’t has made it difficult. He does, however, plan to start recycling again, once he is living on his own. Other environmentally-conscious behaviors that informants mentioned included: walking or cycling around campus, using reusable grocery bags, living with roommates, turning off lights when not in use, and opening windows instead of using air conditioning.

*Behaviors sustainable along more than one dimension.* Only two informants listed behaviors for which they indicated having more than one motivation. Specifically, Alice talked about living with roommates, for which her motivations were social (making friends), economic (saving on expenses), and environmental (using fewer resources and less space), in that order; and attending this particular university, for which her motivations were both economic (due to scholarships) and social (due to nurturing teachers and peer relationships). Alice also tries to eat local and organic food, but did not mention the environmental benefits thereof. Instead, her motivations are social. Specifically, she sees the value of organic food for improved health, and for the improved economic wellbeing of local farmers. Beth had made several decisions regarding energy conservation, stating, “I started seeing how much energy and electricity costs, and bills, and so, I’m much more aware,” but also that, in her academic program, “they’ve done a



lot of workshops on the importance of energy within the world. And, how we kind of take it for granted here.” The fact that only two informants brought up behaviors with multiple motivations speaks to the fact that a lot of students may have some level of difficulty integrating the three components of sustainable living, and seeing how they work together to comprise a sustainable lifestyle. On the basis of informants’ responses, I determined that an integration of the three dimensions, and how that might be operationalized at the behavioral level in students’ daily lives, should be an important focus of the workshops conducted with them.

#### *Barriers to Living Sustainably*

Six different themes emerged in the category of barriers and obstacles to sustainable living among the key informants. Those included: *peer pressure, society, and culture; a “now” and a “me” focus; infrastructural barriers; time and convenience; philosophical barriers; and knowledge and awareness*. Understanding these barriers was an important step in proactively working to overcome them in the minds of workshop participants.

*Peer pressure, society, and culture*. The most prominent barrier to living sustainably (noted by seven different informants) was that of *peer pressure, society, and culture*. These factors, according to informants, influence the amount of money that students feel they need to have, and how they handle that money; how they allocate their time; the view that they have of themselves and of the value of fitting in; and the level of convenience they seek. For instance, Beth felt that people were pressured into having money because “there’s just a lot of buying, buying, buying . . .” Likewise, Penny

asserted that “keeping up with the Joneses is kind of a hard thing to battle.” Finn echoed that “you just really don’t see a lot of other people . . . being that prudent with their money, or that modest with how they’re living.” Regarding time allocation, Hale talked about how, among a group of friends, the majority often rules regarding the activities in which the group will participate and that groupthink and peer pressure are factors in the decision-making process. Elizabeth shared her view of how society encourages students to think of themselves: “We’re told to look out for ourselves, and build the best life possible for ourselves. . . . having the most stuff; being on top socially; tearing others down that are in your way.” Countering societal and cultural influences goes beyond the scope of this intervention. However, it was hoped that targeting students along with their peers in a group setting might help to encourage them towards the adoption of shared commitments, to which they may be able to hold one another accountable.

*A “now” and a “me” focus.* Elizabeth’s assessment of peer pressure, society, and culture (above) foreshadows the second major theme that emerged as a barrier or obstacle to living sustainably. Namely, informants identified a “now” and a “me” focus among college students in general, including those in the church’s college ministry. They saw a lot of self-centeredness among their peers, seeing college as a time for oneself. Penny stated, “I’d say people are very focused on themselves, and on the here and now.” Put slightly more poetically, “we live for ourselves, and we live for now. And we don’t pay heed to the great abyss that is tomorrow . . . it’s just the living for the moment” (Yvonne). Finn argued that students’ focus on themselves and on the present is in part due to many students’ continued dependence on their parents: “you’re not independent yet, you don’t

have to be sustainable on your own. Financially, personally, you're still dependent on your parents." To counter this barrier, I determined that it would be important to promote both an outward and a future focus among participants.

*Infrastructural barriers.* The layout of the local community and concerns over access to opportunities for living sustainably comprised the *infrastructure* theme. Two different informants commented on how "spread out" everything is locally, so students have to drive to a lot of places. One of the informants contrasted the local layout with that of European cities, where "everyone walks or rides the bus . . . because everything is in a tight space." The other informant who expressed this concern noted the distance between the campus and the church (roughly 15 miles) and how that posed a barrier for students trying to live sustainably. In addition to layout, two informants expressed concern over access, specifically access to recycling services. Each of them expressed an interest in recycling, but lamented that their neighborhoods/apartment complexes do not offer recycling services. They also complained that the city "doesn't recycle glass."

Throughout the other iterations, this has been a common misconception. As mentioned earlier, the city does recycle glass, they just do not pick it up through their curbside recycling program. Rather, residents have to take their glass to the central recycling facility for processing. Responses indicated that dispelling this misconception would be important in the effort to encourage recycling among students. Yet, even that added step may present an obstacle to sustainable behavior, as can be seen in the following theme.

*Time and inconvenience.* Four informants spoke of the importance of *time and convenience* as barriers to living sustainably. Beth believed that many people view

sustainable living with a “hassle mindset.” Penny echoed, “it feels like and sounds like, to a lot of people, that it takes a lot longer” to live sustainably. Dana also commented, “to live sustainably isn’t necessarily the easy way.” Alice offered a specific example, wherein she and her roommates had recycled during the previous year, when they lived on campus and there was a recycling bin nearby, but had stopped when they moved to a place where there was not a bin near their house. Thus, a lack of convenience, and a burden on one’s time, can pose a barrier or obstacle to living sustainably. On the other hand, if living sustainably could save time, or appeal to the convenience needs of individuals, this barrier could possibly be leveraged as an opportunity to promote sustainable living. At a minimum, it is important to highlight behaviors that do not pose a burden on students’ time or convenience in their efforts to live more sustainably.

*Philosophical barriers.* Several of the informants identified *philosophical barriers* to living more sustainably. Penny talked about the tension that Christians sometimes feel between not worrying about tomorrow and still being good stewards of their resources. Alice echoed that sentiment, stating, “when I was growing up, I feel like there was a division between being Christian and being against the green movement almost. And kind of criticizing that. . . . versus now, I think I’ve grown in awareness that I’m called to be a good steward.” These philosophical barriers may be more perceived than actual, in that the argument can be made, from a biblical perspective, that sustainable living is in keeping with scripture. Providing a scriptural basis for living sustainably, and highlighting the personal, family, and community-level benefits to be obtained from a more sustainable lifestyle, may begin to counter those perceived barriers.

*Knowledge and awareness.* Knowledge and awareness may also be a barrier to living sustainably among *some of* the church's college students, if only to a certain degree. On the one hand, Elizabeth argued that "the whole green campaign is really out there. I feel like a lot of people are becoming more aware; so awareness is not a barrier—at least in terms of the environmental aspect." On the other hand, Penny argued the need for even more education regarding how to live sustainably, asserting that education is "the biggest thing," and that "the more educated you are, the more you know about sustainable living, and the better you would be at practicing it." Furthermore, even among those with a general awareness of sustainable living and related issues, there may be a shortage of knowledge among college students regarding the local opportunities for certain sustainable behaviors. Alice referred specifically to recycling, stating that "here, they don't specify to the neighborhoods what exactly they do, or how we need to sort, or why they're not doing that." Thus, an effort to increase awareness and education, in a way that is relevant to the students, may be an important factor in promoting sustainable behavior among those students.

#### *College Students' Values and Priorities*

Key informants identified a number of values and priorities among the church's college students, through their responses to the open-ended and ranking questions designed to elicit that information. In order of priority, those values and priorities included: 1) *social priority, social networks, and relationship building*; 2) *spirituality*; 3) *accomplishment and success*; 4) *community*; 5) *family*; 6) *image*; 7) *money*; 8) *the environment*; 9) *health and fitness*; and 10) *time*.

*Social priority, social networks, and relationship building.* Unlike previous iterations, *social priority, social networks, and relationship building* comprised the most important value among the church's college students, according to the key informants, seven of whom identified this value in the open-ended question. It was also ranked as most important by the key informants (in the aggregate) in response to the ranking exercise. With only two exceptions, the informants ranked this as the first or second priority among their peers. The emphasis that many students place on involvement in Greek Life was referenced as evidence for the social priority that informants observed. In addition, several informants talked about the importance of building close relationships and friendships outside of sororities and fraternities. Yvonne asserted, "a lot of people are desirous of building closer relationships and social networks that make us feel secure as we're away from home." Likewise, Elizabeth spoke of the value that solid friendships have for facilitating accountability. While the informants largely viewed this social value positively, Cindy's comments alluded to the potential for a less positive connotation. She confessed, "You always see people sacrificing school for relationships," and, related to church attendance, "I do kind of have a fear that some of the people going there are there for social reasons, and not to actually find community and other relationships. It's just the place to go right now for some of the students." This contrast indicates that there is room for balance in this aspect of students' lives, whereby they may value and develop friendships and other relationships, but without allowing those relationships to overshadow other priorities.

*Spirituality.* As with social relationships, *spirituality* was raised by seven informants in the open-ended question, although it was ranked slightly lower in the ranking exercise. Specifically, while five different informants ranked it as the number one priority among the church's college students, the other five informants' responses were more dispersed, with rankings anywhere between third and seventh in importance. Thus, overall, it was viewed as the second most important priority among students. The informants, for the most part, viewed students' faith as genuine. For instance, Yvonne expressed a belief that "most of the students at the church are there because they have a genuine desire to learn more about God and to serve Him." Cindy echoed, "I do feel like a lot of the students there and involved really do have the right motive and heart of it all." Several informants also offered concrete examples of students' commitments to the spiritual aspect of their lives, including: offering "Christian encouragement" to others; making regular church attendance a priority; and participation in weekly Bible studies and other Christian events. Those who ranked spirituality lower in importance typically offered the argument that, while students consider their faith to be an important priority in their lives, the way they prioritize and spend their time does not always bear that out. However, even in those instances, spirituality was generally seen as being a guiding principle for how they live their lives, an "umbrella" (Penny) under which everything else might fall. The placement of this value as second in importance indicated a potential opportunity to appeal to students' spirituality and faith in the presentation of the sustainable living curriculum, as well as to challenge them to seek an even deeper level of faith by practicing a lifestyle of sustainability.

*Accomplishment and success.* The value placed on accomplishment and success among the church's (and the university's) college students was evident in informants' responses to the open-ended question, even though this value was not included in the ranking exercise. Six different informants addressed issues related to this theme. Several talked about the importance of school and doing well academically, while acknowledging that this means different things to different people. In addition to the importance of educational success, future success was also an emphasis among informants. Hale, for instance, stated, "We're trying to make a name for ourselves . . . in our next phase of life." Cindy echoed this sentiment, saying, "Everyone's so futuristic minded; like, where am I going to be this time next year; just looking to the future, and how to better their chances for the future." This acknowledgment of the future as the next stage in life, and one in which students are likely seeking a degree of success, provides a springboard for a discussion about what constitutes "success" in life, and how a sustainable lifestyle might fit into students' definitions of success.

*Community.* *Community* was also seen by key informants as an important priority among the church's college students. Six different informants referenced community (typically, but not exclusively, a sense of community, rather than service or outreach *to* the community) in their responses to the open-ended question, and it was ranked as third in overall importance among the options in the ranking exercise. Individual rankings for community ranged from second to fifth in importance. Informants talked about the importance of "a sense of belonging," "feeling a part of something," and "having a community . . . a group of people to hang out with, live life with." Although the



connotation of community did relate largely to this sense of community for the informants, several comments also indicated the importance of service *to* the community. Hale, for example, claimed, “A lot of people just want a sense of involvement in community, and if they join the [church] college ministry, at the core they’re doing it to serve.” Penny echoed, “I feel like there’s a lot of servant hearts among all of them. They want to help others. They want to do things that will make the world a better place to live.” The value placed on community, in both senses of the word, by the church’s college students provides an opportunity to focus on the different aspects of the social dimension of sustainable living; and that dimension, in particular, may resonate with the church’s college students.

*Family.* The value of *family* was suggested by six different informants in the open-ended question, and was ranked as fourth in overall importance in the ranking exercise. Individual informants ranked it as anywhere from first in importance to seventh, with a number of different rankings between. Those rankings, as well as the open-ended comments made by informants, indicated some level of tension regarding the value of family. On the one hand, the informants acknowledged the crucial importance of family. As Beth noted, “[students are] always . . . excited to go home to their families.” Likewise, she mentioned how students often share prayer requests regarding their families in Life Group. Elizabeth commented, “Everyone I know is very close to their family. . . . I think it’s very high on everyone’s list.” Several talked about the church’s family feel as one of the primary reasons why students choose to attend this church, as opposed to others. On the other hand, a number of informants suggested that students may appreciate the time

away from their families that college facilitates. Cindy, for example, said, “For some of them, they’re glad to be away from [their families] and making their own way.”

Yvonne’s comment best captured this dichotomy regarding the value of family:

I think family is important, but when you get into the college bubble, we care more about ourselves and when we go home, we care more about our family. I know that sounds harsh, but it’s sort of the reality. . . . I think everyone values family relationships . . . but it’s just not an immediate concern. . . . I think those are set relationships; and for a lot of people they’re secure relationships, and if they’re not secure, they’re distant relationships.

In response to the dichotomy observed within this value, the curriculum provides an opportunity to reference the benefits of sustainable living to present and future family members, but does not require that too great an emphasis be placed on this aspect of sustainable living. There also exists an opportunity to shift participants’ focus to their families, and to the priority that their families should occupy within their lives, from the perspective of sustainable living’s social dimension.

*Image.* *Image* was mentioned by two informants in the open-ended question as an important value among the church’s college students, although it was not included as an option in the ranking question. Yvonne saw image as encompassing “more trivial concerns, such as looking cute.” Finn, in contrast, thought of image more abstractly, asking rhetorically, “What do you associate yourself with? When you say my name, what is the first thing that you think of?” This concept of image, or identity, may have elicited

further insight from other informants, had it been included as an option in the ranking question. Because it was not, it is difficult to state, with certainty, the level of importance that the church's average college member would ascribe to this value. Nonetheless, it was important to acknowledge its potential presence among participants in the educational programming component of the intervention, and to be sensitive to its potential implications regarding, for example, the kinds of behaviors that students might be willing or unwilling to adopt.

*Time.* *Time* was not mentioned as a value by any of the informants in response to the open-ended question, but was ranked as between second and fifth in importance (fifth in importance overall) in the ranking exercise. Comments provided by informants as they elaborated upon their reasons for ranking different items as they did indicated, as with family, a sense of tension regarding time. Many acknowledged the importance of time, with Penny referring to it as “a huge deal” and Yvonne calling it “the main currency of our lives.” Almost all of the informants also agreed that students believe that they do not have enough time, as evidenced by their busy schedules, and their unwillingness to commit to various activities that might conflict with those already-busy schedules. Elizabeth, however, provided a negative case example, in that she viewed time as an “endless resource that we think we have.” She cited the change from high school, where classes met from 8:00 a.m. to 3:00 p.m., to college, where classes take up a much smaller portion of students' time. As a result, she sees students as having a mentality of, “oh, I have so much time to do everything.” It may be that this mentality is present, and that it prompts students to commit to many different activities, ultimately leaving them with less

time than they thought they had. Regardless of how much time informants perceived other students to have, most agreed that the average student is not necessarily good at managing their time. Thus, although time was not seen as the highest priority among the church's college students, appealing to the benefits of sustainable living for improved time management and consequent stress reduction was seen as serving as a promising strategy for promoting behavior change. In addition, the importance of time reiterates the importance of fitting the sustainable living curriculum into an existing, allocated time slot, rather than asking students to commit to yet another event or activity for which they may not have time, or at least may not perceive that they have time.

*Money.* *Money* was only suggested as a value or priority among the church's college students by one informant in the open-ended question responses, and was ranked between third most important and least important (sixth in importance overall) in the ranking exercise. Although the informants agreed that the students exhibited varying degrees of financial security, the general consensus was that the majority of students were fairly well-off, financially, and therefore not greatly concerned about money. Many informants talked about how a lot of students are dependent on their parents for their financial resources, and are not necessarily held accountable for how they use those resources. Thus, at least for those students, it is not a concern. Informants also acknowledged that there are students who have to cover their own expenses, through scholarships, loans, or part-time jobs. For those students, they argued, money is a much more prominent concern. Nonetheless, the impression was that, even for those students, money is a greater concern at some times (the beginning and end of each semester) than

others (during the middle of each semester). Hale pointed out, though, that for all of these students, money will likely become a much higher priority once they graduate, and are responsible for their own earnings and expenses. Drawing attention to that point, which for many of the participants may not be too far in the future, when they will have to begin managing their finances, offers an opportunity to discuss what it looks like to manage those resources from a biblical perspective, and with a sense of stewardship.

*Health and fitness.* Neither *health* nor *fitness* were raised by informants as a response to the open-ended question regarding values and priorities among the church's college students, and health was ranked as sixth or seventh in importance among all but one informant (seventh in overall importance), who ranked it as third in importance in the ranking exercise. As evidenced by their elaborations on their ranking responses, informants agreed with informants from previous iterations, who saw health as something that is often taken for granted. Yvonne, for instance, confessed, "unless someone has a health issue or problem, it's not a concern." Cindy echoed that "a lot of times, health isn't a part of the picture until you don't have it. It's one of those things that many people take for granted. . . . if you have it, I feel like it's just in the back of our minds." In taking health for granted, a number of informants talked about the habits of typical college students (i.e., staying up late, eating poorly, not going to the doctor, and so forth) as not demonstrating a health-conscious lifestyle. On the other hand, when asked about the idea of fitness, most informants viewed that as more important to students than health more generally. They talked about how many of the church's college students (and others at the university) run or go to the gym quite often. This, however, was perceived to fall under

the priority of image, more so than health. Thus, it seemed that it may be helpful to briefly address the health benefits of living more sustainably, particularly the health benefits that might also be beneficial for the more image-driven fitness efforts of students. However, given a limited amount of time for curriculum presentation, this finding indicates that other values should be more greatly emphasized for this group.

*The environment.* *The environment* was not listed as a value or priority among the church's college students in the open-ended responses of informants. Furthermore, with the exception of one informant (who ranked it as sixth in importance in the ranking exercise), all of the informants ranked the environment as eighth in importance, that is, least important among the eight options. That ranking seems to indicate that students are not at all environmentally motivated, but Hale made an insightful observation in that regard: "It will be like, obviously eight . . . but I mean that as eighth-best, not as the worst." Likewise, Dana commented, "in the midst of all these [other priorities], like, it's just an afterthought to people. . . . it's just definitely last." Greg added, "I mean, people care about not trashing the streets and whatever, but as far as, like, recycling, or saving gas, *for the purpose of the environment*; I feel like people don't really care about that that much . . . it would be, like, to save money, not for the environment."

And yet, informants indicated that students are not completely unaware of, or unconcerned about, the environment. Instead, as Yvonne pointed out, "it's just not a daily thought." Similarly, Elizabeth confessed, "I don't think a lot of students are thinking about the environment. . . . I wouldn't even say it's really on the radar." In addition to being an afterthought for students, a number of informants questioned whether

environmental motivations would compel students to change their behavior. Two informants provided concrete examples of this assessment:

If I'm going to class, and it's not that far, and I own a bike, I'd still rather drive, because time is higher on my list than seeing how there's going to be damaging emissions to the environment; because I'm going to see the direct reflection of saved time, rather than a healthier environment."

(Hale)

I don't think thinking about the environment would change people's actions, like, what they did. Like I don't think, if someone wanted to take a road trip in college with friends, I don't think students would think about the waste of gas; at least I don't think that would stop anyone. Like, when you're thinking about doing something, I don't think that's a factor that they consider." (Elizabeth)

I also asked informants why they thought the environment was not more important to students, why it wasn't a daily consideration in their decisions. Responses to this question varied among informants, but each provided potential insight into the thoughts of the church's college students. Cindy, for example, responded, "I think because it's such a 'huge picture.' It's like, what I do personally isn't going to affect the whole entire world. And I think it's hard for a lot of people to grasp that one person can make a difference." Alice suggested that the lack of consideration may be "because the environment doesn't have a voice. . . . meeting the needs of others, it at least makes you

feel good. But with the environment, it doesn't say any words of affirmation, like "thank you." Beth spoke of the lack of environmental concern specifically among the church's college students:

I don't think I've ever talked to my Life Group about anything related to the environment. . . . I just feel like it's almost like a separate thing. Like, people don't really think of the environment when they think of going to church. . . . you know, I just, I don't think they think of going green and going to church with the same mindset . . .

Finally, Alice added what she believed might promote a greater emphasis in students' minds and actions on the environment: "I think it has to be an internal, 'Okay, Lord, you've given me this beautiful earth; so I want to take care of it for future generations.'" Her comment speaks to the potential that the sustainable living curriculum has to promote more sustainable behavior among the church's college students. An emphasis on the stewardship aspect of a sustainable lifestyle, and on the biblical consistency of living sustainably, has the potential to prompt students to commit to adopting more sustainable behaviors. That stewardship motivation, along with the other practical motivations indicated by the informants' comments, has the potential to influence students' decisions.

#### *Recruitment Recommendations*

*Potential interest.* Informants shared insights regarding the extent to which they believed that the church's college students would be interested in learning about how to live more sustainably. Six informants believed that their peers would be interested in learning how to live more sustainably, four of whom used the term "definitely" in their



responses. The most prominent reason offered for the expected interest among other college students was the stage of life in which college students are currently involved. Alice asserted that “this is the time to be analyzing and thinking about what you were raised with and observing that and observing . . . how that fits into your worldview.” Likewise, Penny offered, “it would be something that a lot of people would come to and benefit from. . . . especially going out in the business world, or into jobs, and starting their own lives, that they would know how to do it in a responsible manner.

In spite of the positive responses expressed by the majority of informants, four others expressed some hesitation and uncertainty regarding potential interest in the workshop, expressed through the use of qualifiers such as “probably” or “I think so.” Two different informants corroborated a concern that students may not be overly-interested in the environmental aspect of living sustainably, largely because it is something about which students have heard a lot in the past, and with which they feel that they are already familiar. Elizabeth commented that “after awhile, it just gets kind of old. . . . But I definitely think that we don’t think about the cultural or economic aspects of it as much. So I think that . . . some kind of teaching on that would be really cool.”

In contrast to the extremely and moderately positive responses regarding potential interest among the church’s college students in this type of programming, none of the informants suggested that their peers would *not* be interested in such programming. However, even those who were enthusiastic about potential interest were quick to point out that interest and participation would depend largely on the timing and format of the “workshop.” Specifically, it would have to be made very convenient for people, so that it

would not conflict with existing priorities and commitments. For promoting interest, it would also be important to highlight the three-dimensional definition of sustainable living, so that students would expect to learn new and beneficial information.

*Effective behavior change.* As part of each key informant interview, I asked informants to share how they believed the church's college students could be "effectively encouraged to make more sustainable choices." The wording and scope of that question changed slightly from previous iterations, but produced a number of findings consistent with those iterations. In addition to highlighting recommendations for increasing the potential appeal of the educational programming, responses provided further support for findings indicated by informants' responses to other interview questions (i.e., those regarding values and priorities, and so forth). Themes arising from their responses, indicating their recommendations for effectiveness, included: 1) maintaining *a biblical, or stewardship, focus*; 2) presenting the curriculum in a *Life Group format*; 3) identifying "*champions*" for the cause of living sustainably; 4) establishing a system for *goal setting and accountability*; 5) emphasizing the *reasons* why students might want to *live more sustainably*; and 6) providing *practical tips and examples* for how to live more sustainably.

Five different informants stressed the need to maintain *a biblical, or stewardship, focus*, as opposed to an emphasis on the more traditional definition of sustainable living. Hale suggested an appeal to balance, simplicity, and stewardship, confessing, "That's appealing to me. I'm just not crazy about 'sustainability,' because, well, based on my definition, it's all about the environment." Penny also thought that "people in the church

would respond to stewardship, because we're called to be good stewards of what we've been given." Also, like Hale, she thought that stewardship would be "a less intimidating word." The informants agreed that the three-dimensional definition of sustainable living would fall under the umbrella of "biblical living," in general, and that such a focus would resonate with the church's college students. Yvonne, for instance, asserted, "there's obviously a certain mentality that you have toward life, and how it ought to be lived, and to the end of God's glory." In her estimation, a sustainable lifestyle would reflect that mentality.

Six different informants expressed support for trying to present the curriculum in the traditional *Life Group format*. In addition to the aforementioned concerns over students' time and schedules, informants offered other reasons for finding this format preferable. Finn thought that the commitment that Life Group members had already made to participating would indicate a greater willingness to further commit to living more sustainably. Alice added that the personal relationships among Life Group members would promote candid discussion and openness. Penny, although not a member of a Life Group, reasoned that "I'm sure that it's a big deal to do things with your Life Group."

Four different informants discussed the importance of identifying "*champions*" for the cause of living sustainably. Alice thought that securing the support of the Life Group leaders would be the best way to do this, whereas the other informants focused on the potential contribution of other, influential students in this regard. Elizabeth thought that these individuals should be empowered to "take ownership and leadership" of the

group effort. Cindy argued that these champions should be “really interested and want to follow through.”

Four informants highlighted the importance of *goal setting and accountability*, that is, “making sure that change happens” (Elizabeth). Informants thought that the two previous recommendations would aid in promoting a sense of accountability, because Life Group leaders and fellow Life Group members are in a position to continue the discussion on sustainable living throughout the rest of the semester. Alice suggested that leaders could periodically ask their Life Group members what they could be working on, and how their efforts at more sustainable behavior are going. Other suggestions were to include challenges, a competitive motivation, and benchmarks for achieving goals in the direction of greater sustainability (i.e., “preserve this much, only spend this much this month, maybe have a checklist” (Beth)). Regardless of format, it was clear from informants’ responses that some form of accountability would likely improve the probability of effectively achieving behavior change among students.

Four different informants also suggested emphasizing the various *reasons to live more sustainably*. One main reason that informants highlighted for learning how to live more sustainably was that this is a time in life when students are preparing to transition to adulthood and independence. Penny pointed out, “I think it’s important for us in the transitioning phase; we’re starting to get our habits and our lifestyle.” Hale echoed that it would be important to “get [students] thinking about what it will be like when they’re on their own, and how they’ll benefit from living more sustainably.” Hale’s allusion to the benefits of living sustainably illustrates another major reason that informants found

sustainable living education appealing. Dana also referred to this aspect of living sustainably: “college students love incentives. If there’s some kind of positive benefit, to be completely honest, for THEM individually. I mean, college is a really me-focused time, and I think that’s what everything’s catered to.” Finally, Hale cited the biblical justification for living more sustainably, stating:

The Gospel may be a reason why to live sustainable. So not necessarily having these people that tell them what to do, but first look at the core and say who they are and why they should do it. So then, I guess their actions are less just doing things, and more “I’m doing them for a reason.”

Some of the reasons offered reflected an outward focus, but others reflected a concern for self-interest, or a combination of both motivations. The consensus was that the aim should be to appeal to existing motivations and reasons for living sustainably, rather than pursuing a change in motivations among participants.

Four different informants echoed participants in previous iterations (both key informants and workshop participants), who called for *practical tips and examples* of how to live more sustainably. As Hale recommended, “really focus on, okay, here’s how you can live sustainably.” Those tips and suggestions could also be designed to serve the purpose that Penny highlighted, that is, to “convey the fact that it’s not this huge lifestyle change. . . . that it’s anywhere from small to big, and it’s very doable. . . . Just little daily things . . . like turning lights off if you aren’t using them. . . . and water usage.” The curriculum presentation could include, as Greg recommended, information about behaviors that are and are not sustainable. Hale suggested that one way of conveying

practical tips and examples might be to “get students who are living more sustainable [sic] as kind of a testimony to that, where they can explain, you know, ‘here’s what I’m doing.’” Regardless of the methods, it was clear that this would be an important component of the curriculum presentation.

#### *Adaptations in Response to Interview Findings*

In response to themes arising from the key informant interviews, as well as to feedback obtained from previous iterations, the remainder of the intervention, including curriculum design and presentation, was adapted accordingly. Details of those adaptations, as well as of various elements included, follow. Adaptations and elements included in the curriculum promotion and presentation fall under the following themes: 1) presentation of the curriculum in a *Life Group format*; 2) application of a *three-dimensional focus and terminology*; 3) *integration of the three dimensions of sustainable living*; 4) emphasis on a *biblical, or stewardship, focus*; 5) promotion of a *future focus*; 6) promotion of an *outward focus*; 7) facilitation of *increased awareness of local opportunities*; 8) prioritization of *time and convenience*; 9) emphasis on the *reasons* why students might want *to live more sustainably* (appealing to existing motivations and reasons for living sustainably, rather than pursuing a change in motivations among participants); and 10) provision of *practical tips and examples* for how to live more sustainably, including small everyday changes.

*Life Group format.* For a number of reasons, the fourth iteration was adapted to fit the format of a traditional Life Group meeting. Life Groups (small groups of roughly 8-14 people) generally meet on a weekly basis at an established time. The first anticipated

benefit of fitting the curriculum into this format was to honor students' existing commitments and obligations. Although time was not seen as one of the *most* important values of the church's college students, according to key informants, many of those informants did agree that their peers were very busy, and that they would more likely participate in an event that neither conflicted with existing commitments, nor required them to make additional commitments. Life Group meetings typically involve a good deal of discussion as well, which was expected to help address a recurrent suggestion from previous iterations: that the program should include more discussion, involvement, and interaction with other participants. That increased time for discussion was also included to allow participants to share their own experiences, learn from one another, and brainstorm about various ways to live more sustainably. However, the time allotted for these meetings and the amount of material to be covered in that time precluded the use of the pre- and post-workshop questionnaires that were used in previous iterations. Although that meant the loss of some quantitative analysis, omitting those surveys also addressed another concern that was voiced by participants in previous iterations, namely, that those surveys were long and tedious. Thus, omitting them served not only to meet logistical needs, but also to improve the appeal of the program to the participants. In order to gather the most pertinent information from those surveys, a shorter version was created and administered at the end of each meeting (see Appendix D). The Life Group format was also expected to help overcome the negative influence of peer pressure referenced by informants as an obstacle to living sustainably. Namely, the curriculum presentation targeted students in a group setting amongst their peers, in order to encourage them

towards the adoption of shared commitments, and towards accountability to one another. Collaborating with existing Life Group leaders was also expected to aid in the identification of “*champions*” for the cause of living sustainably and the establishment of a system for *goal setting and accountability*, both of which were identified by informants as having the potential to effectively promote sustainable living among their peers. Thus, while this format did present the potential for disadvantages, the advantages to be obtained from switching to this format were expected to outweigh those disadvantages.

To recruit participants, I contacted college Life Group leaders from both 2011 and 2012 (48 leaders in all). I invited each of them to contact me to schedule a time for me to meet with their Life Group. Two messages came back as undeliverable, and two other leaders responded informing me that they were no longer leading Life Groups. One leader responded with enthusiasm regarding the project, and we corresponded further to coordinate a meeting with her Life Group. I also followed up with personal e-mail messages to two leaders with whom I am personally acquainted, asking them directly whether they would be interested in collaborating with me on the project. Both indicated interest in the project and we scheduled dates for me to facilitate their meetings. Those three Life Groups were the only ones for whom the leaders expressed interest in participating. Thus, all three were used for the fourth iteration of the intervention.

*Three-dimensional focus and terminology.* As with the previous iterations, it was important to highlight the three-dimensional focus of the definition of sustainable living, and to go even further toward using inviting terminology. Many informants agreed that the terms *sustainability* and *sustainable living* might invoke environmental connotations



and impressions among their peers. A number of them also felt that an environmental focus would not appeal to students, because many feel bombarded with information about the environmental dimension, given ongoing campus “greening” efforts. They did feel that students would find value in education regarding the social and economic dimensions especially. Their comments and impressions suggested that a focus on that three-dimensional nature of sustainable living, as well as a possible change in the terminology used, would be essential to improving the appeal of, and potential interest in, participation in sustainable living educational programming. Informants also agreed that students are at an appropriate life stage to begin thinking about issues of sustainability. The sentiments expressed by informants support comments made by the qualitative observer during the previous iteration, namely, that the idea of balance as an important component of sustainable living really resonated with participants and should be highlighted to an even greater extent than it was during that iteration.

For the fourth iteration, the three-dimensional definition of sustainable living was highlighted in the introduction to the topic of Life Group discussion, as well as in several of the discussion questions (see Appendix G). In the introduction, I used the words stewardship and balance several times each, and enumerated some of the areas of life that are subject to consideration in that regard, including: time, relationships, health, finances, and other resources. The discussion questions that addressed this issue of three-dimensionality include: 1) Compare sustainability and stewardship; and 2) ...what are some of the things that you do personally to live more sustainably—economically, socially, and/or environmentally? These questions were included to promote in-depth

discussion about what a sustainable lifestyle, a lifestyle of stewardship and balance, entails along all three of the dimensions of sustainability.

*Integration of the three dimensions of sustainable living.* Even after learning of the three-dimensional definition of sustainable living, many informants, when asked about their personal efforts toward sustainable living, focused on behaviors geared towards just one dimension. Ideally, after participating in sustainable living programming, students would commit to adopting behaviors that are sustainable along all three dimensions of sustainability. A major idea within the concept of living sustainably is to encourage individuals to holistically consider all three dimensions in each of the decisions that they make on a daily basis. Thus, the integration of the three dimensions is an important aspect of the curriculum presentation, in order to avoid the dimensions being viewed as distinct from one another.

Other responses from the key informant interviews also indicated a need to focus on integration among the three dimensions of sustainable living. Those findings suggested several directions for the curriculum presentation:

1. The value that students were perceived to place on social relationships indicated that there is likely room for more balance in that aspect of students' lives, whereby they may value and develop friendships and other relationships, but without allowing those relationships to overshadow other priorities.
2. Informants' recognition of the importance of accomplishment and success among their peers suggested that the curriculum presentation would need to address, and possibly seek to influence, students' definition of what constitutes "success" in life, and how living sustainably may fit into those definitions.
3. To appeal to existing values of family (that is, those that highly value family and those that also highly value newfound independence from family), the curriculum

would also need to briefly reference benefits of living sustainably to students' present and future family members; and to possibly highlight the importance of family so that students might begin to place a higher priority on the role of their family relationships in their daily lives.

4. It would also be important to acknowledge the potential presence of a high value placed on image among participants in the workshop, and to be sensitive to its potential implications regarding, for example, the kinds of behaviors that students might be willing or unwilling to adopt.
5. Because health seemed not to be as great a concern for students as it may be for participants in other iterations, it would receive less attention in the curriculum presentation than it might for other audiences.
6. The environmental dimension would be an important component regarding which biblical consistency would need to be established (see the section below on maintaining a biblical, or stewardship, focus within the curriculum presentation).

By incorporating the above suggestions, it was anticipated that students may be more effectively encouraged to respond favorably to the curriculum presentation, and to commit to adopting more sustainable behaviors in response.

In addition to addressing the points above, integration was emphasized in several of the discussion questions for the Life Group meetings. Specifically, students were asked: 1) ...What are some behaviors that might be more sustainable along all three dimensions [of sustainability]?; 2) Can you think of some examples where options conflict and require trade-offs and compromises among the three dimensions of sustainable living? How do you make decisions about your actions in those cases?; and 3) When you think ahead to the future, and imagine what it would look like to achieve success, what does that look like? And how might a sustainable lifestyle fit into your definition of success? These questions were designed to promote discussion regarding the

concept of integration among the three dimensions of sustainable living, and to get students to think consciously and intentionally about all three dimensions in their choices.

*A biblical, or stewardship, focus.* Maintaining a biblical, or stewardship, focus in the curriculum presentation sought to address several findings from the key informant interviews. First, to counter the philosophical barriers that were identified by some of the informants, the curriculum—as in the two previous iterations—provided a scriptural basis for living sustainably. In addition to countering any existing philosophical barriers, that biblical focus was also included to appeal to students’ values of spirituality and faith, by first highlighting the scriptural consistency of a sustainable lifestyle, and second challenging them to seek an even deeper level of faith and spirituality by practicing a lifestyle of sustainability. Finally, in order to encourage students to place a greater value on the environmental dimension of sustainable living, the presentation sought to establish biblical consistency regarding that dimension. The biblical, or stewardship, motivation, along with the other practical motivations indicated by the informants’ comments, was seen as having the potential to influence students’ decisions along that dimension.

In addition to highlighting the biblical focus of the intervention through the promotional and recruitment materials (see Appendices S-U), several aspects of the Life Group meetings focused on this same biblical, or stewardship, focus. In the discussion guide’s title and introduction, for example, the words “biblical” and “stewardship” are used frequently. Also, I asked students (rhetorically) to consider “how [they could] best glorify God through [their] lifestyle?” I followed with the statement that:

The Bible has a lot to say on the topics of stewardship and balance (through the parable of the talents, the parable of the rich young ruler, the parable of the Good Samaritan, etc.). If you read all of these parables, and other Scripture references, you'll see that the Bible offers instruction about how we live our lives—from a social, an economic, and even an environmental perspective. Some of you may recognize those as the three dimensions of sustainability, or a sustainable lifestyle. But conscious consideration of those same dimensions also reflects balance and biblical stewardship.

I then offered a number of additional scriptural references that students could look up later on their own to see some of the examples of scriptural consistency supporting a sustainable lifestyle.

Finally, I included two discussion questions that addressed the issue of students' faith and beliefs, and prompted them to think about the biblical focus of the discussion material. The first, "Compare sustainability and stewardship," was included to help students understand the significant overlap between those two terms, in addition to its previously-stated purpose of highlighting the three-dimensional nature of sustainability. The second question asked, "What are your values and priorities, and how do your behaviors line up with those values?" Based on the expectation that students' values would include faith and/or spirituality, this question was expected to prompt thoughts and discussion in that direction.

*A future focus.* To counter the “now” focus identified by informants as a barrier to living sustainably, it was important to promote a future focus among participants. Establishing that future focus was expected to encourage students to begin thinking more deliberately about various aspects of a sustainable lifestyle. For instance, as Hale pointed out, money will likely become a much higher priority once students graduate, and are responsible for their own earnings and expenses. Drawing attention to the point when they will have to begin managing their finances, which for many of the participants may not be too far in the future, provided an opportunity to discuss what it looks like to manage those resources from a biblical perspective, and with a sense of stewardship.

To promote this future focus, I included introduction components and discussion questions geared toward that end. Specifically, in the introduction, I stated:

As college students, you’re in a unique period of transition from a life of dependence on your parents to one of independence. As such, now is the perfect time for you to begin thinking about what it means to live a lifestyle of stewardship and balance. It’s time to start thinking about how you plan to manage your time, relationships, health, finances, and other resources after you graduate.

In addition to the above comment, I listed a number of benefits of living sustainably, and pointed out that those benefits would carry over to the students’ present and future families.

Regarding the discussion questions’ focus on the future, I noted that a number of sustainable behaviors, and particularly those that people often think of, relate to having a

home. We talked about some of those, and I gave some personal examples, before I asked the students to think about some behaviors that they could adopt even now, while still in college. Also, the question above, about what future success looks like, and how a sustainable lifestyle might fit into that ideal, was designed to trigger thoughts about the future.

*An outward focus.* In addition to countering students' "now" focus, it was also important to counter the "me" focus that was identified by informants. One strategy used to establish a more outward focus among participants was to appeal to students' values of both a sense of community and a commitment to community service and outreach. The presence of those values among the church's college students indicated that the curriculum presentation should include a focus on the different aspects of the social dimension of sustainable living; and it was hoped that a focus on that dimension, in particular, would resonate with the church's college students.

Again, the introduction to the group discussion, as well as the discussion questions themselves, were used to promote an outward focus. In terms of the introduction, I gave several examples of what people could do to live with a greater sense of balance and stewardship, all of which contained an outward focus, to some extent: 1) maintain healthy relationships with friends and family; 2) participate regularly in community service and outreach opportunities; 3) wisely manage the resources that God has entrusted to you (money, time, talents, etc.); and 4) demonstrate care for God's creation (the environment) through your actions. As far as discussion questions, the question asking the students to share the kinds of sustainable behaviors in which they

already participate asks them to consider economically, *socially*, and environmentally sustainable behaviors. Again, as above, the question asking students about their values and priorities, and how their behaviors line up with those values, was expected to prompt students' thoughts toward the social motivations that the key informants indicated as present among their peers.

*Increased awareness of local opportunities.* Countering community-level infrastructural barriers remains outside the scope of this intervention. However, the curriculum presentation did seek to dispel common misconceptions about the city's recycling infrastructure, in an effort to encourage an increase in that particular behavior. In so doing, it also sought to overcome the barrier presented by a lack of knowledge or awareness that informants identified as potentially problematic. The specific ways in which this awareness issue was addressed included: 1) the discussion question regarding what students could do now to live more sustainably, which inherently also includes a *here* component, as well as a *now* component; 2) the discussion question asking students to identify barriers or obstacles to living a lifestyle of stewardship on a daily basis, which was expected to uncover and overcome some common misconceptions regarding the local infrastructure; and 3) the provision of print resources containing local, as well as more general, opportunities for living more sustainably. Regarding the print resources, it should be noted that, rather than setting up a resource table for the fourth iteration, each participant was given a small "packet" of information containing the relevant print resources, along with the workbook that had previously accompanied and structured the curriculum presentation.



*Time and convenience.* When asked about the potential interest among the church's college students in learning more about sustainable living, informants highlighted the importance of making the programming accessible from a perspective of time and convenience. Thus, I attempted to avoid conflicts with existing priorities and commitments by coinciding the "workshops" with regular Life Group meetings (see description in the section above on coordinating with Life Groups). I also attempted to avoid conflicts presented by popular events on campus (i.e., sporting events, Homecoming festivities, etc.).

Further, the curriculum presentation highlighted behaviors that would save time, or appeal to the convenience needs of individuals. In this way, it was hoped that what has perhaps been viewed as a barrier could possibly be leveraged as an opportunity to promote sustainable living. In addition to highlighting time-saving and convenient behaviors, the curriculum also emphasized behaviors that would not pose a burden on time or convenience. Although time was not seen as the highest priority among the church's college students, appealing to the benefits of sustainable living for improved time management and consequent stress reduction was considered to be a promising strategy for promoting behavior change.

My efforts to address issues related to time and convenience in the curriculum presentation itself primarily involved several of the discussion questions. Specifically, by asking students to share the kinds of sustainable behaviors that they have already adopted, to identify barriers and obstacles related to other behaviors, and to list behaviors that they could potentially change now, as college students, I hoped that students would

begin to brainstorm amongst each other the different options for behavior change that might suit their time and convenience needs.

*Reasons to live more sustainably.* There are many reasons to live more sustainably. A number of those reasons appeal to the existing values of the church's college students, as perceived by the key informants. For instance, as noted above, there are valid and compelling reasons for adopting sustainable behaviors on the basis of value placed on social and family relationships, faith and spirituality, community, and time.

As mentioned above, the introduction to the Life Group discussion time included a section describing some of the benefits of living a sustainable lifestyle. Specifically, I stated:

There are a lot of reasons to want to live with stewardship and balance, even beyond seeking to glorify God through your lifestyle. Research has shown that such a lifestyle will benefit you personally, by improving your levels of happiness and satisfaction in life, as well as your physical, psychological, and spiritual health.

And again, I noted that those benefits would apply not only to the students directly, but to their families as well.

*Practical tips and examples.* Although the number and variety of practical tips and examples provided has increased with each successive iteration, participants still crave more of those. Furthermore, informants for the fourth iteration anticipated that such tips and examples would be highly valued among the church's college students who would choose to participate in a sustainable living educational program.

Thus, I incorporated a greater focus on that aspect of the curriculum in three different ways. First, I included personal examples of sustainable behavior, as I have in previous iterations. Second, I asked discussion questions designed to elicit students' personal examples and ideas for how to live more sustainably, at a practical level. That is, the questions regarding what students *already* do to live more sustainably and what they *could* do to live more sustainably were another opportunity to highlight potential behavior change options. Finally, the print resources provided to students highlighted even more opportunities for sustainable behaviors.

#### *Educational Programming (Phase II)*

Between October 8 and October 25, 2012, 3 different college-aged Life Groups participated in educational programming events designed to teach them how to live with a greater sense of balance and stewardship, in other words, more sustainably. A total of 38 participants were present across the three Life Group meetings: five adult leaders, one student leader, and 32 students. Both leaders and students were considered participants for analytical purposes.

The first and third Life Groups were comprised solely of female participants (11 and 12 participants, respectively). The second Life Group included ten male and five female participants. Thus, overall, males comprised 26.3% of participants, whereas females comprised 73.7%. This distribution of males and females is likely representative of the college ministry at the church more broadly. During key informant interviews, it became clear that a much higher number of females are involved in the ministry than males. However, since church attendance and membership records are somewhat

incomplete and out of date, there is no way to determine with certainty the degree to which the distribution is representative.

With the exception of adult leaders, and based upon survey responses (several participants did not fill out surveys, because they had to leave early for other engagements), participants were 18.5% (n = 5) freshmen, 25.9% (n = 7) sophomores, 25.9% (n = 7) juniors, and 21.4% (n = 6) seniors. Thus, all academic years were fairly well represented among the participants. Beyond sex and academic year, I was unable to collect the demographic data that were reported for previous iterations, due to the abbreviated nature of the survey instrument, as well as time limitations inherent in the Life Group format used for this iteration. Fortunately, the survey instrument did include enough substantive questions to evaluate outcomes of the intervention, the results of which are shared throughout this case description.

#### *Participation among Non-environmentally-motivated Individuals*

To reiterate, the first goal of this project has been to foster participation in sustainable living educational programming among participants who would not be considered environmentally motivated. To determine the extent to which that goal was reached for the fourth iteration, I incorporated several relevant questions into the discussion, as well as including one survey question designed to elicit this information. In actuality, however, participants' responses to a number of other questions also indicated their levels of environmental motivation. Here, I share observations from responses to all of those various questions, as a means of highlighting the consistency that exists across the responses (data triangulation).

*Perceptions of sustainable living.* Similar to the question asked in previous iterations (“What is the first thing that comes to mind upon hearing the phrase sustainable living?”), participants were first asked to compare sustainability and stewardship. I approached this question by separating it into two questions and asking participants to brainstorm some answers. First, I asked them what first came to mind when they heard the word *sustainability*. Second, I asked them what first came to mind when they heard the word *stewardship*. The answers were listed in two columns on a large piece of cardboard. Several observations arose from this exercise.

Regarding participants’ perceptions of sustainability, responses were more general than specific (across all three Life Groups). Two general responses that were repeated across the three Life Groups were: 1) enduring/endurance; and 2) consistent/consistency. Other general responses included synonyms for the terms *sustainable* and *sustainability*, such as: ongoing, continuity, self-sustaining, perseverance, even (without fluctuation), and long-lasting. Among the more specific responses offered, they were predominantly environmental. That is, for each Life Group, there was one reference to the environmental dimension of sustainability (i.e., alternative fuels, conservation of resources). On the other hand, only one response overall addressed the economic dimension of sustainability. It is important to note, here, that this response came from Life Group 1, and for that Life Group, the introduction to the discussion session preceded this particular discussion question. That means that participants were already aware of the three-dimensional definition of sustainable living by the time they responded to the question (the order was changed for that reason in subsequent Life

Group meetings). There was also one response addressing health (i.e., nutrition), which was offered by a participant in Life Group 3. That would fall under the social dimension of sustainability, but it appeared from her answer that the participant may have been somewhat confused (“Nutrition . . . it sustains you.”). Thus, the general nature of many of the responses indicates that participants possessed a limited understanding of the term *sustainability*. The fact that most of the specific responses referenced the environmental dimension suggests that the term may have the same environmental connotations that have been observed in previous iterations, at least for those who have a greater understanding of the concept.

As with participants’ perceptions of sustainability, their responses regarding the question of stewardship were also more general than specific. Two general responses that were repeated across all three Life Groups were: 1) responsibility, and 2) taking care of what you’ve been given, or what God’s given to you. The few specific comments that were made dealt with the economic and social dimensions of sustainability. Specifically, participants in Life Groups 1 and 2 talked about giving money and wealth management, respectively. Along the social dimension, participants in Life Groups 2 and 3 mentioned service as an important component of stewardship, and one participant in Life Group 2 spoke of the importance of work. None of the participants in any of the Life Groups noted any environmental aspects of stewardship. Thus, participants clearly viewed the two terms as distinct from one another, indicating a potential lack of awareness on their part that biblical stewardship includes caring for the environment.

That lack of awareness was suspected, and informed the development and inclusion of the two related questions. Upon completion of the group's comparison of the two terms, I explained the purpose of that exercise, which was to point out that, in spite of perceived differences between the terms (as evidenced by responses to the questions), they are related. That is, biblical stewardship includes responsible behavior along all three dimensions of sustainability. This explanation was offered to help ensure that the whole group would be on the same page, moving forward with the discussion, regarding what a sustainable lifestyle entails; and so that they would recognize the consistency between a sustainable lifestyle and a lifestyle that displays biblical stewardship.

*Personal sustainability.* For the fourth iteration, participants were asked to share, in a discussion format, some of the behaviors that they have personally adopted in order to live more sustainably. The majority of each Life Group's participants indicated making one or more active decisions to live more sustainably. The behaviors identified by participants encompassed all three dimensions of sustainable living, although to varying degrees.

Although participants in all Life Groups listed environmentally-sustainable behaviors, only members of Life Groups 1 and 3 offered these without being prompted. Interestingly, though, once participants in Life Group 2 were prompted to consider environmentally-responsible behaviors in which they currently participate, they listed more of those behaviors than either of the other Life Groups. Also noteworthy are the benefits of many of those behaviors along other dimensions of sustainability. For instance, between Life Groups 2 and 3, only one of the environmentally-sustainable

behaviors listed (i.e., recycling) failed to offer any concurrent economic or social benefit. Some of the behaviors with multiple implications included: conserving utilities, using energy-efficient appliances and fixtures, using reusable water bottles, picking up trash on the way to class, and walking or biking to class.

Likewise, many of the economically-responsible behaviors that participants listed have benefits along other dimensions of sustainability. For example, in Life Group 1, all of the behaviors that participants identified as economically-motivated (i.e., conserving utilities, driving a fuel-efficient vehicle, and reusing food and other household items) have environmental, as well as economic implications. Similarly, in Life Group 2, two of the four economically-sustainable behaviors listed (creating margin and limiting driving) could have other implications as well; environmental implications for limiting driving, and social implications for creating margin in different areas of life. Finally, the economically-sustainable behaviors listed by participants in Life Group 3 (cooking and making coffee at home) have environmental implications as well.

Among the socially-sustainable behaviors listed by participants, one consistent theme across Life Groups was that of relationships, and the importance of intentionality and depth in those relationships. Unlike the environmentally and economically-motivated behaviors described above, the socially-motivated behaviors that participants shared more frequently exhibited strictly social benefits, as opposed to benefits along other dimensions of sustainability. For instance, in Life Group 1, participants noted their intentionality and depth in relationships. Similarly, both time and relationships were big concerns for participants in Life Group 2. In fact, those same (Life Group 2) participants



immediately associated the social dimension of sustainability with the personal side of that social dimension, rather than considering social justice, community service, outreach, and so forth. After having that component explained to them, they were able to add several more ideas, but it did not occur to them initially as part of a socially-sustainable lifestyle. And again, for participants in Life Group 3, most of the social behaviors had strictly social implications, except for one participant's comment that she and her boyfriend like to cook and eat at home sometimes instead of going out, specifically because "it's more personal" (although this behavior would also likely have an economic benefit as well).

In total, the participants across the three Life Groups listed 33 behaviors in which they consciously participate in order to live more sustainably, along one or more of the dimensions of sustainability. It is also evident that one's motivation for participation in a particular behavior need not limit the benefits of that behavior to one specific dimension of sustainability. One participant in Life Group 2 also acknowledged the importance of what may seem like "small" behaviors: "Even really small things, like, I'll turn off the water while I'm brushing my teeth, because you're supposed to brush your teeth for two minutes, so if you just let the water run that whole time, you waste a lot of water . . .". Responses to this discussion question, then, indicate the presence of multiple and varied motivations among participants within this iteration.

*Living sustainably as a college student.* As a means of offering practical tips and examples for how to live more sustainably, participants were asked to brainstorm ideas about what they could do to live more sustainably, even now, while they were still in

school. Their responses to this question offered further insight into the degree to which they were motivated by the environmental dimension of sustainable living. Specifically, economically-sustainable behaviors were brought up most consistently in conversation, followed by socially-sustainable behaviors. Budgeting, saving money, and avoiding debt were the most common behaviors suggested by participants, with participants from all three Life Groups addressing the need for better financial stewardship. Members of all three Life Groups also listed socially-conscious behaviors, such as volunteering, community service, and cultivating relationships. Only participants in Life Group 1 mentioned environmentally-sustainable behaviors (ambient temperature control, walking around campus), and even those behaviors also have economic implications. Thus, participants' responses to this discussion question suggested that, even well into the discussion, they were still primarily driven by economic and social motivations.

*Values and priorities.* Group discussions regarding values and priorities (“What are your values and priorities, and how do your behaviors line up with those values?”) largely reiterated the findings suggested up to this point. Specifically, priorities were predominantly economic and social in nature. Financial stewardship was clearly the most important value espoused by a large number of participants, whereas others commented that economic and social values were often seen as a “toss-up.” Within the realm of the social dimension, relationships and time were, again, common themes; although, one participant did mention the importance of health as a personal value. The environment was consistently either omitted, or discussed as a very low priority among participants. For instance, one participant in Life Group 3 commented: “I would say that

environmental kind of takes a backseat, just because I'm all about doing what's cheapest, and not what's the best for you or whatever.”

In spite of the above responses, participants in all Life Groups identified Christian values as important to them. Those included such ideas as: placing God first in priority (along with family, friends, and service); caring for one's body and the environment; displaying servant hearts; conscientiousness of others' needs; consideration of others before self; being nice to people; and demonstrating commitment to the church body. Clearly, all of these examples of Christian values are in keeping with a sustainable lifestyle. Following the group discussion on that question, I pointed out the consistency and compatibility of a sustainable lifestyle with their existing values.

*Motivations for behaving sustainably.* To determine motivations for behaving sustainably, participants were asked in the discussion session, “Which of the three motivations (economic, social, or environmental) for living sustainably is most compelling for you, and why?” Additionally, the survey that participants filled out included a question asking them to rank seven different motivations as *most to least* important in their selection of sustainable behaviors to which they chose to commit in response to their participation in the workshop.

In response to the discussion question regarding motivations for living sustainably, participants seldom, if ever, considered the environment in their decisions. As one participant in Life Group 2 mentioned:

I'm really into carpooling, for gas and stuff. I mean, when we go to [church], it's a far drive, so if you go by yourself, it's a lot of gas. I mean,

I guess you can think of it from an environmental perspective, but that's not really my first thought. It's more about the economics.

To some extent, this question may have been confusing for some, so a lot of participants affiliated with the social dimension as the strongest motivation for their behavior. However, while they may be generally motivated by the desire for social interaction and the like, this question was really asking for the motivation behind sustainable behaviors *already* embraced by the participants. Answers to other discussion questions, then, seem to better reflect the reality that the economic dimension is the predominant priority and motivation for participants. As one participant from Life Group 2 stated, "Most of my choices are economically driven." That sentiment was echoed by many participants across Life Groups. Given the contextual evaluation of the economic dimension as the most important motivational driver for participants, the social dimension was clearly second in importance and influence for the participants across Life Groups. Finally, as reflected in this question, as well as the question on values and priorities, the environmental dimension was least important as a motivation for behaving sustainably across Life Groups.

In response to the survey ranking question, participants indicated, again, that the environment was the least important consideration in their choices regarding how to live more sustainably (with the exception of write-in responses, which were only offered by two participants). Specifically, the aggregate ranking for the environment as a consideration was 6.04 out of 7.00. By way of comparison, the order of importance assigned to the other motivations was: biblical stewardship (2.37); cost (3.00); health and

wellbeing (3.78); time management (4.11); social responsibility (4.19); and convenience (5.11). It is important to note that there were no significant differences in ranking across Life Groups, except for the importance of cost, which was ranked differently across Life Groups. This difference was identified using the nonparametric Independent-Samples Kruskal-Wallis Test. Specifically, seven (of eleven) participants in Life Group 2 ranked cost savings as number one in importance among the motivational choices, whereas participants in the other two Life Groups gave responses that were more evenly distributed across ranking options. Thus, the environment was consistently ranked lowest across all Life Groups.

The findings described above indicate an increased level of achievement with regard to the project goal of targeting and encouraging participation among non-environmentally-motivated individuals for this iteration. The analysis of responses for several different questions across data sources (discussion questions and survey data) adds credibility to this assertion.

#### *Behavior Change Commitments among Workshop Participants*

The second goal of this project has been to obtain behavior change commitments from workshop participants. The survey that participants filled out at the end of each meeting asked them to, *voluntarily*, commit to changing two behaviors of their choice in the direction of a more sustainable lifestyle. In addition to filling in that survey item, participants were asked to share some of the commitments that they had made with other participants as part of the discussion session.

*Commitments made and shared.* Participants in all three Life Groups of the fourth iteration made a number of commitments toward living more sustainably. With the exception of one response (buying a small personal house), all commitments were ongoing in nature. Moreover, all commitments would result in ongoing impacts. Commitments listed as survey responses were, for the most part, specific. Those commitments, however, represented various degrees of specificity. For instance, some of the most specific commitments were to: take showers in less than three minutes; turn off the faucet while brushing teeth; wash full loads of dishes and laundry; make household cleaners from nontoxic ingredients; make coffee at home instead of buying it at a coffee shop; and buy food from local farmers. Slightly less specific—or at least less measurable—were the following commitments: taking *shorter* showers; running the dishwasher *less*; walking *more*; and getting *more* involved in community service. These commitments reference specific behaviors, but fail to define a threshold for what constitutes shorter, less, or more. That could make it difficult for participants to assess their progress toward sustainability. Finally, some of the commitments were much more general, not referencing a specific behavior or a measurable objective. Those included: being more environmental-minded; increasing electricity awareness; and improving time management. Nonetheless, participants in this iteration did, overall, commit to making more specific behavioral commitments, rather than more general ones.

Common commitment themes arising across all three Life Groups included: 1) financial stewardship/savings; 2) social commitments/time management; and 3) reducing waste/wise use of resources. Two themes were present among only two of the three Life

Groups: 1) conservation of utilities (Life Groups 1 and 2); and 2) health (Life Groups 2 and 3). Finally, environmental consciousness was only raised as a commitment by one participant within one Life Group (Life Group 3). With that exception, other commitments seemed alternatively motivated. Still, when looking at the environmental benefit of the behaviors chosen, rather than the motivation behind those behaviors, the picture looks quite different. That is, 42 of the 58 behaviors chosen, if successfully enacted, would have a positive impact on the environment.

For the fourth iteration, as with the third, participants were also asked to share some of the commitments they had made. In keeping with survey responses, the commitments *shared aloud* were more specific (as opposed to general) than they were in previous iterations. In fact, none of the commitments shared in the group setting fell into the “general” category of commitments; all were specific (although some were more measurable than others). Furthermore, the commitments shared during group discussions went beyond those listed in survey responses. For instance, during the group discussion for Life Group 1, one participant talked about the value of task lighting (i.e., using a lamp versus an overhead light when possible) and of sharing the knowledge she had gained that evening with her roommates. Another participant talked about the importance of being more consciously aware of her spending (of money). Similarly, one (male) participant in Life Group 2 mentioned in the group setting a commitment to buy second-hand clothes, but did not list that commitment on the survey. All of the commitments shared aloud by Life Group 3 participants were also listed in their survey responses.

Interestingly, a number of the behaviors listed in the group discussions were also the most common responses to the accompanying survey item (i.e., tithing, budgeting, spending money on needs versus wants, and conserving energy). It is possible that hearing others' responses to that question triggered similar ideas among participants, and caused them to borrow those behaviors for their own commitments. If so, that was a positive and intended benefit of the brainstorming process.

#### *Additional Outcomes*

As with previous iterations, I sought feedback on the workshop curriculum and my presentation thereof, as those factors were likely associated with behavioral commitment outcomes, as well as with the intended outcomes of participant engagement and learning. I did this first through the presence of a qualitative researcher at each meeting, who made detailed observations throughout the workshop regarding participants' apparent levels of engagement, understanding, and participation; as observed through verbal communication and nonverbal cues (i.e., facial expressions, body language, et cetera). In addition to providing observations, the qualitative researcher digitally (video) recorded each meeting, and I later transcribed those recordings to be sure nothing had been overlooked. Finally, I included three questions on the survey that were designed to elicit similar feedback: 1) Name one new thing that you learned tonight; 2) What did you like best about tonight's meeting?; and 3) How could the curriculum be improved? Analysis of observational data and participant responses helped me to evaluate the effectiveness of some of the elements that I included in the workshop, in terms of achieving both engagement and learning among the participants. In addition,



although this was the last iteration for the current project, recommendations from the qualitative observer may be fruitful for future research efforts, as well as for application by professional sustainable living educators.

*Participant engagement.* Qualitative observations indicated that participants in all three Life Groups of the fourth iteration were engaged with the material on some level, during the introduction, the discussion questions, and the survey. However, their levels of engagement did not remain constant for the entire course of any of the Life Groups. That is, there seemed to be lulls during each where participants were less engaged. Those lulls were not consistent across Life Groups, but seemed to occur: 1) at the beginning of meetings, when participants were hesitant and possibly unsure about what to expect; 2) when time spent on any given discussion question was perceived to be too long; 3) when participants did not understand the questions or concepts being discussed; and 4) when questions and responses displayed a certain degree of overlap amongst each other. Engagement seemed to improve as participants witnessed one another participating in the discussion. Nonetheless, within each Life Group, there were several participants who remained unengaged and uninterested throughout. However, those participants were, in each case, in the minority. Thus, participants were overall determined to be engaged with the material for this iteration.

*Participant learning.* There was a good deal of consistency regarding the learning to which participants attested. The two themes that arose across all Life Groups were: 1) learning regarding the three-dimensional nature and definition of sustainable living; and 2) acquisition of information detailing practical tips and examples for how to live more

sustainably on a daily basis. Regarding the three-dimensional nature of a sustainable lifestyle, one participant in Life Group 2 noted learning that “sustainable living is about more than just the environment.” Responses across Life Groups also indicated that participants were making a connection between sustainability and biblical stewardship. For instance, one participant in Life Group 1 learned that “we are called to live sustainably in every aspect of our life.” Another participant, in Life Group 3, learned that “being a good steward has three parts,” referring to the social, economic, and environmental dimensions of stewardship/sustainability.

Increased awareness and the three-dimensional focus of sustainable living were linked to a certain extent, and between the two, were addressed in all three Life Groups. Students noted an increased awareness of the links between stewardship and sustainability, and between stewardship and their own values. Including the social responsibility component was one positive aspect of the workshop mentioned by a participant in Life Group 2. Another participant from that Life Group enjoyed discussing the different areas of living sustainably. Likewise, one participant from Life Group 3 affirmed, “it made me think about aspects of my life I’ve never put thought into.”

In reference to practical tips and examples for how to live more sustainably, one participant in Life Group 1 was ecstatic to learn what rain barrels were and how they could be used to conserve water. Several others in that same Life Group were astounded at the impact of changing the ambient temperature in their home/apartment (as evidenced by qualitative observations during the group discussion). Finally, participants across Life Groups were excited to learn about community supported agriculture programs (CSAs).

The practical tips and examples that participants received through the curriculum presentation were considered across Life Groups to be one of the best aspects of the meetings. This is consistent with other iterations, pointing to the importance of including many practical ways in which participants in similar programming can practically apply what they have learned.

In addition to those themes, participants in Life Group 3 also identified two additional themes: 1): awareness regarding sustainability, including an acknowledgement of the importance of living more sustainably, a recognition of personal levels of sustainability and areas of needed improvement, and an awareness of the impacts associated with personal decisions; and 2) realization of the benefits to be obtained from living a more sustainable lifestyle.

Overall, then, participants exhibited learning regarding sustainable living. One participant in Life Group 1 mentioned feeling “a lot more informed,” while another shared the following insight:

I find it interesting that you were talking about these three dimensions, and it just creates this broad umbrella that affects everyone in the world, but the things that really help are the smaller things: the recycling, the five extra minutes here, you know. Just to me, that it all comes back to helping in a larger way when it's a small thing, personally.

### *Enhancing Factors*

A number of enhancing factors likely contributed to improved levels of success in terms of goal achievement for the fourth and final iteration of this project. Many of those

are “carry-overs” from previous iterations. All are associated with one or a combination of goals of the project (i.e., improving participation among non-environmentally-motivated individuals (Goal 1); securing behavioral commitments from participants (Goal 2); and improving participant engagement and/or learning (additional outcomes)). Those enhancing factors included: 1) the use of personal influence to improve participation; 2) the identification of “champions” for the cause to further encourage participation; 3) the use of a small group (i.e., Life Group) format for the workshop setting; 4) an appeal to participants’ existing motivations; 5) the incorporation of increased opportunities for discussion; 6) a continued emphasis on a three-dimensional definition of sustainable living; 7) an emphasis on biblical stewardship; 8) the incorporation of opportunities for goal setting and accountability; 9) a continued emphasis on practical tips and examples for how to live more sustainably; 10) continued improvement in preparation and demeanor; and 11) provision of refreshments.

First, in terms of improving participation among non-environmentally-motivated individuals, personal influence was again an influential factor. Although I invited 28 active Life Group leaders to collaborate with me to schedule meetings for their Life Groups, only 7 of those leaders (across 3 Life Groups) ultimately agreed to participate. For two out of the three Life Groups, I was personally acquainted with one or more of the groups’ leaders. Those relationships allowed me to follow-up with them personally, and to more actively encourage them and their students to participate in the programming.

Second, and related to the first enhancing factor, communicating with Life Group leaders that I knew allowed me to identify “champions” for the cause of sustainable

living. Because the leaders who agreed, on behalf of their Life Groups, to participate in the project were enthusiastic about sustainability and stewardship, they were willing and able to effectively encourage participation among their group members.

The third enhancing factor, this one associated with improvements in both participation and participant engagement, was the Life Group format used for this iteration. Because I was able to meet with three different Life Groups during their normal meeting times, I was able to increase the number of participants across the three meetings. Specifically, participation increased from 25 participants in Iteration 3 to 38 participants in Iteration 4 (32 students, 6 leaders). As expected, the Life Group format also seemed to make participants more comfortable, particularly given the existing relationships that they shared with their fellow group members. Additionally, it allowed for the increased discussion and dialogue opportunities that had been sought by participants in previous iterations. Overall, then, use of the Life Group format was a successful strategy for improving levels of goal achievement for the fourth iteration.

Fourth, as with other iterations, I continued to appeal to the existing motivations of participants and potential participants. For instance, the invitation e-mail highlighted the workshops' focus on biblical stewardship, and on the benefits that individuals might obtain, in terms of managing finances, time, and social relationships. During the meetings, much of the discussion focused on existing motivations, and how those motivations could be served by living with a greater sense of stewardship and sustainability. Thus, participants were not made to feel that living sustainably must necessarily be an environmentally-motivated endeavor.

The fifth enhancing factor for the fourth iteration was the continued emphasis on and effort to increase opportunities for discussion. According to their survey responses, participants liked the discussion-based format of the meetings. They claimed that this format allowed them to learn how their values align with a sustainable lifestyle and to learn new ideas more generally. One Life Group leader also pointed out that the group discussion “opened up doors for further discussion with our students.”

Sixth, the continued emphasis on the three-dimensional nature of a sustainable lifestyle was well-received by the participants. As noted above, several of the learning outcomes of the educational programming component for this iteration reflected new knowledge among participants regarding that three-dimensional definition. In addition, discussion regarding each of those dimensions kept participants engaged and involved. Finally, the broad nature of the definition allowed for a greater level of freedom among participants in terms of the behaviors that they could commit to changing in response to their participation.

Seventh, the biblical stewardship perspective that I adopted for this group enhanced goal achievement in terms of behavioral change commitments, and participant engagement and learning. Participants in all Life Groups espoused what they described as “Christian values.” Thus, demonstrating how a sustainable lifestyle is in keeping with those values was helpful in promoting behavior change among the participants. Additionally, as noted above, their survey responses indicated that they were making connections between sustainability and stewardship.

The eighth enhancing factor for this iteration was the *opportunity* for goal setting and accountability. Although a system was not explicitly established to ensure that goal setting and accountability would result from the workshop, there were two ways in which these were encouraged. First, asking participants to share the commitments that they had made among the other group members made others aware of those commitments, giving them the opportunity to follow up with their friends to find out how they are doing with their commitments later. Second, and unique to the fourth iteration, the vast majority of participants (23 out of the 26 who filled out the survey) expressed a willingness to participate in follow-up research at a later date, which will (as a future research objective) allow me to assess the extent to which they have been able to keep the commitments made during the workshop. Knowing that this follow-up research is forthcoming may provide the needed impetus to compel participants to keep their commitments.

Ninth, as with other iterations, the incorporation of practical tips and examples for how to live more sustainably was one of the favorite aspects of the workshops. For example, in Life Groups 2 and 3, participants pointed out the value of the printed materials provided. They were particularly interested in a fact sheet geared toward helping participants conserve energy at home. Also, a number of participants were particularly engaged and active during the brainstorming sessions regarding ways in which college students could live more sustainably.

The tenth enhancing factor dealt with my preparation and demeanor for this iteration. The qualitative observer present for Life Groups 1 and 2 commented that I gave good examples to keep the conversation going, and to help prompt and encourage further

conversation. The observer present for Life Group 3 did not make that specific observation, however I used the same examples as for the previous groups. In addition to sharing those examples, the observer for Life Group 1 pointed out that I had a “good rapport” with the participants, making them more comfortable and willing to participate.

Finally, and as with other iterations, the provision of refreshments was appreciated. In this case, one participant in Life Group 1 commented enthusiastically, “I liked the donuts!” The fact that refreshments would be provided was not included in the promotional materials for this iteration, so the impact of that factor was limited to the engagement of participants. It should also be noted that I provided refreshments only for the first Life Group because a meal was already being provided for the other two groups. Nonetheless, that refreshments have a positive impact on the appeal of educational programming has been a consistent theme across iterations and across data sources within each iteration (i.e., key informant interviews and participant feedback).

In all, then, 11 different enhancing factors likely contributed to improvements in goal achievement over the course of the three Life Group meetings that comprised the fourth and final iteration of this project. Similarities and differences in terms of enhancing factors across iterations are discussed in the cross-case analysis below, as well as in the Discussion and Conclusions section.

### *Inhibiting Factors*

Although a number of factors enhanced the effectiveness of this intervention for the fourth iteration, a number of inhibiting factors remained. Although for both Life Group 2 and Life Group 3, there were participants who responded that no improvements



were needed, that the presentation had “covered all bases” and “flowed very smoothly,” there were other participants in each Life Group who offered a number of suggestions for improving the curriculum and presentation. In addition, the qualitative observers made comments designed to foster improvement in this same regard. Inhibiting factors likely affected various goals of the intervention, and included: 1) logistics and timing concerns; 2) quality and timeliness of promotion; 3) the need for an even greater emphasis on practical tips and examples for how to live more sustainably; 4) the need for an even greater emphasis on biblical stewardship; and 5) shortcomings related to my presentation and delivery of the material.

First, participation was likely impacted by some logistical and timing concerns. For instance, the time constraints placed on this project by graduation requirements and so forth required that all data be collected by the middle of the fall semester. Initially, plans to work with this group of students were guided by the expectation that Life Groups would be formed and would begin meeting early in September. However, the formation and leadership of Life Groups was delayed, allowing for a smaller window of time during which Life Groups could choose to participate in the project. In addition, many of the students have a lot of competing commitments and schedule conflicts (through their involvement in Greek Life, athletics, and Homecoming festivities), which tend to interfere with their Life Group attendance, and thus, their participation in this project.

Second, promotional efforts remained imperfect for this iteration. As mentioned in regard to previous iterations, support and enthusiasm from upper-level leadership in an organization are key to effectively encouraging participation in this type of programming.

And, while I was able to use personal influence to encourage participation among the leaders of three Life Groups, other leaders with whom I am not personally acquainted may have been willing to participate, had there been an official endorsement from a church staff member, for example. Again, the ideal situation would include personal influence *combined* with endorsement from upper-level leadership, which was not explicitly present for this iteration. Thus, participation may have been limited by this inhibiting factor.

The third inhibiting factor, this one related to behavior change commitments (Goal 2), was the need for an even greater emphasis on practical tips and examples. As with other iterations, and in spite of participants' acknowledgement and appreciation of the number and variety of practical tips and examples offered during the workshops, they continued to call for more of those as a recommended improvement. The prevalence of that recommendation, however, decreased after the first Life Group meeting. When five different participants in Life Group 1 noted the desire for *even more* practical tips and examples, colleagues and I brainstormed further behaviors that college students could undertake in the effort toward greater sustainability. Thus, in addition to asking participants to brainstorm among themselves about active choices that they were already making to live more sustainably, and about behaviors that they had not already adopted, but could adopt as college students, I offered a number of examples of my own in response to those two discussion questions. In fact, I offered 16 specific examples of behaviors that could contribute to a sustainable lifestyle (whereas for the first Life Group, I had only provided 8 specific examples). In addition, for all Life Groups, participants

were provided with an envelope containing all print resources that had, in previous iterations, been available at a resource table for participants to peruse and collect. For Life Groups 2 and 3, only one participant each suggested this as an improvement, indicating that the effort to increase the provision of those examples was effective, to a certain extent. The two participants for whom this remained a recommendation for improvement specifically suggested, respectively, that I offer: 1) a wider *variety* of resources; and 2) more examples related specifically to *college living*. While an effort was made to address both of those concerns, it could be made an even greater focus for practitioners targeting college-aged participants.

The fourth inhibiting factor, similar to the third, was tied with a corresponding enhancing factor. Namely, in Life Groups 2 and 3, participants suggested that the curriculum and presentation focus more on God, the Bible, and stewardship. Although the introduction to the discussion portion of each meeting highlighted God's role in sustainability/stewardship and showed the similarities between those two terms, we did not read any Scripture references directly from the Bible. Instead, I mentioned a couple of popular and well-known parables with which participants would likely have been familiar, and touched only briefly on how they addressed the components of a sustainable lifestyle. That connection could have been drawn more clearly. The qualitative observer present for Life Group 3 also suggested that I read at least one Bible verse, and perhaps one for each dimension. Further, he suggested that I somehow tie the material to a Sunday morning message or message series from church.

Regarding this inhibiting factor, though, the participants were provided with a discussion guide that listed a number of other Scripture references relevant to this topic of study. Students were invited to keep the discussion guide and look those references up at a later time. And yet, a number of the students chose not to keep the discussion guides. It may be that, to achieve the degree of biblical focus requested, more than one meeting would be required. For interested groups, then, practitioners may want to recommend one of the many sustainability-oriented Bible studies that are available (many offered online at no cost). These typically take 6-8 sessions to complete, and would therefore require a greater level of commitment on the part of participants. However, for groups whose participants are enthusiastic about the subject matter, and dedicated to exploring the biblical ties to sustainability, these studies offer an alternative to a one-time event.

The final inhibiting factor encompasses a number of shortcomings regarding my presentation and delivery, which were pointed out by the qualitative observers. These shortcomings primarily related to participant engagement and learning. Regarding engagement, for example, the observer present for Life Groups 1 and 2 noted that I missed a couple of opportunities to follow up on comments and responses made by participants (i.e., asking participants to elaborate if they gave the same answers as other participants). On the other hand, particularly during Life Groups 2 and 3, I also let some sections go on too long to hold participants' attention, particularly in instances where there was a good deal of overlap in responses from one discussion question to another. The observer present for Life Group 3 suggested that, to recapture drifting attention, I include more humor and occasional anecdotes (possibly even a brief video clip) to catch

and hold participants' attention. Similarly, the observer for Life Group 2 noted some laughing and lack of focus in response to some participants' humorous, although legitimate, answers. He suggested that acknowledging the legitimacy of those responses might allow me to maintain a bit more seriousness and focus. In Life Group 3, the observer pointed out a few occasions where my word choices may have been perceived by participants as my "talking down" to them, and reminded me to remain aware of, and try to avoid, those word choices. Finally, that same observer thought that name tags might be helpful in allowing me to call on participants by name for responses, possibly making the discussion seem more personal.

With regard to learning outcomes, the observer present for Life Group 3 made two suggestions for improvement. First, he suggested that I provide more specific examples in some sections (i.e., examples of behaviors that clearly meet all three dimensions of sustainability), and examples that would make it easier for participants to picture or imagine those behaviors. Second, he noted several points where better explanations might have improved understanding. For instance, several of the printed materials could have been described more thoroughly (i.e., the resource describing the "dirty dozen" – the 12 produce items for which it is most important to purchase organic varieties; the resource describing rain barrels). Additionally, participants expressed some hesitation in response to some of the discussion questions, indicating a potential lack of complete understanding with regard to those questions. For example, one observer suggested that I define stewardship more clearly before asking participants about their personal sustainability and stewardship choices, and that I include a clearer introduction

for the discussion question regarding participants' values and how those relate to sustainability and stewardship. On a related note, he suggested that I better define other terminology that may not be well-understood among the participants (i.e., the word "margin," referring to a figurative cushion that participants might apply to their time, finances, resource use, etc.). Finally, he observed that the last discussion question, regarding how a sustainable lifestyle might fit in with participants' definitions of future success, could be better used to explicitly tie the material together at the end, by way of a closing statement.

#### *Recommendations in Response to Outcomes*

Although the fourth iteration of this project was considered to be the last, lessons learned during that iteration provide recommendations for future similar work. Some of those recommendations are broad, and likely applicable to various kinds of groups. Others are specific to the type of group being targeted. Likewise, some of the recommendations stem from the enhancing factors identified for this, and other, iterations; whereas others represent an effort to overcome the remaining inhibiting factors identified. The recommendations informed by the outcomes of the final iteration include: 1) the continued use of personal influence, along with a continual and concerted effort to obtain enthusiastic endorsements from leadership at all levels; 2) a continued effort to overcome potential barriers related to logistics, timing, and promotion of educational programming events; 3) the continued use of a small group format to maximize results; 4) a continued commitment to maintaining and improving essential components within the curriculum content; and 5) a continued commitment to provide refreshments.

Outcomes from the fourth and previous iterations have consistently suggested that a combination of personal influence and leadership endorsement are ideal for promoting and encouraging participation in sustainable living educational programs. Related to this is the recommendation that stemmed from the fourth iteration, to identify “champions” for the cause, who may be willing and able to influence others toward participation. For the fourth iteration, I was able to capitalize on personal influence through my own acquaintance with several college Life Group leaders. Those leaders were enthusiastic about the subject matter, and therefore encouraged their group members to attend on the respective nights when the curriculum would be covered in their Life Groups. However, as mentioned above, the leaders of many other Life Groups failed to respond to my invitation to participate in the project. It is possible that, had the invitation come from a church staff member, other leaders would have expressed an interest in participation. Thus, in future work, it remains essential to secure support and endorsements from organization leadership at *all* levels.

Concerns regarding logistics, timing, and promotion of educational programming events have remained problematic throughout this project, including for the fourth iteration. Although efforts were made to 1) coordinate with organization leadership well in advance of the proposed educational events, 2) avoid potential scheduling conflicts among participants, and 3) keep event lengths within the normal meeting times of the groups, I was still confronted with challenges in this regard. For instance, as noted previously, the formation of fall Life Groups and establishment of Life Group leaders were both delayed; making it difficult for me to provide sufficient notice of the

opportunity to the Life Group leaders. Also, it proved difficult to avoid all potential scheduling conflicts, particularly for this iteration, because the students are extremely active in many different on and off-campus activities. Finally, although I worked diligently to keep event lengths within normal group meeting times, several participants from each Life Group had to leave early in order to honor other commitments. It is important, therefore, that sustainable living educators remain vigilant in their efforts to overcome these potential challenges.

Although many sustainable living practitioners are likely held to certain standards of accountability regarding the *number* of individuals reached with their educational programming efforts, this project—and particularly this fourth iteration—has demonstrated the value of addressing this subject matter in a small group format. This format allows, first of all, for the establishment of a better and closer rapport with participants; and second, for increased opportunities for discussion. The small group format used in the fourth iteration allowed for the greatest amount of discussion and dialogue among participants (compared with the formats used for other iterations). Because that was a consistent desire expressed by participants across all iterations of the project, it is important to ensure those opportunities for discourse. Importantly, of course, even the participants in the fourth iteration expressed a desire for even greater opportunities for discussion and dialogue, in spite of the concerted efforts that had been made to increase those opportunities. This presents a challenge for future work, in that practitioners need to work to incorporate even more discussion and dialogue, while



ensuring that essential information is presented and that the length of events remains appealing to participants.

The final recommendation informed by the fourth iteration of this project is to maintain and improve essential components within the curriculum content. One of those essential components has proven throughout this project to be an appeal to existing motivations. This project's outcomes have consistently shown that participation does not significantly change the motivations of participants, thus appeals to behavior change must capitalize on those existing motivations. The key informant interview process that has been conducted in conjunction with each iteration has been helpful in identifying organization members' existing motivations; particularly when the key informants are active and/or representative members of the organization, and are well-acquainted with a good number of other members. One good example is the biblical stewardship focus adopted for the second, third, and fourth iterations. This particular focus is important specifically to faith-based groups, but different groups or organizations place varying degrees of importance on that aspect of sustainable living. Especially for the fourth iteration, participants desired an even *greater* emphasis on biblical stewardship than was included in the educational programming events. This finding suggests that sustainable living educators should make a concerted effort prior to planning and scheduling programming events to identify the most salient motivations among their target audiences, and to ensure that the curriculum content and delivery will appeal to those motivations.

Another essential component of sustainable living educational curricula, as demonstrated throughout this project and reiterated in the fourth iteration, is the three-dimensional focus embraced by the curriculum used as the template for this project. The three different dimensions of sustainable living (social, economic, and environmental) will resonate differently with different participants and potential participants. Some may find one or two of the dimensions more compelling than the other(s). Thus, it is important to highlight all three, to legitimize the importance of all three, and to acknowledge the value of participants' behavior change commitments along all three. Additionally, it is important for educators to work toward overcoming any biases they may have regarding which dimensions they personally view as "most" important. Otherwise, those biases are likely to be evident and off-putting to participants whose viewpoints differ.

Goal setting and accountability were suggestions unique to the fourth iteration. Although the completion of commitment cards by participants in all iterations provided the opportunity to set goals, the limited length of the project as a whole has made it difficult to establish a structured accountability system. However, as noted above, the fourth iteration afforded the opportunity for accountability in two ways: 1) there was an increased opportunity for participants to share the commitments that they had made among one another (in a group comprised of people with whom they have ongoing relationships); and 2) there was a greater willingness among participants to participate in follow-up research, which may compel them to honor their behavior change commitments. Despite these limited opportunities for accountability, practitioners would

benefit from the development of a more structured system, designed to track short and long-term outcomes among participants in their educational programming events.

Practical tips and examples for how to live more sustainably were one of the favorite aspects of the educational programming events across iterations. Also consistent across iterations was the participants' desire for an even greater number and variety of practical tips and examples. One effective way to increase the number of tips provided was to provide participants with the print resources that were made available throughout this project. The increased opportunities for discussion among the participants in the fourth iteration also contributed to this increase. One challenge remaining for future work, however, is to find ways to provide *even more* practical tips and examples for living more sustainably, while maintaining desirable session lengths. Fitting more material into less time is an ongoing challenge for educators generally, and the same is true for sustainable living educators.

Along with maintaining these essential components within the curriculum content, it is important to make those components clear to participants. There were several places within my presentation of the curriculum where confusion may have resulted from lack of clarity on my part, with regard to terminology, discussion questions, and the like. Sustainable living educators need to remember that they are experts in their field, and that common terminology within that field may easily be confusing to, or misunderstood by, lay audiences. Thus, it is important that they work to make the material accessible to those audiences, by simplifying and clarifying it as necessary.

The final recommendation resulting from this and the other iterations is the importance of providing refreshments. This may seem like an unimportant detail, but it seems to be influential in encouraging people to attend educational programming events, and in making participants feel welcome once they have arrived. This recommendation is likely to become more and more difficult to accommodate as funds available to sustainable living educators become scarcer. However, it may be possible for educators to entice corporate sponsors to partner with them, offering not only refreshments, but possibly raffle or door prizes, discount coupons, and so forth. Again, the effort to collaborate with such corporate sponsors is likely to be greatly aided where educators have social influence in their community, or access to others who do.

The section below contains a cross-case analysis across the four iterations of this project, comparing and contrasting results, enhancing and inhibiting factors, and resulting recommendations for improvement of similar interventions.

#### Cross-case Analysis

In keeping with the principals of formative research, my hope has been to see an improvement in goal achievement between each iteration and the next. That objective has been met through the formative process undertaken within this study. Table 4.13 below compares the project's outcomes, in terms of goal achievement, across the four iterations comprising this formative experiment.

Table 4.13

#### *Outcomes Obtained across Iterations*

| Goal                   | Iteration 1 | Iteration 2 | Iteration 3 | Iteration 4 |
|------------------------|-------------|-------------|-------------|-------------|
| Number of Participants | 0           | 8           | 25          | 38          |
| Number of Commitments  | 0           | 13          | 39          | 58          |

Because of necessary differences among the iterations regarding constructs and measurements, educational programming content and layout, and data collection and analysis techniques (all described above), it is difficult to draw direct comparisons across *all* iterations simultaneously, particularly with regard to the outcomes of Phase II (the educational programming component). Thus, in this section, I primarily discuss the similarities and differences between two iterations at a time. That is, I compare the first iteration to the second, the second iteration to the third, and finally, the third iteration to the fourth. I also outline some overarching themes regarding similarities and differences in participation and behavior change commitments that *appear* to have emerged throughout the course of the study, although those themes are tentative and must be interpreted with caution, pending confirmation through future work. However, because of the relative consistency within the *first* phase of research across iterations, I am able to draw some comparisons across all iterations with regard to the data obtained during that phase. Comparisons between and among iterations are used to advance theory development and to inform practical recommendations, as detailed in the Discussion and Conclusions section.

#### *Comparison of Iteration 1 and Iteration 2*

The extent to which this project's goals were achieved improved greatly between the first and second iterations. With regard to participation in educational programming designed to foster sustainable living, there were no workshop participants for the first iteration, whereas there were eight participants for the second. Eight, of course, is a modest number of participants, but demonstrates distinct improvement in relation to the

first iteration. Among the eight participants who were present at the workshop for the second iteration, a combination of motivations was evident. Participants indicated agreement with both the anthropocentric and the biocentric dimensions of environment worldview (as measured by the NEP scale), although they had lower mean scores than both representative samples of the U.S. population and samples comprised of their white-collar peers. Further, their responses to the NHIP scale showed acknowledgment of the connection between conservation and human progress. Finally, among their primary motivations for their specific behavioral decisions, the environment was ranked third. Participants also exhibited economic motivations, largely in terms of frugality as opposed to materialism. Not only did mean scores for the frugality score indicate the presence of such a motivation, but participants' responses regarding their specific motivations for their behavioral decisions (both pre- and post-workshop) indicated cost savings as the second most important motivation guiding those decisions (behind health and wellbeing). Regarding social motivations, participants exhibited attitudes in keeping with the values of both benevolence and universalism. In addition, they ranked health and wellbeing as their number one motivation for specific behavioral decisions, and social responsibility as their fourth most important consideration in making those same decisions. Overall, then, while environmental motivations were present among the workshop participants, they were not the sole—or even primary—motivations demonstrated by those participants. That indicates that the first goal of the intervention was achieved, to a certain degree, within the second iteration. In contrast, that goal was not achieved for the first iteration, by any measure.

Because there were no workshop participants for the first iteration, there were also no expected behavior changes, or accompanying behavior change commitments, indicating a failure to achieve the second goal of the intervention within that iteration. In the second iteration, however, participants indicated expectations of (significantly) increased frequency of participation in 16 different sustainable behaviors, and individual commitments to changing 13 behaviors of their choice, in the direction of greater sustainability. The greatest changes in expected frequency of behavioral participation occurred in relation to: exercising regularly; reducing clutter; avoiding consumption of unnecessary products; buying organic/fair trade food; and walking, biking, carpooling, or taking public transportation to work. Behaviors that participants *committed* to changing were, as described in the case description for Iteration 2, all ongoing in nature, indicating the potential for greater long-term impact than might be possible through a commitment to one-time actions (with exceptions related to large capital investments, for example). Thus, the second goal of the intervention was achieved, to some extent, in the second iteration, indicating an improvement upon the outcomes of the first iteration.

Overall, then, the second iteration saw improvements in goal achievement over the first iteration, in terms of both of the project's substantive goals. Improvements are likely attributable to several adaptations made from one iteration to the next. Specifically, inhibiting factors that were identified for the first iteration included: a) a lack of leadership support for the project; b) logistical and promotional limitations; and c) a fairly narrow focus, or orientation, among the group's members. In response to those factors, in the second iteration, I: a) sought a greater level of leadership support and

enthusiasm for the project; b) ensured the use of a greater variety of media for promotional efforts; and c) chose to work with a more outwardly-focused and civic-minded organization. In addition, because of my status as a member of the organization, I was able to use personal influence to encourage participation among the group's members. In terms of achieving the intervention's second goal—obtaining commitments toward behavior change, the workshop curriculum (and my presentation thereof) deliberately appealed to the various existing motivations of participants. All of these factors were identified as enhancing factors for the second iteration, contributing to improvements in goal achievement.

#### *Comparison of Iteration 2 and Iteration 3*

A comparison of the results for the second and third iterations shows that the extent of goal achievement improved between the two iterations, although a number of the results indicated similarities between the groups' workshop participants. Specifically, while participants' motivations remained fairly consistent across the two iterations, participation in the workshop and resulting behavior change expectations and commitments improved.

As noted in the case description for Iteration 3, workshop participations for both iterations exhibited a combination of motivations. Indeed, there were no significant differences between the groups with regard to: environmental motivations (as measured by the NEP and NHIP scales); economic motivations (as measured by the materialism and frugality scales); or social motivations (as measured by the benevolence and universalism scales). As with the second iteration, however, workshop participants in the



third iteration did display weaker environmental motivations than representative U.S. samples obtained over the past two decades (especially when compared to white-collar samples). And, while the motivations of the two groups were not significantly different, the *number* of participants increased substantially from the second to the third iteration (that is, participation increased from eight to twenty-five individuals), indicating greater achievement of this project's first goal—to increase participation among non-environmentally-motivated individuals.

Regarding the second goal of the project—to obtain behavior change commitments from workshop participants, there were both differences and similarities between the two iterations. In terms of *expected* behavior change, as with the second iteration, all but one behavior (mowing one's lawn less frequently) saw an increase in planned frequency across participants. Unlike the second iteration, however, *all* of those increases were statistically significant ( $p \leq .05$ ) for the third iteration.

More nuanced differences were evident from t-tests performed across the two iterations. T-tests of differences in pre-workshop behaviors between the second and the third iteration (Table 4.14) showed that participants in the second iteration indicated a greater frequency of using nontoxic products (Iteration 2 mean frequency = 4.71; Iteration 2 SD = 1.38; Iteration 3 mean frequency = 3.16; Iteration 3 SD = 1.34; t-value = 2.69;  $p = .012$ ); buying local food (Iteration 2 mean frequency = 4.25; Iteration 2 SD = 1.58; Iteration 3 mean frequency = 2.72; Iteration 3 SD = 1.34; t-value = 2.70;  $p = .011$ ); and buying recycled products (Iteration 2 mean frequency = 4.38; Iteration 2 SD = .52;

Table 4.14

*Participant Pre-workshop Behavioral Frequency Comparison between Iterations 1 & 2*

| Behavior  | Iteration 2 |           | Iteration 3 |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Turn off faucet while brushing teeth  | 5.50        | 2.00      | 5.32        | 2.21      | 0.21     | .839     |
| Wash only full loads of laundry/dishes  | 5.71        | 0.95      | 6.04        | 1.06      | -0.73    | .469     |
| Water lawn in the early morning   | 6.43        | 0.79      | 5.67        | 1.79      | 1.09     | .285     |
| Sweep (instead of hose) the driveway  | 5.43        | 2.44      | 4.90        | 2.23      | 0.53     | .604     |
| Landscape using native vegetation   | 5.29        | 1.60      | 3.83        | 2.10      | 1.69     | .103     |
| Mow lawn only as necessary  | 5.86        | 1.07      | 4.88        | 1.87      | 1.32     | .198     |
| Turn off lights when not in use   | 5.75        | 1.28      | 5.36        | 0.91      | 0.96     | .346     |
| Turn off electronics when not in use  | 5.00        | 1.20      | 4.96        | 1.40      | 0.07     | .943     |
| Use heat/air conditioning as little as possible   | 4.25        | 0.89      | 4.24        | 1.64      | 0.02     | .987     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 5.00        | 0.82      | 4.44        | 1.47      | 0.96     | .346     |
| Buy recycled products   | 4.38        | 0.52      | 3.72        | 1.10      | 2.29     | .030     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 4.71        | 1.38      | 3.16        | 1.34      | 2.69     | .012     |
| Buy local food  | 4.25        | 1.58      | 2.72        | 1.34      | 2.70     | .011     |
| Buy organic and/or “fair-trade” food  | 3.63        | 2.00      | 2.72        | 0.98      | 1.24     | .251     |
| Eat a healthy, balanced diet  | 4.50        | 0.93      | 4.28        | 1.31      | 0.44     | .663     |
| Allot adequate time for sleep   | 4.13        | 1.25      | 4.17        | 1.34      | -0.08    | .939     |
| Allot adequate time for family (eating meals together, etc.)                              | 4.50        | 1.51      | 5.08        | 1.12      | -1.17    | .249     |
| Exercise regularly  | 3.13        | 1.36      | 4.44        | 2.02      | -2.10    | .051     |
| Walk, bike, carpool, or take public transportation to work                                | 1.50        | 1.07      | 1.83        | 1.50      | -0.57    | .576     |
| Combine errands to reduce car trips   | 4.88        | 1.25      | 5.13        | 1.19      | -0.51    | .615     |
| Drive a fuel-efficient vehicle  | 3.50        | 1.93      | 3.40        | 1.91      | 0.13     | .899     |
| Recycle   | 5.88        | 1.64      | 5.24        | 1.94      | 0.83     | .412     |
| Compost   | 4.00        | 2.89      | 1.68        | 1.46      | 2.05     | .080     |
| Avoid consumption of unnecessary products   | 4.50        | 1.20      | 3.64        | 1.29      | 1.67     | .105     |
| Reduce clutter  | 4.00        | 1.41      | 4.56        | 1.42      | -0.97    | .338     |
| Volunteer for a cause   | 5.50        | 0.76      | 4.68        | 1.68      | 1.91     | .067     |

Iteration 3 mean frequency = 3.72; Iteration 3 SD = 1.10; t-value = 2.29;  $p = .030$ ), prior to attending the workshop than did participants in the third iteration.

T-tests of post-workshop behaviors between the two iterations (Table 4.15) showed that participants in the second iteration planned to more frequently compost (Iteration 2 mean frequency = 6.33; Iteration 2 SD = .82; Iteration 3 mean frequency = 3.27; Iteration 3 SD = 2.21; t-value = 5.31;  $p < .001$ ); avoid consumption of unnecessary products (Iteration 2 mean frequency = 6.14; Iteration 2 SD = .69; Iteration 3 mean frequency = 5.14; Iteration 3 SD = .85; t-value = 2.80;  $p = .010$ ); and take shorter showers (Iteration 2 mean frequency = 6.00; Iteration 2 SD = .58; Iteration 3 mean frequency = 5.18; Iteration 3 SD = 1.10; t-value = 2.56;  $p = .019$ ), after participating in the workshop.

Also, there were differences in the behaviors for which the *greatest* change was expected. Again, in the second iteration, those behaviors included: exercising regularly; reducing clutter; avoiding consumption of unnecessary products; buying organic/fair trade food; and walking, biking, carpooling, or taking public transportation to work. In contrast, the greatest change for the third iteration was expected among the following behaviors: buying local food; sweeping instead of hosing off the driveway; using nontoxic products; buying organic/fair-trade food; and composting. The lists include only one behavior in common: buying organic/fair-trade food. While both lists include behaviors that have impacts on sustainability at a broader (i.e., community, national, and global) scale (i.e., avoiding unnecessary consumption; buying local, organic, and/or fair-trade food; choosing alternative modes of transportation; using nontoxic products; and composting);

Table 4.15

*Participant Post-workshop Behavioral Expectation Comparison between Iterations 1 & 2*

| Behavior  | Iteration 2 |           | Iteration 3 |           | <i>t</i> | <i>p</i> |
|---|-------------|-----------|-------------|-----------|----------|----------|
|   | <i>Mean</i> | <i>SD</i> | <i>Mean</i> | <i>SD</i> |          |          |
| Take short showers  | 6.00        | 0.58      | 5.18        | 1.10      | 2.56     | .019     |
| Turn off faucet while brushing teeth  | 6.71        | 0.49      | 6.57        | 0.66      | 0.55     | .587     |
| Wash only full loads of laundry/dishes  | 6.33        | 0.52      | 6.73        | 0.46      | -1.83    | .079     |
| Water lawn in the early morning   | 6.67        | 0.52      | 6.41        | 1.10      | 0.55     | .585     |
| Sweep (instead of hose) the driveway  | 6.33        | 1.21      | 6.30        | 1.17      | 0.06     | .952     |
| Landscape using native vegetation   | 6.00        | 1.10      | 5.14        | 1.91      | 1.43     | .175     |
| Mow lawn only as necessary  | 5.83        | 1.17      | 4.59        | 1.44      | 1.94     | .063     |
| Turn off lights when not in use   | 6.57        | 0.79      | 6.39        | 0.66      | 0.61     | .548     |
| Turn off electronics when not in use  | 5.86        | 0.69      | 6.05        | 0.72      | -0.61    | .549     |
| Use heat/air conditioning as little as possible   | 5.50        | 1.05      | 5.00        | 1.41      | 0.80     | .429     |
| Repair and properly maintain existing appliances and devices to improve energy efficiency | 5.71        | 0.95      | 5.57        | 1.50      | 0.24     | .816     |
| Buy recycled products   | 5.43        | 0.98      | 5.09        | 1.02      | 0.77     | .448     |
| Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 5.71        | 1.11      | 4.82        | 1.30      | 1.64     | .112     |
| Buy local food  | 5.57        | 0.79      | 4.67        | 1.32      | 1.71     | .100     |
| Buy organic and/or “fair-trade” food  | 5.14        | 1.35      | 4.50        | 1.22      | 1.18     | .247     |
| Eat a healthy, balanced diet  | 5.71        | 0.76      | 5.73        | 0.70      | -0.04    | .967     |
| Allot adequate time for sleep   | 5.86        | 1.07      | 5.57        | 0.93      | 0.68     | .502     |
| Allot adequate time for family (eating meals together, etc.)                              | 6.00        | 0.82      | 6.00        | 0.71      | 0.00     | 1.000    |
| Exercise regularly  | 5.71        | 1.11      | 5.95        | 0.95      | -0.56    | .580     |
| Walk, bike, carpool, or take public transportation to work                                | 3.29        | 2.36      | 3.00        | 1.86      | 0.32     | .749     |
| Combine errands to reduce car trips   | 6.29        | 0.76      | 5.68        | 1.36      | 1.11     | .275     |
| Drive a fuel-efficient vehicle  | 4.86        | 1.68      | 3.91        | 1.66      | 1.31     | .200     |
| Recycle   | 6.14        | 0.90      | 6.32        | 0.72      | -0.53    | .600     |
| Compost   | 6.33        | 0.82      | 3.27        | 2.21      | 5.31     | .000     |
| Avoid consumption of unnecessary products   | 6.14        | 0.69      | 5.14        | 0.85      | 2.80     | .010     |
| Reduce clutter  | 6.00        | 0.82      | 5.62        | 1.07      | 0.86     | .399     |
| Volunteer for a cause   | 6.43        | 0.53      | 5.86        | 1.11      | 1.30     | .204     |

the second iteration's list contains items that more distinctly emphasize efforts toward *personal* sustainability (i.e., exercising regularly and reducing clutter). Of course, both kinds of behaviors are important to achieving a more sustainable lifestyle. However, the former behaviors (those more prevalent among third iteration participants) tend to have a greater impact on sustainability, particularly from that broader perspective.

In addition to differences in expected behavioral frequency, the two iterations also witnessed similarities and differences in terms of individual behavior change commitments. One similarity between the two iterations was the ongoing nature of most (Iteration 3), if not all (Iteration 2) of the commitments made. Regarding differences, behavior change commitments for Iteration 2 were largely social, whereas for Iteration 3, they represented a greater variety in the dimensions of sustainable living represented. Recycling, or recycling more (common commitments among Iteration 3 participants), for example, are typically environmentally-motivated behaviors. On the other hand, behavior changes related to health and wellbeing (common commitments for *both* iterations' participants) are largely socially-motivated. Finally, both reducing consumption and committing to consume local/organic/home grown produce can have more than one motivation. For instance, reducing consumption is good not only for the environment, but also for the pocketbook. Thus, behavioral motivations could not be ascertained for all of the behavioral commitments made by workshop participants in either iteration.

Nonetheless, on the basis of both the participants' responses to the behavioral commitment invitation and the number of significant changes between pre- and post-workshop behavior items, participants in Iteration 3 appeared more likely to change their

existing behavior than did participants in Iteration 2. Thus, greater goal achievement was evidenced in the third iteration than in the second.

#### *Comparison of Iteration 3 and Iteration 4*

A comparison of the results for the third and fourth iterations again shows an improvement in goal achievement between the two iterations, in terms of participation among non-environmentally-motivated individuals and behavior change commitments among those participants. As with the previous workshop, participants in Iteration 4 exhibited a combination of motivations. Due to the use of different measurement techniques, it is not possible to say whether there were statistically significant differences between the groups with regard to social, economic, and environmental motivations. However, as noted in the case description for Iteration 4, social and economic motivations were clearly more salient for those participants than were environmental motivations. And again, the fourth iteration saw a further increase in the *number* of participants overall, as compared to the third iteration (from 25 to 38 individuals), indicating greater achievement of the project's first goal—to increase participation among non-environmentally-motivated individuals.

Regarding the second goal of the project—to obtain behavior change commitments from workshop participants, comparisons are again limited by the use of different measurement techniques. Namely, I was not able to test for statistically significant differences in behavior change *expectations*, as measured by the behavioral frequency questions that were asked in previous iterations. Nonetheless, qualitative

comparisons of responses to the open-ended commitment question again suggest both similarities and differences between the two iterations.

As with Iteration 3, the commitments made by participants in Iteration 4 were predominantly ongoing in nature, as well as being ongoing in their impacts in terms of sustainability. Regarding differences, whereas Iteration 3 participants exhibited a greater consciousness of the environmental impacts of their behavior change commitments (as evidenced by commitments regarding recycling, for instance), participants in Iteration 4 seemed to consider alternative motivations (i.e., economic and social) for their commitments. However, as noted in the case description for Iteration 4, those alternative motivations were not indicative of a lack of environmental *impact* associated with the behaviors chosen. To reiterate, 42 of the 58 behaviors that participants in Iteration 4 committed to changing would positively impact the environment. Furthermore, due to the greater number of participants in Iteration 4, there were a greater number of behaviors which participants committed to changing (from 39 in Iteration 3 to 58 in Iteration 4). Thus, based on both the increase in behavior change commitments obtained, and the relative similarity of *impact* of those behaviors (as opposed to the motivations behind them), with regard to sustainability, the fourth iteration saw improvement in the degree to which the second goal of this project was achieved.

#### *Comparison across All Iterations*

As noted previously, some comparisons across all iterations require cautious interpretation, because some methods of data collection, construct measurement, and analysis varied among the iterations. Yet, there are a number of comparisons that can be

highlighted, particularly in terms of key informant responses. In this section, I describe the similarities and differences observed across iterations in relation to those responses. I also touch on *apparent* similarities and differences across iterations in terms of educational programming outcomes, factors enhancing and inhibiting those outcomes, and adaptations made in response.

*Organization selection.* Across all iterations, a concerted effort was made to select organizations with social and/or economic orientations, as opposed to the environmental orientations common among organizations that might typically collaborate on a project like this one. Within each of the four organizations, there was at least one leader interested in, and willing to have the organization participate in, the project. That willingness served as a filter for the organization selection process, and eliminated the need to “select” among multiple organizational possibilities. That is, only four of the organizations that I canvassed had any leaders willing to collaborate on the project.

Beyond these similarities, some differences characterized the selection process for the different organizations. For instance, after the first iteration, it became clear that a more outward focus might differentiate the types of organizations whose members would be more interested in participating in sustainable living educational programming; as opposed to the inward focus exhibited by the first iteration’s organization and its members. Thus, for subsequent iterations, I chose to work with organizations that exhibited a clear outward focus, along with any inward focus that might be present.

Another difference in the organization selection process was that the leadership of each successive organization displayed greater levels of interest, willingness, support,



and enthusiasm for the project. Those greater levels of support were associated with improved goal achievement, particularly with regard to participation in educational programming events. An added benefit was the ability to secure the willingness of more key informants to participate in interviews during the first phase of each iteration, in order that I might tailor the curriculum and presentation to each particular group.

Finally, one potential reason that was identified for the lack of response and participation in both phases of the first iteration's intervention (key informant interviews and the educational programming event) was a lack of personal influence on my part, as the researcher. That is, I was seen as an outsider to the organization, and I did not personally know any of the members. Thus, for subsequent iterations, I chose to work with organizations wherein I either had personal influence (as a member), or was acquainted with members/leaders who did have personal influence. In cases where potential informants or workshop participants were not responsive to generic invitations to participate, this strategy improved participation rates. Thus, similarities across iterations were maintained due to their apparent positive impact on goal achievement, whereas differences represented efforts to improve goal achievement.

*Informant selection.* For all iterations, leaders were asked to identify active and representative members. In each case, leaders predominantly chose to recommend other members who had served, or were currently serving, in leadership roles within the organization. That strategy proved to be insufficient, in itself, to secure key informant participation. For example, for the first iteration, the invitation to participate in a key informant interview was sent to past and present leaders of the organization, but was not

accompanied by a personal endorsement from the organization's president. Because of the lack of participation resulting from that first invitation, for the subsequent three iterations, such a personal endorsement or invitation from a prominent leader *did* accompany the invitation to participate. For the second iteration, the organization president's endorsement was effective in achieving willing participation. For the third and fourth iterations, leadership endorsement alone was insufficient. Fortunately, for the third iteration, I was able to use my own personal influence as a member of the organization and acquaintance of potential informants as a strategy to improve participation rates, which was successful. Because I was not a member of the fourth organization, nor did I personally know many of the members, I was not able to use personal influence. Instead, I asked that the first round of informants recommend subsequent informants, and invite them to participate on my behalf. That strategy was also successful. These results indicate that some combination of leader/peer endorsement and personal influence (preferably both) are important factors in improving participation in the key informant interview process.

*Perceptions of sustainable living.* Several similarities persisted across iterations with regard to perceptions of sustainability and sustainable living. First, environmental connotations were perceived for the terms across all iterations. Within the first two iterations, the environmental dimension was emphasized to the exclusion of the other dimensions of the terms. In contrast, informants in the last two iterations *focused* on the environmental dimension, while also acknowledging the non-environmental dimension. In spite of that acknowledgment, the environmental emphasis was perceived strongly

among all organizations' key informants. Furthermore, workshop participants for all applicable iterations (2-4) viewed the terms from an environmental perspective. For Iteration 4, during which sustainability and stewardship were deliberately compared and contrasted, workshop participants viewed sustainability as having an environmental focus, and stewardship as having an economic and/or social focus.

The second similarity observed across iterations was the finding that, considering all key informants and workshop participants, understanding of sustainability and sustainable living varied among the members of each organization, ranging from limited to advanced. However, regardless of previous knowledge and understanding among key informants and workshop participants, *all* acknowledged the appeal of the three-dimensional definition outlined in and embraced by the curriculum used in this project.

In addition to the similarities observed, there were two slight differences observed among the iterations. First, informants in the first three iterations identified some of the key components of the terms sustainability and sustainable living, such as: personal responsibility/individual behavior; degrees of sustainability; intentionality/choices/trade-offs; and future implications. Although informants in Iteration 4 spoke of environmental and non-environmental aspects of the term, as well as acknowledging the terms' three-dimensional nature, they did not highlight those key components.

Second, workshop participants for Iterations 2 and 3 offered definitions of sustainable living ranging from general to specific, implying varying levels of comprehension among participants with regard to the terms. In contrast, the college students who comprised the workshop participants for Iteration 4 offered more general

than specific descriptors for the term sustainability. This may indicate a weaker understanding of sustainability and sustainable living among those students. Both of the differences outlined here, along with the similarities noted above, indicate that understanding of the meaning and scope of the terms sustainability and sustainable living is not ubiquitous in our society, even though the term sustainability, in itself, has become a popular buzzword.

*Barriers to living sustainably.* Regarding barriers to sustainable living, a number of similarities surfaced across the last three iterations especially. Those similarities included: cultural barriers; infrastructural barriers; barriers related to time, effort, and inconvenience; barriers related to knowledge, awareness, and education; financial costs; and spiritual or philosophical barriers.

The idea of cultural barriers was expressed across iterations, although the themes were labeled differently for each iteration, on the basis of the focus of informants' comments. For the first iteration, the theme was labeled, simply, *societal barriers*. For the second, it was labeled *expectations, comfort, and social norms*. For the third, it was labeled *culture* (informants in that iteration also identified a related them of *image, social norms, and peer pressure*, further affirming the presence of such cultural barriers). For the fourth iteration, it was labeled *peer pressure, society, and culture*. In all cases, though, it was clear that informants were aware of the influence that the broader society, or culture, has on individual behavior, and individual ideas of what is acceptable and/or sustainable.

*Infrastructural barriers* were identified by key informants in Iterations 1, 2, and 4. This makes it a prominent theme, although it was not raised in Iteration 3. Some infrastructural barriers were raised within the theme of *time, effort, and inconvenience* for that iteration, however, indicating some level of agreement, even among those informants. The prevalence of these types of barriers indicates that the study community needs to make a greater effort in terms of making sustainable options available to and accessible for its residents. Additionally, where infrastructural barriers are *perceived*, rather than *actual*, efforts should focus on increasing awareness of the available local options for living sustainably.

Further supporting the need to increase awareness of local opportunities is the importance of the theme entitled, *knowledge, awareness, information, and education*, which was commonly identified, particularly among informants from Iterations 2-4 (as well as by Phase II participants in Iteration 4, wherein participants were asked to share perceived barriers to living sustainably). This theme persisted, even in spite of comments by several informants that individuals may, in fact, be overwhelmed and inundated with information about “being green.” The consensus seemed to be that, even among those with accurate knowledge regarding the *environmental* dimension of sustainability, awareness and understanding of the *social* and *economic* dimensions of the concept were often absent. This finding reiterates a recurring need that has surfaced throughout this study; the need for community leaders and planners, as well as professional sustainable living educators, to aggressively promote a three-dimensional definition and understanding of what it means to live sustainably on a daily basis.

*Time, effort, and inconvenience* comprised another popular theme; this one expressed by informants in Iterations 2-4 (as well as Phase II participants in Iteration 4), but not in Iteration 1. Issues related to this theme were discussed within the first iteration's descriptions of infrastructural barriers, namely, that options for living sustainably are *available* to community residents, but that infrastructural barriers make it difficult for residents to easily access those opportunities. Due to the prevalence of this theme, it falls to sustainable living educators to promote behaviors that will not burden individuals' needs in terms of time, effort, and convenience. Better still, they should work to identify and promote behaviors that actually save time, minimize effort, and improve levels of convenience, as perceived by individuals.

*Financial costs* were identified as barriers by informants in Iterations 2 and 3, but not 1 and 4. Interestingly, Iterations 1 and 4 were conducted with organizations largely comprised of younger members than those comprising organizations 2 and 3. This suggests the possibility that age and life stage may be influencing factors in the degree of importance ascribed to financial costs as a barrier to living sustainably. However, participants in Phase II of Iteration 4 did acknowledge financial costs as a potential barrier to living sustainably. Thus, as opposed to age and life stage, familial socioeconomic status may be more influential for some younger people.

*Spiritual and/or philosophical barriers* were noted among key informants in Iterations 3 and 4. Again, these two iterations were conducted among two separate subpopulations within the same faith-based organization. The concerns expressed centered primarily around a dissonance that seems to be present within particular

Christian denominations between faith and the environment. Although the key informants themselves seemed to have reconciled that dissonance, largely through the lens of biblical stewardship, many acknowledged that other church members may still see a disconnect between faith and the environment. This finding implies a challenge for sustainable living educators, but one that might be successfully overcome by modifying the focus of, and terminology associated with, sustainable living educational programming and promotion thereof.

The differences among organizations in regard to their identification of barriers to living sustainably were few. First, key informants from Iteration 1 only identified three different themes related to barriers to living sustainably. That may be partially attributable to the fact that only three informants participated in interviews. Greater participation for subsequent iterations (10 informants each) may have added to the breadth of barriers identified across those iterations. Among the few barriers that Iteration 1 informants did identify was a resistance to change, which was not raised directly in the other iterations. In Iteration 2, informants noted the barriers of individual characteristics, as well as conflicting priorities, responsibilities, and values, neither of which surfaced in the other iterations. In Iteration 3, habits were also seen as a barrier to living sustainably. Finally, in Iteration 4, a “now” and a “me” focus was identified as a barrier. These differences do not necessarily represent barriers that were only present within one iteration or organization. Instead, it is likely that they just did not come to mind for the informants interviewed for other iterations. It is possible that, had barriers been measured using a closed-ended technique, more informants would have acknowledged their

presence among members of their own organizations. That again, though, is difficult to assert without further empirical examination.

*Organization members' values and priorities.* Across the four iterations of the project, there were both similarities and differences regarding organization members' values and priorities. The one overarching finding was that organization members, in the estimation of the key informants, were seen as influenced by multiple, and sometimes conflicting, values and priorities.

For the organizations studied in this project, the most commonly-cited values and priorities were those of social relationships and spirituality, or faith. *Social relationships* were a clear value and priority across all iterations. They were ranked *first* in importance by informants in Iterations 1 and 4, again, those iterations conducted among younger cohorts. Even for the other two iterations, however, social relationships were ranked third in importance. *Spirituality, or faith*, was an important value within three of the iterations (2-4). Again, those iterations were conducted among groups with a clear spiritual foundation. For Iteration 2, I collaborated with an organization that was not “faith-based” *per se*, but was one in which many of the members did profess a common commitment to spirituality. Iterations 3 and 4 were conducted among two subpopulations of the same local church. The importance of this value impacts the findings of this study in two ways: 1) it allows for conclusions, comments, and recommendations to be put forth in relation to audiences with the kinds of spiritual motivations evidenced among participants in this project; and 2) it helps to define the scope of findings for the project as a whole, in some ways limiting those findings to faith-based audiences.



*Family* was a highly-ranked priority for informants in Iterations 2 and 3, again, the “older” cohorts. These two organizations are comprised of individuals who, for the most part, represent a different life stage than the members of the other two iterations. Many members of these organizations, for example, are married and have children and/or grandchildren. Thus, it is intuitive that their values and priorities would be influenced by their life stage. Several informants in Iteration 4, particularly, pointed out the tension between a dedication to family, on one hand, and a need to seek personal independence, on the other. Additionally, a number of those informants talked about not being far enough removed from their families, in terms of time or space, to have yet developed an appreciation or fondness that often comes with prolonged absence.

Several priorities were consistently ranked low, across iterations. The most apparent was the environment. The environment was only included in the closed-ended ranking question for the third and fourth iteration, but was ranked last in importance by the majority of informants within those iterations. Also, for a number of informants, the assignment of the environment as last in importance appeared to be the easiest ranking to assign, taking very little thought or deliberation. Furthermore, in *none* of the iterations did *any* of the informants actually suggest the environment as a value or priority of organization members in response to the open-ended question on that subject. Participants in Phase II of Iteration 4 echoed this lack of environmental values. This finding speaks to the need for sustainable living educators to appeal to existing values and motivations of the audiences they hope to reach.

Another value that was consistently ranked as less important than some of the others was health—although fitness was ranked higher, seemingly in relation to its impact on image and social relationships. When questioned, informants acknowledged the importance of health to longevity and quality of life, but also asserted that it is something that people do not necessarily think about until it is placed in jeopardy. Thus, while many of the benefits of living sustainably involve improved physical, psychological, and emotional health and wellbeing, those may not be the most compelling benefits for some audiences. In those cases, it may still be worth noting the health benefits of a sustainable lifestyle, as an added bonus for audience members. However, they will likely need to hear more compelling arguments if they are to be compelled toward a more sustainable lifestyle.

Time and money were ranked second and third in importance, respectively, for informants in the first iteration, but were not ranked as highly for the other iterations. When asked, informants from the other iterations acknowledged the importance of the two priorities, but still ranked them lower than a number of other priorities. It is possible that this scheme for ordering priorities (that is, placing many other priorities ahead of time) contributes, in part, to the time management struggles that were identified by many informants and workshop participants. Thus, encouraging them to think more deliberately about time, and its importance in relation to other activities and areas of life, may hold appeal for participants who are burdened by time constraints. In terms of money, the organizations with which I collaborated on this project are largely comprised of individuals with higher-than-average incomes. This demographic characteristic may have

influenced informants' ranking of money. However, participants in Phase II of Iteration 4 placed a clear priority on money and considered the financial and economic implications of their participation in this educational programming. That finding may indicate a disparity among the different members of that organization, particularly between the key informants and the workshop participants.

Along with the similarities in values and priorities noted above for the four iterations, there was one important difference observed. Specifically, an almost-exclusively inward focus was recognized (only) in the first iteration. While the organizations comprising the other three iterations do have some inwardly-focused components and interests, they exist largely to promote the greater social good in an outwardly-manifested way. It remains an empirical question, the extent to which this difference accounts for the differences in goal achievement between the first iteration and the other three. However, such a possibility is suggested by these findings.

The overall sentiment among informants across iterations was that all of the values and priorities presented were important to members of their organizations. However, being forced to rank them in order of importance led to some being ranked lower than might be accurately reflective of the importance of the value. This was evidenced in one informant's comment that his ranking of the environment as last in importance was actually an indication of it as the eighth *most* important value, rather than the *least* important value. These findings suggest that, across organizations, key informants and organization members have a number of values and priorities that vie for their attention and that they must consider in the decisions that they make.

*Recruitment recommendations.* Many of the recruitment recommendations offered by key informants were consistent across iterations. Even those that differed were not inconsistent with, but rather were offered in addition to those recommendations. Recommendations that persisted across iterations dealt primarily with increasing the appeal of the educational programming events. According to informants, this could be accomplished in a number of different ways. For instance, informants noted the importance of offering incentives to participate (i.e., emphasizing the reasons for, or benefits of, living sustainably; providing refreshments). In addition, it was important to remove as many potential barriers to attendance as possible (i.e., scheduling events at convenient times, keeping events to a reasonable length, offering childcare for audiences that might need it). Informants agreed that promotional efforts should also be used to increase perceived appeal among potential participants. To do so, the informants recommended using a multimedia approach to promotion (one including written and verbal invitations and word of mouth promotion, for example) and focusing on the three-dimensional definition of sustainable living. Finally, informants suggested key content elements for the educational programming events themselves, in order to increase the appeal and effectiveness of the programming efforts. For example, they highlighted the importance of offering practical tips and suggestions, and including as much dialogue and discussion as possible. The recruitment recommendations outlined here, along with key informant responses regarding the other constructs of interest discussed above, were used to adapt subsequent phases of research, as well as subsequent iterations, as applicable.

*Adaptations in response to key informant interviews.* Many of the adaptations made in response to key informant interview findings were consistent across iterations. The first of those was the application of a three-dimensional focus and terminology. This has been a consistent theme not only across iterations, but across various constructs within each iteration. I responded to the importance ascribed to this theme by continuously increasing efforts to help participants understand the various dimensions of sustainability and sustainable living. In addition, I worked to help organization members, including key informants and workshop participants, integrate those three dimensions, rather than seeing each of them as separate or sufficient alone. Considering only one dimension at a time could be counterproductive, because behaviors might be sustainable along one or two dimensions, but unsustainable along the other(s). Thus, these efforts were important in encouraging individuals to consider all three dimensions when making daily decisions regarding their behavior, particularly given the compromises and trade-offs that are sometimes required among the dimensions of sustainability.

Another important theme that persisted across iterations was the need to appeal to existing and varied values, priorities, and motivations of organizations' members. For this reason, I tailored the content of my workshop presentations for each group, on the basis of informants' feedback regarding the values, priorities, and motivations of the larger membership. I did this largely through the use of different examples and scenarios, which seemed to resonate with workshop participants.

I also adapted my presentations to include an emphasis on the benefits of, or reasons for, living more sustainably. The importance of highlighting those benefits was

more direct in Iterations 1, 3, and 4 and less distinct in Iteration 2. That is, for Iteration 2, informants suggested that the workshop be promoted as a way to achieve the higher goals of the organization and to help others. This emphasis on benefits ties in closely with appealing to existing values; that is, it is important to highlight the benefits that are in keeping with groups' and individuals' values and priorities. For this reason, the benefits that were highlighted sometimes differed among iterations, on the basis of the values, priorities, and motivations of the members, again as perceived by the key informants.

Informants from each iteration identified a number of barriers that might prevent them or other organization members from living sustainably. Many of those barriers were consistent across iterations. Regardless, efforts were made during each iteration to overcome potential barriers, as identified by the key informants. As an example, I incorporated ever-increasing efforts to facilitate increased awareness of local opportunities for sustainable living. It seemed that, in spite of adaptations made for each iteration in this regard, participants craved even more information about those local opportunities.

Three other themes exhibited that same phenomenon, wherein adaptations were never sufficient to satisfy participants. Those themes were: 1) the need for dialogue and discussion throughout the educational programming event; 2) the desire for practical tips and examples of how to live sustainably on a daily basis; and 3) the need for attendance at the educational programming events to be made extremely convenient for members. Nonetheless, each iteration was characterized by even more concerted efforts to meet

these three needs than the previous iteration(s), as described in the case descriptions for each iteration.

Finally, for each iteration, I used a multimedia approach to promotion and recruitment, to the extent possible. This was easier to achieve for some organizations than for others, and became a major consideration in the organization selection process. That is, I attempted to collaborate with organizations largely on the basis of the ability to incorporate this multimedia approach (in response to outcomes from Iteration 1). My efforts were more or less successful, depending on the iteration. Some organizations exhibited willingness to promote educational programming events in this manner, but encountered logistical challenges when attempting to put feet to that willingness.

*Outcomes of educational programming.* There were both similarities and differences across iterations in terms of outcomes, particularly goal achievement. For instance, participation among non-environmentally-motivated individuals was similar in that participants in the educational programming for all three applicable iterations displayed mixed motivations, with social and economic motivations outweighing environmental motivations. However, while the mix of motivations was similar among participants, the *number* of participants increased with each iteration—from 0 for Iteration 1, to 8 for Iteration 2, to 25 for Iteration 3, and 38 for Iteration 4. The increase observed suggests that achievement of the project's first goal improved from one iteration to the next throughout the study.

A number of similarities and differences were also observed with regard to behavior change commitments and expectations. Similarities included findings that: 1)

participants in Iterations 2-4 made behavior change commitments that were largely ongoing in nature; 2) many of the behaviors participants chose to change would have positive environmental (as well as social and/or economic) impacts; and 3) participants' responses to before and after behavioral frequency questions as measures for behavioral expectations (Iterations 2 and 3) indicated increases in expected frequency of performing various sustainable behaviors upon completion of the workshop (that increase was significantly larger for Iteration 3 than for Iteration 2, indicating a greater degree of achievement of Goal 2 for Iteration 3).

Participants across iterations also displayed differences, first of all, in the nature of behavior change commitments made. That is, their behavior change commitments became more specific with subsequent iterations, possibly due to the increase in practical tips and examples offered for each iteration. The likelihood that those tips and examples influenced behavior change commitments is demonstrated by the fact that many of the behaviors that participants committed to changing were the same behaviors mentioned during the workshops, either by the other participants, or by me as the facilitator. Additionally, participants in different iterations appeared to have different motivations for adopting the behaviors to which they committed (i.e., participants in Iteration 3 committed to more environmentally-oriented behavior changes than participants in Iteration 4). Nonetheless, as noted above, the motivation or orientation behind various behaviors did not appear to greatly influence the potential impact of those behaviors.

Finally, in addition to recording outcomes for the two substantive goals of the intervention, I made observations regarding other outcomes, again, participant learning



and engagement. Those two outcomes provide insight into the mechanisms through which participants might arrive at their behavior change decisions. With regard to participant learning and engagement, participants in Iterations 2-4 took from the workshops: 1) a greater awareness of the three-dimensional nature of sustainability, sustainable living, balance, and stewardship; 2) a greater awareness of current (pre-workshop) levels of sustainability within their own lifestyles; 3) awareness of available resources, options, and opportunities—both locally and in general; and 4) practical tips and examples for how to live more sustainably on a daily basis. Indeed, those outcomes informed the identification of a number of enhancing and inhibiting factors and essential components of the curriculum.

*Enhancing factors.* A number of enhancing factors remained across iterations. First, the use of personal influence, to the extent possible, was helpful in promoting participation in both phases of research. As noted previously, personal influence was most effective when used in conjunction with leadership endorsement and word of mouth promotion by influential organization members. Second, an appeal to existing motivations was important for facilitating both participation in the educational programming events, and behavior change commitments resulting from that participation. Third, the inclusion of local opportunities, options, and resources was viewed positively by participants across iterations. A number of behavior change commitments made reflected new knowledge among participants regarding those local resources. Finally, and largely logistically, refreshments were recommended by key informants and appreciated by workshop participants across iterations.

In addition to the similarities observed regarding enhancing factors, a number of differences were also observed. First, although leadership support, enthusiasm, and endorsement were sought for all organizations, the different iterations met with varying responses from leadership in that regard. In all organizations, there was at least one leader who was enthusiastic about the subject matter of the project, however that enthusiasm varied in degree. Further, leaders' enthusiasm was more effective when it spanned a greater number of leaders at various levels of leadership, which also varied among the organizations. Even where enthusiasm was high among one or more leaders, it remained difficult for the leaders of some organizations to effectively endorse the event(s) or actively promote participation, due to limitations built into their roles, or conflicting responsibilities.

Second, several enhancing factors were employed to increasing extents for each subsequent iteration: 1) the opportunity for discussion, dialogue, and interaction; 2) the provision of specific and personal examples of sustainable behaviors and of practical tips and examples for how to live more sustainably on a daily basis; 3) the emphasis on the three-dimensional nature of sustainability and sustainable living in promotional communications and the curriculum presentations themselves, and 4) the connection between faith and sustainability through a focus on biblical stewardship and balance.

Third, with each iteration, an increasing effort was made to remove logistical barriers to attendance (i.e., providing childcare, coinciding events with existing commitments). Each adjustment made to accommodate the needs of potential participants was effective in improving participation in the educational programming events. While

the needs of members of different organizations varied (e.g., the college students did not need childcare), the response to efforts to meet those needs did not.

Finally, although all workshops involved relatively small numbers of participants, the format of the workshops changed for the fourth iteration. Specifically, the content and delivery were designed around a small group, discussion-based (rather than lecture) format for the workshops comprising that iteration. The format change allowed for greater incorporation of a number of the enhancing factors discussed above. Because this change was incorporated for only one of the organizations, its potential impact on future works remains an empirical question. However, outcomes and feedback obtained from that organization/iteration suggest that this may be a promising enhancing factor for other organizations moving forward.

*Inhibiting factors.* As with the enhancing factors, similarities and differences were observed across iterations for the factors inhibiting the effectiveness of the intervention. In terms of similarities, although efforts to highlight the three-dimensional definition of sustainable living were increasingly effective with each subsequent iteration, there remained a limited understanding of that definition among workshop participants for each. Additionally, as was clear from key informant interviews, each organization continued to exhibit varying levels of understanding across members—making it difficult to cater to all of those members simultaneously. Secondly, for the final three iterations, two inhibiting factors (which roughly coincide with enhancing factors) remained, in spite of efforts to overcome them. Specifically, participants in all three of those iterations continued to call for: 1) more opportunities for dialogue, discussion, and interaction; and

2) the provision of more practical tips and examples for how to live sustainably on a daily basis. Thirdly, in addition to participants' desires for increased opportunities for discussion, and for provision of a greater number of tips and examples, for each iteration, the qualitative observer pointed to various shortcomings in presentation and delivery that could have been improved to better accomplish the goals of the workshops. Those shortcomings differed across iterations, and even across workshops within iterations. Regardless, it is important for educators to know their material well, and to tailor that material to their audiences.

Regarding differences in inhibiting factors, a lack of leadership support and endorsement was particularly problematic for Iteration 1. The following three iterations met with varying degrees of leadership support at different levels of leadership. More problematic for those final three iterations were the logistical challenges of timing, promotion, and communication with leadership. Secondly, for Iterations 2 and 3, it was clear that participants were unhappy with the research component of the workshops. Namely, they did not like filling out the pre- and post-workshop questionnaires. They were long and tedious, and detracted from the time that might have otherwise been spent on workshop content. That inhibiting factor was removed for the final iteration, as the pre- and post-workshop surveys were combined into one survey that was substantially abbreviated. The removal of this inhibiting factor was well-received by participants in the final iteration.

*Adaptations and recommendations in response to educational programming outcomes.* Adaptations made in response to educational programming outcomes were

fairly consistent across iterations. Indeed, only similarities were observed. First, personal influence; leadership support, enthusiasm, and endorsement; and word of mouth promotion were all important in achieving higher levels of participation in educational programming events across iterations. In addition to encouraging participation through personal influence, leadership endorsement, and word of mouth promotion, it was important across iterations to remove logistical barriers and obstacles to attendance, by planning events in such a way as to make them easy to attend, from the perspectives of time, location, childcare (as applicable), and so forth.

For all iterations, it was recommended that promotional efforts be further improved, largely for the purpose of targeting more non-environmentally-motivated individuals, but with the secondary function of increasing overall participation. Determining the nature of the necessary improvements may be best accomplished through future research, although results from this study indicate that community, planners, and sustainable living practitioners should consider using new or different terminology in promotions than has been used in the past. In the case of the (predominantly faith-based) organizations with which I collaborated, the use of terms like balance, stewardship, and simplicity held more appeal than terms like sustainability and sustainable living. The extent to which those kinds of terms (particularly balance and simplicity) would hold appeal across other types of organizations remains an empirical question. In addition to using different terminology, this research also suggests that the three-dimensional definition of sustainable living must be highlighted in promotional materials in order to appeal to non-environmentally-motivated individuals.

Participants across iterations consistently recommended the incorporation of greater opportunities for discussion and dialogue, and of more practical tips and examples for how to live sustainably on a daily basis. Thus, with each subsequent iteration, those recommendations were incorporated to a greater extent. When the workshops were structured as small group discussion sessions—which included tips and examples through brainstorming, as well as suggestions provided to participants by the facilitator—those recommendations dwindled. It may be possible to incorporate those two aspects even further when designing future programming events. However, among the formats used for this project, that small group format was the most successful strategy for addressing those two concerns. An appeal to existing motivations was a key recommendation across iterations, however it should be noted that organizations that were more outwardly focused and civic-minded tended to be comprised of members whose motivations were more in keeping with a sustainable lifestyle.

Finally, two logistical recommendations persisted across iterations. First, for both applicable iterations (2 and 3), the research component of the workshop—specifically the before and after surveys—were seen as long and tedious. While sustainable living educators should be monitoring their outcomes through the use of evaluative research, it is important for them to find and use innovative methods for conducting that research and collecting relevant data. Surveys, unless they are especially brief and concise, may detract from the impact of the workshop and leave participants less satisfied with the overall experience. Second, refreshments were provided for all iterations, and were appreciated by participants. Thus, it is important for educators to make an effort to

always provide refreshments; and when possible, they should let potential participants know ahead of time that those will be provided.

## CHAPTER FIVE

### DISCUSSION AND CONCLUSIONS

As noted in the literature review, the existing research and theoretical work related to sustainable behavior has suffered from several shortcomings. First, the behaviors of interest have traditionally been operationalized in such a way as to imply environmental intent for those behaviors, rather than allowing for alternative motivations. Second, existing research has been subject to some inconsistency in terminology used, particularly in relation to environmental behaviors and the operationalization of such behaviors. Although most definitions of sustainability include social, economic, *and* environmental dimensions, existing research fails to reflect this three-dimensional definition in the behaviors measured. Likely the most problematic tendency has been toward a disproportionate focus on the environmental dimension of sustainability. Finally, a number of existing theories rely heavily on the presence of proenvironmental or prosocial attitudes and beliefs in promoting environmentally-beneficial behaviors. One result of these shortcomings, and the findings that have followed from them, has been an inference that groups and individuals cannot be effectively persuaded to change their behavior in the direction of sustainability without their attitudes and beliefs first changing.

This project has brought that assertion into question. As described in the cross-case analysis above, participants in both phases of this study have exhibited largely economic and social values, beliefs, priorities, and motivations. And yet, over the course of four iterations, I was able to: 1) secure personal interviews with 33 key informants; 2)



successfully recruit 71 alternatively-motivated individuals for participation in sustainable living educational programming events; and 3) elicit 110 behavior change commitments. Beyond explicit commitments made by participants, many of them also indicated expected increases in frequency of participation in various sustainable behaviors. Thus, I have been able to achieve both of this study's goals to increasing degrees throughout the project.

Moreover, these results have been obtained almost exclusively through collaboration with faith-based and faith-affiliated groups. That is noteworthy, because in spite of mixed findings regarding relationships among religious affiliation, environmental attitudes, and environmental behavior (Biel & Nilsson, 2005), a number of studies have found a negative effect of religious variables on environmental behavior (e.g., Eckberg and Blocker, 1989, 1996; Woodrum & Hoban, 1994). One commonly-cited theory, the Lynn White thesis, has suggested that "Judeo-Christian religion has an inherently negative effect on environmental concern" (Djupe & Hunt, 2009, p. 670). That assertion was based on the Bible's reference, in Genesis 1, to man's right to "dominion" over nature (Eckberg & Blocker, 1989, p. 509).

The present study, in contrast, lends support to what has been referred to as a "third stage of literature on religion and environmentalism in which positive as well as negative patterns are recognized" (p. 223). Research comprising this third stage has brought the Lynn White thesis into question (e.g., Kanagy & Nelsen, 1995; Schultz, Zelezny, & Dalrymple, 2000; Wolkomir, Futreal, Woodrum, & Hoban, 1997a; Wolkomir, Futreal, Woodrum, & Hoban, 1997b). Djupe and Hunt's (2009) findings

asserted that support for White's thesis dwindled upon controlling for social communication (with clergy and other members) within congregations and denominations. Hand and Van Liere's (1984) findings also suggested denominational differences, with regard specifically to a commitment to the mastery-over-nature orientation that informs the Lynn White thesis. Kanagy and Willits (1993) found that, after controlling for respondents' environmental attitudes, church attendance (regardless of religious affiliation) was *positively* related to environmental behaviors. Eckberg and Blocker (1996) found similarly that religious participation had a positive environmental effect. Woodrum and Wolkomir (1997) also found a positive association between worship attendance and individual environmental behaviors, but after controlling for fundamentalism and political variables. In addition, they found that the strength of religious affiliations had a positive effect on environmental concern.

The church used for the present study is a biblical, evangelical church; and according to Guth, Green, Kellstedt, and Smidt (1995), "evangelicalism is the least tractable of the Christian traditions for environmental theologies" (p. 377). Indeed, key informants and educational program participants, by and large, failed to demonstrate strong environmental orientations (in terms of their attitudes, priorities, values, and behaviors). And yet, positive outcomes were obtained. Thus, the current project adds to the above discourse by asserting that, regardless of initial inclinations of churchgoers toward sustainable behavior, these individuals can be successfully encouraged to modify their behavior in the direction of greater sustainability through effectively-designed interventions geared toward achieving that goal.

Furthermore, as Tarakeshwar, Swank, Pargament, and Mahoney (2001) demonstrated, “religious institutions have the potential to support or discourage care for the environment” (p. 387). That influence may provide a fruitful avenue for advancing the adoption of sustainable behavior, particularly in communities where faith affiliations are prevalent. Such was the case in the study community. In one of the earlier interviews that I conducted to gain a deeper understanding of the study context, one community sustainability professional (personal communication, September 13, 2011) estimated that there are about 135 Baptist churches alone in the local area, and nearly as many Methodist churches. Thus, across only two denominations, opportunities might exist for outreach to nearly 300 congregations. In addition, he estimated that about 75-85% of the community attends church (including many of the more influential community leaders), and argued that in the study community, “churches hold a lot of sway,” and could therefore be a “huge difference maker” in the effort toward sustainability. On the basis of these observations, he asserted that churches would be “great” venues for promoting sustainable living at the local level. Thus, in spite of the reputation that faith-based groups may have for being antagonistic toward the environmental message, findings from this study demonstrate that they may be just the right audience for a message that encompasses the balance represented within the three-dimensional definition of sustainable living.

Outcomes of this formative experiment, as well as enhancing and inhibiting factors identified over the course of the project, suggest three important considerations for sustainable living educators interested in improving the effectiveness of their

programming efforts, particularly among faith-based groups: 1) perceptions of sustainability and sustainable living among target audience members; 2) participants' and potential participants' existing values, priorities, and motivations; and 3) the use of personal influence and word of mouth promotion (including leadership support, enthusiasm, endorsement). For each of these considerations, I share assertions informed by this study's findings, as well as accompanying recommendations for both practice and future research. I then close with the project limitations and concluding comments.

### Perceptions of Sustainability and Sustainable Living

Throughout the four iterations of the present intervention, the importance of an understanding of target audience perceptions of sustainability and sustainable living became clear. My findings demonstrate an incomplete understanding of those terms among target audiences comprised of alternatively-motivated (i.e., non-environmentally-motivated) individuals. While responses of key informants and workshop participants exhibited a range of levels of understanding (from limited to advanced), environmental connotations were present and strong across iterations. Although some informants and workshop participants acknowledged the social and economic dimensions of the terms, those were not the primary focus. The environmental emphasis perceived by target audiences may present challenges for programming efforts targeted at non-environmentally-motivated audiences. It has the potential to be problematic because, as noted by one community sustainability professional I interviewed, "the environmental message is killing us" (personal communication, September 13, 2011). And yet, all key informants within this study seemed to agree that, *if* organization members understood

the broader definition, it would be something of interest and benefit to them. The values and priorities identified for those members support that assertion. However, even when sustainability is defined on a larger (community, national, global) scale, the social component is generally used to refer to more outwardly-focused issues such as social justice, social welfare, service to the poor, and so on (e.g., Campbell, 1996). Thus, when many people consider the social dimension of sustainable living, they may perceive it to include that outwardly-focused component *exclusively*. If, on the other hand, the definition of sustainable living is expanded to include a focus on individual and family-level quality of life, that social dimension is also expanded to include such ideas as: family and social relationships, a sense of community, time management, health, and so forth. Because those values were identified as important to members of non-environmentally-oriented organizations, a well-rounded and multidimensional understanding of the terms *sustainability* and *sustainable living* is essential to improving the appeal of sustainable living educational programming among these audiences. And yet, as demonstrated by my findings, promoting a three-dimensional definition of sustainability and sustainable living remains difficult, in spite of ever-increasing efforts to convey this definition.

Recommendations for overcoming problems and challenges associated with perceptions of the terms sustainability and sustainable living fall under the categories of practice and future research. In terms of practical application, the challenges described above must be deliberately addressed, either through: 1) the wholesale redefinition of the terms currently used, *and* broad exposure to and acceptance of those new definitions

among the general population; or 2) the use of alternative terminology to promote this type of programming (i.e., balance, simplicity, stewardship, etc.). With regard to future research, a number of promising directions have emerged. First, it will be important to explore perceptions of sustainability and sustainable living among members of various populations, sectors of the economy, political backgrounds, and so on, to determine the extent to which this project's findings can be generalized across those populations (e.g., it may be worthwhile to explore differences between faith-based and non-faith-based organizations). Second, focus group research may be used to develop and assess different ways of marketing sustainable living education, for instance, different terms that might be better understood and better received than sustainability and sustainable living. A pertinent research question might be, "What would be an appealing title for programming designed to promote a lifestyle that is socially, economically, and environmentally responsible?" Third, quantitative survey work could assess respondents' emotional and cognitive responses to various terms identified as potentially appealing by focus group participants. Finally, sustainable living must be better operationalized, using measures that reflect the construct's multidimensional nature, as well as its outcomes related to quality of life, wellbeing, life satisfaction, and so forth. For this study, it was difficult to assess levels of sustainable living succinctly due to a lack of multidimensional measures. Such measures would stand in contrast to measures reflecting proenvironmental behavior or environmentally-beneficial behavior exclusively, such as those described in Chapter 2.

## Existing Values, Priorities, and Motivations

Although many theories, including those described in Chapter 2, imply the need for an approach geared toward changing motivations behind behavioral decisions, the findings of this study suggest an alternative approach, one that appeals to the existing values, priorities, and motivations of participants. As observed, individuals across iterations have a large number and variety of values and priorities vying for their time and attention. That is important because the environment was consistently ranked low in importance as compared to other values and priorities, across iterations. Furthermore, their motivations for participation in sustainable behaviors did not change significantly from before to after a given educational programming event. And, as noted by Gardner et al. (2009), “new information that is inconsistent with an existing attitude is often minimised or ignored entirely, while information that is attitude consistent is given much more attention” (p. 27). Thus, attempting to change audience members’ values, priorities, and motivations may be a futile effort.

In response to these findings, a concerted effort must be made to ensure that sustainable living educational programming is promoted in such a way as to appeal to alternative motivations, values, and priorities of potential, or target, audiences. Sustainable living educators need to appeal to those existing values and priorities in their recruitment for, and promotion of, sustainable living educational programming events; and they need to tailor the curriculum content, and their presentation thereof, in such a way as to acknowledge, validate, and accommodate those existing values. In terms of research, these findings suggest the opportunity for comparisons among and evaluations

of different curricula used for teaching sustainability (i.e., climate change-centered vs. sustainable living centered; curricula that appeal to existing motivations vs. those that attempt to change motivations). These empirical questions must be addressed through qualitative and quantitative (although not necessarily formative) research in order to ensure effective practice among sustainable living educators.

#### Personal Influence, Word of Mouth Promotion, and Leadership Involvement

The findings from this study speak to the need for sustainable living educators to capitalize on personal influence, word of mouth promotion, and leadership involvement. Where these types of influence were used in this intervention, results were better. One way in which this can be done is incorporating a key informant phase into outreach efforts. In addition to providing valuable information regarding the process of customizing educational programming to different audiences, key informant interviews in this project have had the added benefit of achieving buy-in from the informants themselves. For example, Nancy concluded her interview by saying, “if there’s anything I can do for you to help you, let me know.” Similarly, Renee offered, “if there’s anything I can do—if you have other thoughts you want to run by me, feel free. I really hope you can get people to respond.” Finally, Quincy stated,

I would just encourage you. I mean, you’ve made me excited about it, and I didn’t even really know what sustainability was. But I think there’s just a real opportunity there. Once you get some interest going, I think you’re going to get a lot more. I think it will be good for our church, and would be good for our whole community. It really would be.



Key informants have, in general, been active, involved organization members, with substantial influence among other organization members. In fact, informants in early rounds of interviews have helped to identify other willing informants. Additionally, their support and willingness to endorse programming efforts was helpful in promoting participation. Additionally, leadership support, enthusiasm, and endorsement, along with my own personal influence, were instrumental in securing key informant interviews. In fact, my personal influence also contributed to my ability to secure support and involvement from organization leaders as well (i.e., leaders with whom I was personally acquainted exhibited a greater willingness to collaborate on this project). These results indicate that some combination of leader/peer endorsement and personal influence (preferably both) are important factors in improving participation in the key informant interview process and in educational programming events.

Given the large number of organizations in many communities, it may be difficult for sustainable living educators to become personally acquainted with the leadership of the majority of those organizations. This may be particularly challenging for new arrivals to the community, as I found. For this reason, it may be advantageous to fill positions for sustainable living educators with local residents who already possess personal influence among local leaders. In addition, community leaders and sustainable living professionals should explore the potential for lay educators' training programs (i.e., programs that would train community members to teach sustainable living material to other community members). One example that might be used as a template is the Creation Care Teaching Institute developed by the Evangelical Environmental Network (2011). That program

offers training for laypeople interested in participating in education on issues related to the environment, and on the biblical basis thereof. The institution of similar training programs may help to alleviate budget concerns within organizations (i.e., cooperative extension) traditionally tasked with providing sustainable living educational programming, by training volunteer educators. Additionally, professional educators' time may be better allocated to training trainers than to training members of the general population. The effectiveness of such training programs remains an empirical question to be addressed in future research. Research should also compare the behavioral outcomes obtained through more traditional programming (led by professional sustainable living educators) versus programming conducted by lay educators. Results of those future studies will further inform practice.

#### Limitations

I faced a number of limitations throughout this intervention. First, I came into the study community as an outsider, having lived there for less than a year. For that reason, I lacked some of the weak and strong ties that comprise an overall level of social capital (Granovetter, 1983). And, although several of the organizations with which I worked were very inviting and welcoming, I still lacked long-term connections, which may have given organization members a greater sense of vested interest in this project. This limitation offers further support for the above recommendations regarding hiring practices and the potential for lay educator involvement in the process of promoting sustainable living at the community level.

The second major limitation I faced was the fact that, as an unfunded graduate student, time and financial resources for this project were both limited. The project would likely have benefited from both in various ways. For example, the process of identifying candidate organizations might have been more successful if I had been able to personally meet with the leadership of more existing community or civic organizations prior to selecting those with which I would collaborate for my work (which would be a more realistic possibility under an educational model including multiple volunteer lay educators). Instead, I was only able to evaluate most of them on the basis of their organization websites and documents. Also related to the limited amount of time available for completing this project was the need to measure outcomes in terms of behavioral expectations and commitments, as opposed to measuring those outcomes in terms of *actual* behavior. That limitation applies especially to Iterations 2 and 3, because many participants in Iteration 4 agreed to participate in follow-up research, which will assess actual behavioral outcomes several months after participation.

### Concluding Comments

I undertook this project with the aims of: 1) fostering participation in sustainable living education among non-environmentally-motivated individuals; and 2) obtaining behavior change commitments among those participants, in the direction of more sustainable lifestyles. Those goals were both achieved to increasing degrees with each successive iteration, in terms of participants' demographics; attitudes, beliefs, and motivations; and behavioral commitments and expectations. That finding runs counter to those of previous studies, which have suggested the need to change values, attitudes,

beliefs, and norms in order to change behavior. However, it does support the assertion of Gardner et al. (2009) that, “[g]iven the stability of values, only long-term and large-scale interventions can expect to influence them . . . . For smaller scales and shorter timeframes, it is important to acknowledge that the impacts of interventions can and will be moderated by the prevailing values of individuals” (p 29).

In addition to the immediate outcomes achieved through this study, it has also had broader impact. Specifically, the project has served a valuable purpose among members of the study community, and the findings have the potential to benefit both sustainable living educators and conservation researchers. Successful promotion of sustainable living among community residents enhances the community’s civic fabric, and contributes to the “think globally, act locally” initiative that currently permeates the international sustainability discourse. Practitioners may apply the findings and recommendations shared above in order to better engage traditionally under-involved populations in sustainable living initiatives. Additionally, this project has the potential to broaden exposure to a valuable research approach that is not currently well known within conservation research, that of formative experiments.

Finally, researchers may follow the recommendations for future research outlined here in order to gain a better understanding of effective motivations for environmentally-beneficial (or sustainable) behavior among variously-motivated individuals. This research should take an interdisciplinary approach, designed to incorporate an understanding of existing theories and research findings across disciplines, such as: sociology, psychology, marketing, and education; many researchers focus narrowly on the literature within their

own field of expertise, and consequently end up reinventing the wheel, so to speak. The future directions described here comprise a crucial component of this doctoral research project, provide a clear avenue for continued scholarship, outreach, and education; not only for myself, but for other researchers and practitioners.

## APPENDICES

## Appendix A

### Key Informant Interview Guide

1. Tell me a little bit about yourself? Where are you from? What do you do? That sort of thing. (Iterations 2, 3) For Iteration 4, “What do you do?” was changed to “What’s your major?”
2. How would you describe your level of involvement with [the organization]? (Iterations 2, 3) For Iteration 4, informants were also asked: “Would you say that you know a lot of other college students who attend church there?”
3. What comes to mind when I say the word *sustainability*? (Iterations 1, 2, 3, 4)
4. How would you define *sustainable living*? (Iterations 1, 2, 3, 4) For Iteration 4, I shared the official definition of sustainable living after informants had answered this question, and asked them to consider that definition in answering the remainder of the questions.
5. Are there any behaviors that you’ve personally adopted to live more sustainably? (Iteration 4)
6. Based on your definition of *sustainable living*, what do you see as barriers or obstacles to living sustainably (for yourself and for other members)? (Iterations 1, 2, 3) For Iteration 4, this question was changed to: “What are some barriers or obstacles to living sustainably (for yourself and for other members) along the different dimensions of sustainable living (economic, social, environmental)?” This change eliminated the need for the following question.
7. How about if we were to expand your definition to include other dimensions of sustainable living (i.e., environmental, social, and/or economic responsibility)? (Iterations 1, 2, 3)
8. Based on this broader definition of sustainable living, do you think that there would be an interest among [the organization’s] members in a seminar designed to promote sustainable living? Please elaborate. (Iterations 2, 3) For Iteration 4, the wording of this question was changed to: “Again thinking of sustainable living three-dimensionally, do you think that [the church’s] college students would be interested in learning more about how to live sustainably? Please elaborate.”
9. What values and/or priorities do you see as most important for your organization’s members? (Iterations 1, 2, 3, 4)

10. Rank the following concerns (values/priorities) in order of importance, with 1 being most important, as you believe *the average member of your organization* would rank them (*fill out*):
- a. Time \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - b. Money \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - c. Family relationships \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - d. Social relationships \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - e. Health \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - f. Community \_\_\_\_\_ (Iterations 1, 2, 3, 4)
  - g. Spirituality \_\_\_\_\_ (Iterations 2, 3, 4)
  - h. The environment \_\_\_\_\_ (Iterations 3, 4)
11. What do you see as effective ways in which members could be recruited to participate in a seminar designed to promote sustainable living? (Iterations 1, 2, 3)  
For Iteration 4, this question was changed to: “How do you think HC college students could be effectively encouraged to make more sustainable choices?”
12. Are there other members that you think would be willing to participate in an interview like this? For Iteration 4, this question was changed to: “Can you recommend any male friends who might be willing to participate in an interview like this?”
13. Are there any other organizations you would recommend I contact for future seminars? (Iteration 2) (Adapted for Iteration 3 to: “Are there other organizations that you think would be interested in participating in this kind of project?”)
14. Would your life group be interested in using one week’s meeting time to learn more about living sustainably? (Iteration 4)
- a. Meeting day/time: \_\_\_\_\_
  - b. Length of meetings: \_\_\_\_\_
  - c. Group gender(s): \_\_\_\_\_
  - d. Number of members: \_\_\_\_\_
15. (for non-co-ed groups) Would there be any problem, do you think, to have a female “presenter”/ male observer present for that week? (Iteration 4)
16. The curriculum uses this workbook (show). Do you think that your group’s members would benefit from receiving it the week prior, so that they could look through it, and would they come prepared to discuss it? Or would it be better just to keep everything contained in that one week’s session? (Iteration 4)



## Appendix B

### Pre-seminar Questionnaire

1. What is your community of residence? \_\_\_\_\_
2. Please indicate how frequently you take part in the following behaviors  
(1: *Never*; 7: *Always*).

|    | Behaviors   | Frequency |   |   |   |   |   |   |
|----|---|-----------|---|---|---|---|---|---|
|    |   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| A  | Take short showers  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| B  | Turn off faucet while brushing teeth  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| C  | Wash only full loads of laundry/dishes  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| D  | Water lawn in the early morning   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| E  | Sweep (instead of hose) the driveway  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| F  | Landscape using native vegetation   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| G  | Mow lawn only as necessary  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| H  | Turn off lights when not in use   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| I  | Turn off electronics when not in use  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| J  | Use heat/air conditioning as little as possible   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| K  | Repair and properly maintain existing appliances and devices to improve energy efficiency | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| L  | Buy recycled products   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| M  | Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| N  | Buy local food  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| O  | Buy organic and/or "fair-trade" food  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| P  | Eat a healthy, balanced diet  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Q  | Allot adequate time for sleep   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| R  | Allot adequate time for family (eating meals together, etc.)                              | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| S  | Exercise regularly  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| T  | Walk, bike, carpool, or take public transportation to work                                | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| U  | Combine errands to reduce car trips   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| V  | Drive a fuel-efficient vehicle  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| X  | Recycle   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Y  | Compost   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Z  | Avoid consumption of unnecessary products   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| AA | Reduce clutter  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| BB | Volunteer for a cause   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |

3. Have you installed water-saving devices (low-flow shower heads or toilets, toilet tank displacement devices, etc.) in your home? (Circle 1)

1 Yes      2 No

4. Have you installed energy-saving devices (programmable thermostat, energy-efficient windows/appliances, solar panels, etc.) in your home? (Circle 1)

1 Yes      2 No

5. How important are each of the following factors to you as you consider participating in these behaviors? Please rank them on from 1 (*most* important) to 7 (*least* important).

|       |                        |
|-------|------------------------|
| _____ | Cost savings           |
| _____ | Convenience            |
| _____ | The environment        |
| _____ | Social responsibility  |
| _____ | Health and well-being  |
| _____ | Time management        |
| _____ | Other (specify): _____ |

6. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |   | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | If you take good care of your possessions, you will definitely save money in the long run | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | There are many things that are normally thrown away that are still quite useful           | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | Making better use of my resources makes me feel good                                      | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | If you can reuse an item you already have, there's no sense in buying something new       | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | I believe in being careful in how I spend my money  | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | I discipline myself to get the most from my money   | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | I am willing to wait on a purchase I want so that I can save money                        | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | There are things I resist buying today so that I can save for tomorrow                    | 1                        | 2               | 3              | 4            | 5                     |

7. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |   | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | I admire people who own expensive homes, cars, and clothes                                    | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | Buying things gives me a lot of pleasure  | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | I usually buy only the things I need  | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | I wouldn't be any happier if I owned nicer things   | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | Some of the most important achievements in life include acquiring material possessions        | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | I try to keep my life simple, as far as possessions are concerned                             | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | I put less emphasis on material things than most people I know                                | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | I don't place much emphasis on the amount of material objects people own as a sign of success | 1                        | 2               | 3              | 4            | 5                     |
| <b>I</b> | I have all the things I really need to enjoy life   | 1                        | 2               | 3              | 4            | 5                     |
| <b>J</b> | The things I own aren't all that important to me  | 1                        | 2               | 3              | 4            | 5                     |
| <b>K</b> | I'd be happier if I could afford to buy more things   | 1                        | 2               | 3              | 4            | 5                     |
| <b>L</b> | The things I own say a lot about how well I'm doing in life                                   | 1                        | 2               | 3              | 4            | 5                     |
| <b>M</b> | It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like        | 1                        | 2               | 3              | 4            | 5                     |
| <b>N</b> | I like to own things that impress people  | 1                        | 2               | 3              | 4            | 5                     |
| <b>O</b> | I like a lot of luxury in my life   | 1                        | 2               | 3              | 4            | 5                     |
| <b>P</b> | I enjoy spending money on things that aren't practical  | 1                        | 2               | 3              | 4            | 5                     |
| <b>Q</b> | My life would be better if I owned certain things I don't have                                | 1                        | 2               | 3              | 4            | 5                     |
| <b>R</b> | I don't pay much attention to the material objects other people own                           | 1                        | 2               | 3              | 4            | 5                     |

8. What is the first thing that comes to mind when you hear the phrase “sustainable living?”

---



---



---



---

9. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |  | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | We are approaching the limit of the number of people the earth can support                         | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | Humans have the right to modify the natural environment to suit their needs                        | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | Human ingenuity will ensure that we do NOT make the earth unlivable                                | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | When humans interfere with nature it often produces disastrous results                             | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | The balance of nature is strong enough to cope with the impacts of modern industrial nations       | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | Humans are severely abusing the environment  | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | The earth is like a spaceship with very limited room and resources                                 | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | The so-called “ecological crisis” facing humankind has been greatly exaggerated                    | 1                        | 2               | 3              | 4            | 5                     |
| <b>I</b> | Humans will eventually learn enough about how nature works to be able to control it                | 1                        | 2               | 3              | 4            | 5                     |
| <b>J</b> | The balance of nature is very delicate and easily upset  | 1                        | 2               | 3              | 4            | 5                     |
| <b>K</b> | If things continue on their present course, we will soon experience a major ecological catastrophe | 1                        | 2               | 3              | 4            | 5                     |

10. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |  | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | Human beings can progress only by conserving nature's resources                                  | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | Human beings can enjoy nature only if they make wise use of its resources                        | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | Human progress can be achieved only by maintaining ecological balance                            | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | Preserving nature now means ensuring the future of human beings                                  | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | We must reduce our consumption levels to ensure well-being of the present and future generations | 1                        | 2               | 3              | 4            | 5                     |

11. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |   | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | Renting or leasing a car is more appealing to me than owning one                      | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | I tend to hang on to things I should probably throw out                               | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | I get very upset if something is stolen from me, even if it has little monetary value | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | I don't get particularly upset when I lose things                                     | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | I am less likely than most people to lock things up                                   | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | I would rather buy something I need than borrow it from someone else                  | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | I worry about people taking my possessions  | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | When I travel, I like to take a lot of photographs                                    | 1                        | 2               | 3              | 4            | 5                     |
| <b>I</b> | I never discard old pictures or snapshots   | 1                        | 2               | 3              | 4            | 5                     |

12. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |  | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | I enjoy having guests stay in my home                          | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | I enjoy sharing what I have                                    | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | I don't like to lend things, even to good friends              | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | It makes sense to buy a lawnmower with a neighbor and share it | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | I don't mind giving rides to those who don't have a car        | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | I don't like to have anyone else in my home when I'm not there | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | I enjoy donating things to charities                           | 1                        | 2               | 3              | 4            | 5                     |

13. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |  | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | I am bothered when I see people who buy anything they want   | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | I don't know anyone whose spouse or steady date I would like to have as my own                           | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | When friends do better than me in competition, it usually makes me happy for them                        | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | People who are very wealthy often feel they are too good to talk to average people                       | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | There are certain people I would like to trade places with   | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | When friends have things I cannot afford, it bothers me  | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | I don't seem to get what is coming to me   | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | When Hollywood stars or prominent politicians have things stolen from them, I really feel sorry for them | 1                        | 2               | 3              | 4            | 5                     |

14. For each of the following items, please indicate your level of agreement on a scale of 1 to 5 (1: *Strongly disagree* and 5: *Strongly agree*).

|          |  | <b>Strongly Disagree</b> | <b>Disagree</b> | <b>Neutral</b> | <b>Agree</b> | <b>Strongly Agree</b> |
|----------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| <b>A</b> | It is very important to me to help the people around me. I want to care for other people.  | 1                        | 2               | 3              | 4            | 5                     |
| <b>B</b> | I think it is important that every person in the world be treated equally. I want justice for everybody, even for people I don't know. | 1                        | 2               | 3              | 4            | 5                     |
| <b>C</b> | It is important to me to listen to people who are different from me. Even when I disagree with them, I still want to understand them.  | 1                        | 2               | 3              | 4            | 5                     |
| <b>D</b> | It is important to me to be loyal to my friends. I want to devote myself to people close to me.  | 1                        | 2               | 3              | 4            | 5                     |
| <b>E</b> | I strongly believe that people should care for nature. Looking after the environment is important to me.                               | 1                        | 2               | 3              | 4            | 5                     |
| <b>F</b> | I believe all the world's people should live in harmony. Promoting peace among all groups in the world is important to me.             | 1                        | 2               | 3              | 4            | 5                     |
| <b>G</b> | It is important to me to respond to the needs of others. I try to support those I know.  | 1                        | 2               | 3              | 4            | 5                     |
| <b>H</b> | Forgiving people who might have wronged me is important to me. I try to see what is good in them and not hold a grudge.                | 1                        | 2               | 3              | 4            | 5                     |
| <b>I</b> | I want everyone to be treated justly, even people I don't know. It is important to me to protect the weak in society.                  | 1                        | 2               | 3              | 4            | 5                     |
| <b>J</b> | It is important to me to adapt to nature and to fit into it. I believe that people should not change nature.                           | 1                        | 2               | 3              | 4            | 5                     |

## Appendix C

### Post-seminar Questionnaire

1. Please indicate how frequently you **plan** to take part in the following sustainable behaviors after participating in this seminar (*1: Never; 7: Always*).

|    | Behaviors   | Frequency |   |   |   |   |   |   |
|----|---|-----------|---|---|---|---|---|---|
|    |   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| A  | Take short showers  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| B  | Turn off faucet while brushing teeth  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| C  | Wash only full loads of laundry/dishes  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| D  | Water lawn in the early morning   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| E  | Sweep (instead of hose) the driveway  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| F  | Landscape using native vegetation   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| G  | Mow lawn less frequently  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| H  | Turn off lights when not in use   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| I  | Turn off electronics when not in use  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| J  | Use heat/air conditioning as little as possible   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| K  | Repair and properly maintain existing appliances and devices to improve energy efficiency | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| L  | Buy recycled products   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| M  | Use non-toxic products (cleaning supplies, hair/skin care products, etc.)                 | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| N  | Buy local food  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| O  | Buy organic and/or “fair-trade” food  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| P  | Eat a healthy, balanced diet  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Q  | Allot adequate time for sleep   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| R  | Allot adequate time for family (eating meals together, etc.)                              | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| S  | Exercise regularly  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| T  | Walk, bike, carpool, or take public transportation to work                                | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| U  | Combine errands to reduce car trips   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| V  | Drive a fuel-efficient vehicle  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| X  | Recycle   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Y  | Compost   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| Z  | Avoid consumption of unnecessary products   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| AA | Reduce clutter  | 1         | 2 | 3 | 4 | 5 | 6 | 7 |
| BB | Volunteer for a cause   | 1         | 2 | 3 | 4 | 5 | 6 | 7 |

2. How likely are you to install water-saving devices (low-flow shower heads or toilets, toilet tank displacement devices, etc.) in your home? (*1: Not at all likely; 7: Very likely*)

1
2
3
4
5
6
7



3. How likely are you to install energy-saving devices (programmable thermostat, energy-efficient windows/appliances, solar panels, etc.) in your home? (1: *Not at all likely*; 7: *Very likely*)

1            2            3            4            5            6            7

4. How important are each of the following factors to you as you consider participating in the above behaviors? Please rank them on from 1 (*most* important) to 7 (*least* important).

|       |                        |
|-------|------------------------|
| _____ | Cost savings           |
| _____ | Convenience            |
| _____ | The environment        |
| _____ | Social responsibility  |
| _____ | Health and well-being  |
| _____ | Time management        |
| _____ | Other (specify): _____ |

5. Name one new thing that you learned as a part of this seminar.

---



---

6. What did you like *best* about the sustainable living seminar?

---



---

7. What did you like *least* about the seminar?

---



---

8. Suggest any changes that you think would **improve** the seminar.

---



---

9. Name two behaviors of your choice (not *necessarily* from the list of behaviors above) that you will commit to change in order to make your lifestyle more sustainable (*Optional*).

1. \_\_\_\_\_
2. \_\_\_\_\_

10. What is your current age? \_\_\_\_\_

11. What is your sex (Circle 1): **1** Male **2** Female

12. What race or ethnicity do you consider yourself (Circle 1)?

- |                                    |   |
|------------------------------------|---|
| <b>1</b> American Indian           | <b>5</b> Hispanic                         |
| <b>2</b> Asian                     | <b>6</b> Other (please specify):<br>_____ |
| <b>3</b> Black or African American |   |
| <b>4</b> White or Anglo American   |   |

13. Which of the following categories best describes your 2010 total household income from all sources before taxes?

- |                               |                               |
|-------------------------------|-------------------------------|
| <b>1</b> \$9,999 or less      | <b>6</b> \$50,000 to \$59,999 |
| <b>2</b> \$10,000 to \$19,999 | <b>7</b> \$60,000 to \$69,999 |
| <b>3</b> \$20,000 to \$29,999 | <b>8</b> \$70,000 to \$79,999 |
| <b>4</b> \$30,000 to \$39,999 | <b>9</b> \$80,000 to \$89,999 |
| <b>5</b> \$40,000 to \$49,999 | <b>10</b> \$90,000 or more    |

14. What is the highest level of education that you have completed?

- |  |  |
|--|--|
| <b>1</b> Did not complete high school              | <b>4</b> Completed associate's degree      |
| <b>2</b> Completed high school or equivalent       | <b>5</b> Completed bachelor's degree       |
| <b>3</b> Some college or post high school training | <b>6</b> Graduate or professional training |

15. How long have you lived in the Waco area? \_\_\_\_\_ (Previous residence: \_\_\_\_\_)

16. You may provide contact information (*optional*) to allow me to follow up in 3-6 months to find out how you are doing with your commitments, and to allow you to share any barriers you may have encountered in trying to adopt new behaviors.

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

17. Please check either of the boxes if you would be willing to participate in follow-up research:

- I would be willing to respond to an e-mail survey (in 3-6 months)
- I would be willing to participate in a telephone interview (in 3-6 months)

## Appendix D

### Combined Questionnaire

I am a (circle one response for each question):

1. Freshman    Sophomore    Junior    Senior

2. Male    Female

3. Name the two behaviors that you have committed to change in order to make your lifestyle more sustainable (*Optional*).

1. \_\_\_\_\_

2. \_\_\_\_\_

4. How important were each of the following factors to you in selecting the two behaviors above? Please rank them on from 1 (*most* important) to 8 (*least* important).

|  |                        |
|--|------------------------|
|  | Cost savings           |
|  | Convenience            |
|  | The environment        |
|  | Biblical stewardship   |
|  | Social responsibility  |
|  | Health and well-being  |
|  | Time management        |
|  | Other (specify): _____ |

5. Name one new thing that you learned tonight.

\_\_\_\_\_

6. What did you like *best* about tonight's meeting?

\_\_\_\_\_

7. How could the curriculum be *improved*?

\_\_\_\_\_

8. Please check either of the boxes if you would be willing to participate in follow-up research:

I would be willing to respond to an e-mail survey in 3-6 months

○ e-mail: \_\_\_\_\_

I would be willing to participate in a telephone interview in 3-6 months

○ Phone: \_\_\_\_\_

## Appendix E

### Workshop Observation Guide (Iterations 2 and 3)

#### **During pre-seminar questionnaire:**

Do people seem: ENGAGED or BORED

Do they seem to understand the questions? If not, who seems confused?

#### **During the seminar:**

Do people seem: ENGAGED or BORED

Nonverbal responses and facial expressions:

Do people participate during the workbook activities?

Do people participate during audience participation questions?

Do they seem eager, or hesitant to respond to questions?

What are some observations about **MY delivery** of the seminar?

Pros

Cons

**During post-seminar questionnaire:**

Do people seem: ENGAGED or BORED

Do they seem to understand the questions? If not, who seems confused?

Appendix F

Workshop Observation Guide (Iteration 4)

Life Group details:

Number of members present: \_\_\_\_\_

Male/Female: \_\_\_\_\_

Engagement:

**During introduction:**                      **ENGAGED**              or              **BORED**

Nonverbals (attention, eye contact, facial expressions, etc.):

**During discussion questions:**                      **ENGAGED**              or              **BORED**

Nonverbals:

Eagerness/participation:

**During survey:**                      **ENGAGED**              or              **BORED**

Participation:

**Regarding MY facilitation:**

| <b>Pros</b> | <b>Cons</b> |
|-------------|-------------|
|             |             |

| Discussion Question  | LG #: _____       |
|--|-------------------|
| What is sustainability?                                    |                   |
| What is stewardship?                                       |                   |
| Personal sustainable choices? (Y/N)                        | Y: _____ N: _____ |
| Personal sustainable choices? (specify)                    |                   |
| Barriers to living sustainably?                            |                   |
| Conflict, trade-offs, and compromises                      |                   |
| How to make decisions involving trade-offs and compromises |                   |

|   |                                |                         |                           |
|---|--------------------------------|-------------------------|---------------------------|
| Sustainability now, not just later  |                                |                         |                           |
| What are your values and priorities, and how does your behavior line up with those values and priorities? |                                |                         |                           |
| Which motivation is most compelling? Why?   | <b>Environmental</b><br>#_____ | <b>Social</b><br>#_____ | <b>Economic</b><br>#_____ |
| What does success look like?  |                                |                         |                           |
| How might a sustainable lifestyle fit into your definition of success?                                    |                                |                         |                           |



## Appendix G

### Discussion Guide



### Living a Life of Balance & Stewardship

#### Introduction

As college students, you're in a unique period of transition from a life of dependence on your parents to one of independence. As such, now is the perfect time for you to begin thinking about what it means to live a lifestyle of stewardship and balance. It's time to start thinking about how you plan to manage your time, relationships, health, finances, and other resources after you graduate. In other words, how can you best glorify God through your lifestyle?

The Bible has a lot to say on the topics of stewardship and balance (through the parable of the talents, the parable of the rich young ruler, the parable of the Good Samaritan, etc.). If you read all of these parables, and other Scripture references, you'll see that the Bible offers instruction about how we live our lives—from a social, an economic, and even an environmental perspective. Some of you may recognize those as the three dimensions of sustainability, or a sustainable lifestyle. But conscious consideration of those same dimensions also reflects balance and biblical stewardship.

There are a lot of reasons to want to live with stewardship and balance, even beyond seeking to glorify God through your lifestyle. Research has shown that such a lifestyle will benefit you personally, by improving your levels of happiness and satisfaction in life, as well as your physical, psychological, and spiritual health. These benefits will also spill over into your current and future family.

Here are a few examples of what you can do to live with a greater sense of balance and stewardship:

- Maintain healthy relationships with friends and family
- Participate regularly in community service and outreach opportunities

- Wisely manage the resources that God has entrusted to you (money, time, talents, etc.)
- Demonstrate care for God's creation (the environment) through your actions

#### Passages to Study

Scripture References: Leviticus 25: 23-24; Ezekiel 34:2-4; Psalm 19:1; Psalm 24:1; Psalm 104:24; Luke 12:15,23, & 34; Matthew 25: 34-40; Romans 1:20 (and many more!)

#### Discussion Questions

1. Compare sustainability & stewardship.
2. Do you actively make choices to live more sustainably? If so, what are some of the things that you do personally to live more sustainably—economically, socially, and/or environmentally? What are some behaviors that might be more sustainable along all three dimensions?
3. What are some barriers or obstacles that keep you from a lifestyle of stewardship, on a daily basis—economically, socially, & environmentally?
4. Can you think of some examples where options conflict and require trade-offs and compromises among the three dimensions of sustainable living? How do you make decisions about your actions in those cases?
5. Sustainable behaviors that a lot of people think of relate to having a home (landscaping choices, home size, etc.), but what are some things that we haven't talked about yet that you could do now while in school?
6. What are your values and priorities, and how do your behaviors line up with those values? Which of the three motivations (economic, social, or environmental) for living sustainably is most compelling for you, and why?
7. When you think ahead to the future, and imagine what it would look like to achieve success, what does that look like? And how might a sustainable lifestyle fit into your definition of success?

## Appendix H

### Key Informant Recruitment E-mail for Iteration 1

Good Morning,

My name is \_\_\_\_\_ and I'm contacting you regarding your involvement with [Organization 1]. I'm currently a graduate student at Clemson University, in South Carolina, and my dissertation research project involves collaborating with various community organizations in the \_\_\_\_\_ area to present several seminars, the purpose of which will be to promote sustainable behavior among community members.

I'm contacting you because [your president] mentioned that you were all part of the [organization's] leadership, and therefore qualified to speak on behalf of your members. As such, I'd like to invite you to participate in an interview, your responses to which will advise my development of a sustainable living seminar that I will then conduct among the broader membership. The interview should take between 30 and 45 minutes, and can be scheduled at your convenience. Please reply to this message if you are interested in participating, or you can contact me by phone (\_\_\_\_\_).

Also attached is a more detailed information letter about the project. Thank you for your consideration in this matter. I know your insights will be invaluable in my preparation efforts.

Sincerely,

\_\_\_\_\_

## Appendix I

### Facebook Event Invitation for Iteration 1

Hi There,

My name is \_\_\_\_\_, and I'd like to invite you to take part in a seminar entitled, **“Achieving a Sustainable \_\_\_\_\_: What’s *Your* Role?”** This seminar will be held on **Monday, November 7**, in the community meeting room at the \_\_\_\_\_ Library (\_\_\_\_\_) from **6:30 to 8:00 p.m.**, and light refreshments will be served.

Many of you know that the \_\_\_\_\_ community has made great strides toward sustainability, for instance, through the building and retrofitting of multiple LEED-certified facilities and through the establishment of the Green Business Network. However, beyond these infrastructural, community-level efforts, individuals can also contribute to sustainability by living sustainably on a daily basis. This involves making choices that are socially, environmentally, and economically responsible.

As you can see, I include dimensions of sustainability that go beyond the environmental dimension that many people think of when they see or hear the word “sustainability.” Using this broader definition of sustainable living, we can see how a sustainable lifestyle is deeply satisfying, fulfilling, and appealing; and how it benefits you, your family, and your community, as well as the environment.

You may benefit from this seminar if you often find yourself too busy to do the things you want to do; or if you find that it's often difficult to make ends meet at the end of the month, financially speaking; or if you simply feel that your life is cluttered with too much “stuff.” If any of those descriptions sound like you, or if you'd just like to be part of a dialogue about what it means to live sustainably, I would invite you to attend this seminar.

Please feel free to contact me at [e-mail address] or [phone number] if you have any questions. Also, please RSVP by Friday, November 4, so that I can plan accordingly. Thank you all, and I hope to see many of you all on November 7!

## Appendix J

### E-newsletter Announcement for Iteration 1

Hi There,

My name is Brooklynn Wynveen, and I am a graduate student at Clemson University (although I live here in \_\_\_\_\_). As part of my dissertation research, and in collaboration with the [organization], I'd like to invite you to take part in a seminar entitled, "**Achieving a Sustainable \_\_\_\_\_: What's *Your* Role?**" This seminar will be held on **Monday, November 7, 2011**, in the community meeting room at the \_\_\_\_\_ Library ([Address]) from **6:30 to 8:00 p.m.**, and light refreshments will be served.

Many of you know that the \_\_\_\_\_ community has made great strides toward sustainability, for instance, through the building and retrofitting of multiple LEED-certified facilities and through the establishment of the Green Business Network. However, beyond these infrastructural, community-level efforts, individuals can also contribute to sustainability by living sustainably on a daily basis. This involves making choices that are socially, environmentally, and economically responsible.

As you can see, I include dimensions of sustainability that go beyond the environmental dimension that many people think of when they see or hear the word "sustainability." Using this broader definition of sustainable living, we can see how a sustainable lifestyle is deeply satisfying, fulfilling, and appealing; and how it benefits you, your family, and your community, as well as the environment.

You may benefit from this seminar if you often find yourself too busy to do the things you want to do; or if you find that it's often difficult to make ends meet at the end of the month, financially speaking; or if you simply feel that your life is cluttered with too much "stuff." If any of those descriptions sound like you, or if you'd just like to be part of a dialogue about what it means to live sustainably, I would invite you to attend the seminar.

Feel free to contact me at [e-mail address] or [phone number] if you have any questions. Also, please RSVP by Friday, November 4, so that I can plan accordingly. Thank you all, and I hope to see many of you on November 7!

Sincerely,

---

## Appendix K

### Print Resources

- Texas Commission on Environmental Quality “Take Care of Texas” guides:
  - Managing 10 Common Texas Yard Pests (TCEQ-GI-405 (4/10))
  - Mulching and Composting (TCEQ-GI-36 (4/10))
  - The “Take Care of Texas” Guide to Yard Care (TCEQ-GI-28 (4/10))
  - Rainwater Harvesting with Rain Barrels (TCEQ-GI-383 (Rev. 7/11))
  - Save Money and the Environment at Home (TCEQ-GI-370 (Rev. 11/10))
  
- AgriLIFE Extension guides:
  - Do’s and Don’ts of Saving Water (E-225 (11/04))
  
- Minnesota Pollution Control Agency resources:
  - Non-Toxic Cleaning Recipes (11/19/07)
  
- Compilations of local resources:
  - City of [Withheld] Recycles (Allied Waste Services)
  - City of [Withheld] recycling magnet
  - Conservation at Home
  - Local Food Options and Resources
  
- Environmental Working Group resources:
  - What to Buy Organic
  
- Economic and social resources (Iterations 2-4):
  - Opportunities for Socially-Sustainable Living
  - Resources for Economically-Sustainable Living

## Appendix L

### Key Informant Recruitment E-mail for Iteration 2

Hello,

My name is \_\_\_\_\_, and I am a doctoral candidate at Clemson University, although I am now living in \_\_\_\_\_. My dissertation research focuses on sustainable living education, which involves teaching and encouraging individuals to live lifestyles that are economically, socially, and environmentally responsible. When a community's members live more sustainably, both the community and the individuals benefit in a number of ways. Governments, businesses, and economies run more efficiently; resources are conserved and distributed more equitably; and individuals tend to be happier, more satisfied, and healthier, both physically and psychologically. These are just a few of the benefits of sustainable communities.

The \_\_\_\_\_ community has made several large strides toward sustainability, in terms of both infrastructure and programs. One area, though, where these efforts have not focused is individual-level sustainable living. By developing and presenting several sustainable living seminars in collaboration with active community organizations, including the [Organization 2], I hope to help fill that gap. One step in that process is to interview a number of active and representative members of the organization, in order to gauge the values, needs, and priorities of the broader membership. In this way, I'll be able to tailor the seminar curriculum in order to provide the greatest benefit to participants.

You are receiving this message because [your president] and [your interest group coordinator] have identified you as potential key informants who may be willing to participate in an interview. I am hoping to conduct these interviews between November 8 and December 13, so that I can prepare to conduct the seminar in mid-January. Each interview should last approximately 45 minutes, and can be scheduled at your convenience. Also attached is a more detailed information letter about the process that I encourage you to read. I want to thank you in advance for your consideration of this request. I look forward to talking with each of you.

Sincerely,

\_\_\_\_\_

## Appendix M

### E-newsletter Announcement (“Save the Date”) for Iteration 2



Ladies, I wanted to write and tell you about an upcoming event. It’s a one-time only interest-group designed to help you live a lifestyle that is smarter, more balanced—in short, more sustainable. And by sustainable, we’re not just talking about environmentally-friendly. A sustainable lifestyle is one that is deeply satisfying, fulfilling, and appealing because it is socially, economically, and environmentally responsible. It’s about decisions that you make on a daily basis, at work and at home. So, make plans to fellowship with your fellow [Organization] members, and learn more about how sustainable living applies to you. See event details below, and watch for more information to come. We hope to see you there!

**What:** Sustainable Living Seminar

**Where:** \_\_\_\_\_ Community Meeting Room

**When:** January 17, 6:30 – 8:00 p.m. (but come early at 6:00 for refreshments)

## Appendix N

### E-mail Invitation for Iteration 2

Hello Ladies,

You may have seen the announcement in the November e-newsletter for a one-time interest group centered on *sustainable living*. In this workshop, entitled “**Living Sustainably: Achieving Balance in Your Lifestyle,**” we’ll talk about what sustainable living means and all that it encompasses. This is not your typical “Earth Day” sustainability. It goes beyond environmental stewardship to include both social and economic responsibility. The three-dimensional focus reflects a sense of balance that we all seek in our lives, in order to benefit not only ourselves, but also our families and our communities.



This workshop has lots to offer, regardless of your age, occupation, family background, income, or education level. To decide whether this workshop is for you, ask yourself the following questions:

- Do you feel like you could use a little bit more balance in your life?
- Do you find it hard to juggle family, finances, and work responsibilities?
- Do you often find it difficult to make ends meet, financially speaking?
- Do you ever feel like your life is cluttered with too much “stuff”?
- Do you want to live more sustainably, but are not quite sure *how* to do that?
- Do you enjoy learning about new things and ideas?
- Do you enjoy spending time with other [Organization] members in fellowship and thoughtful conversation?

If you answered yes to any of these questions, then this workshop is for you! So plan to attend, and also spread the word to your friends. Feel free to bring other [Organization] members, nonmembers, or spouses—anyone you think might enjoy or benefit from this event. It will be held on **Tuesday, January 17, 2012**, in the community meeting room at \_\_\_\_\_. Refreshments will be served beginning at **6:00 p.m.** and the workshop will run from **6:30 to 8:00 p.m.**

If you have any questions, feel free to contact me at [e-mail address] or [phone number]. Please RSVP by **Friday, January 13**, so that I can plan accordingly. Thank you and I hope to see you all on January 17!



## Appendix O

### Key Informant Recruitment E-mail for Iteration 3

Dear Life Group Leaders,

You may recall [the pastor's] sermon a number of weeks ago encouraging simplicity, particularly during the Advent and Christmas seasons. You and your life groups may have also participated in the Advent Conspiracy project. Well, we have an opportunity to extend that spirit of simplicity beyond the holidays. \_\_\_\_\_, one of our members here at [church], is conducting several workshops throughout the \_\_\_\_\_ community, which are designed to teach individuals how they can live simpler, more balanced, and more sustainable lifestyles. We are excited to be hosting one of these workshops in March. In order to tailor the workshop to our members' needs, values, and preferences, \_\_\_\_\_ would like to conduct one-on-one interviews with some of our members. These interviews will last roughly one hour, and can be scheduled at the convenience of the participants. So please consider participating in an interview and passing the invitation to participate on to your life group members. Ideally, \_\_\_\_\_ would like to interview members of various ages (18 and older), from various life stages and walks of life, so bear that in mind as you think about participating. To volunteer, or to request further information, please contact \_\_\_\_\_ directly, at [e-mail address] or [phone number]. Thank you for your consideration of this opportunity.

Sincerely,

[Member of Church Leadership]

## Appendix P

### E-newsletter Announcement for Iteration 3

#### **Stewardship: Simplicity Meets Balance**

Could you use a bit more balance in your life? Could God be calling you to better stewardship of your time, money, relationships, or resources? [The church] will be hosting a workshop on Tuesday, April 17, from 6:30-8:00 p.m. (with refreshments served at 6:00) to help each of us answer these questions. You'll also learn how living a simpler, more balanced lifestyle will benefit you, your family, your church, and your community—today and in the future. To learn more or to RSVP, contact \_\_\_\_\_ ([e-mail address]).

## Appendix Q

### Bulletin Announcement for Iteration 3

#### **Stewardship: Simplicity Meets Balance**

[The church] will host a workshop on Tuesday, April 17, from 6:30-8:00 p.m. (refreshments @ 6:00 p.m.) to help each of us learn how to live a simpler, more balanced lifestyle, and how making just a few small changes can benefit you, your family, your church, and your community. To learn more or to RSVP, contact \_\_\_\_\_ ([e-mail address]).

Appendix R

Sustainability Workshop Flyer for Iteration 3

## Sustainability Workshop



### Stewardship: Simplicity Meets Balance

Could you use a bit more balance in your life? Could God be calling you to better stewardship of your time, money, relationships, or resources? [The church] will be hosting a workshop to help each of us answer these questions. You'll also learn how living a simpler, more balanced lifestyle will benefit you, your family, your church, and your community—today and in the future.

Date: **Tuesday, April 17**  
Time: **6:30-8 pm (Refreshments @ 6 pm)**  
Location: **[Church] Youth Room**  
RSVP: \_\_\_\_\_ ([e-mail address])

## Appendix S

### Key Informant Recruitment E-mail for Iteration 4

Hi,

My name is \_\_\_\_\_, and hopefully you got an e-mail from [the college ministry associate] letting you know that I would be e-mailing you. I am a member at [the church] and also a graduate student at Clemson University (although I live and am doing my research in the \_\_\_\_\_ area). As part of my research and as a service to the church, I've been working with staff and members to coordinate and conduct a couple of workshops on living a lifestyle marked by stewardship, simplicity, and balance.

The planning process thus far has made it clear to me that, while [the church's] college students would definitely benefit from participating in something like this, their life stages, needs, priorities, and preferences would probably require that the curriculum be formatted and presented differently than it would be for the non-college-aged congregation. Thus, after talking with several staff members, we've decided to offer a separate opportunity for the church's college congregation. In order to determine exactly what that will look like, I will need to meet with a number of college students to conduct one-on-one interviews, during which I'll ask questions that will help me to tailor the event to the college group as a whole. Those interviews typically last about an hour. I'm hoping to complete them all before the end of the semester, so that I can work on the curriculum and format over the summer, and have everything ready to offer to students first thing in the fall.

So, there are two ways that you can participate in this process:

1. If you are willing and able to participate in an hour-long interview between now and the end of the semester, please contact me at [e-mail address] or [phone number] to let me know what the best days/times/locations during the week are for you to meet.
2. Recommend several other college students who you think would be willing and able to participate in an interview. These should be active participants at [the church] who know a number of other students, so that they can speak on behalf of the group (more or less) in answering interview questions.

Thanks so much for your time, and I hope you will consider partnering with me in my efforts to offer this opportunity for [the church's] college students. Living a life of stewardship, balance, and simplicity offers many immediate and long-term benefits--individually, locally, and globally. Let me know if you have any questions.

Thanks again,

\_\_\_\_\_

## Appendix T

### Life Group Leader Recruitment E-mail for Iteration 4

Hi \_\_\_\_\_,

My name is \_\_\_\_\_ and I am a member here at [the church]. I'm also a doctoral student working on my PhD through Clemson University and, in relation to my work, I've been collaborating with [the college ministry associate] and [the discipleship pastor] to provide educational programming for the church's college students on the topic of "Living a Life of Balance and Stewardship."

This programming would take place in conjunction with scheduled Life Group meetings for those Life Groups interested in participating. Essentially, we would schedule one week in the early fall, and instead of covering the sermon topic that week, we would discuss the topic above (using the attached discussion guide).

Of note, from a logistical perspective, I would act as a guest facilitator to lead the discussion, and the meeting would be videotaped (for later transcription and analysis) and observed by a colleague of mine (for the purposes of qualitative research observations). Interviews that I have already conducted with a number of students active in the college ministry have indicated that the presence of the video camera/qualitative observer would not be problematic for group members. However, as part of the required protocol for work with human subjects, students would be given advance notice of these logistical factors, and participation would be optional.

The church staff has agreed that this material is in keeping with the church's mission, and that it would benefit the students involved in the college ministry. In addition, the students I interviewed thought that participation would benefit their peers, and that the subject would be of potential interest to them. With that in mind, I hope you will consider devoting one week of Life Group this fall to this effort. Please contact me ([e-mail address]) if you are interested, and we can discuss the details further. I'm looking forward to working with you.

Take Care and God Bless,

\_\_\_\_\_

## Appendix U

### Life Group Member Recruitment E-mail for Iteration 4

All,

I'm writing to let you know about an exciting opportunity coming up for our Life Group. We will be having a guest facilitator (\_\_\_\_\_) on [Date], who will be leading our discussion. Instead of covering the sermon topic that week, we will be talking about "Living a Life of Balance and Stewardship," a topic that you all should find very interesting and applicable to your everyday lives.

The discussion will address many areas of life, including time management, relationships, health, finances, resource consumption, and more. To give you a feel for what we will be talking about, I'm attaching the discussion guide that \_\_\_\_\_ will be using to facilitate our meeting. Also, because this is part of \_\_\_\_\_'s dissertation research, I am attaching an additional information letter that covers your rights as research participants.

Again, this should be a great night of lively discussion, so I strongly encourage you to be at Life Group on [Date].

Sincerely,

[Life Group Leader]

## REFERENCES

- Adamski, M., Elliott, C., & Simon-Brown, V. (2008). *Living sustainably: It's your choice*. T. Welch (Ed.). Corvallis, OR: Oregon State University Extension Service.
- Ahlberg, M., Aanismaa, P., & Dillon, P. (2005). Education for sustainable living: Integrating theory, practice, design, and development. *Scandinavian Journal of Educational Research*, 49(2), 167-186.
- Ajzen, I. & Driver, B. L. (1991). Prediction of leisure participation from behavioral, normative, and control beliefs: An application of the theory of planned behavior. *Leisure Sciences*, 13, 185-204.
- Alderson, W. (1957). The motivation of consumer buying. In *Marketing Behavior and Executive Action* (pp. 163-194). Homewood, IL: Richard D. Irwin, Inc.
- Alexandris, K., Tsorbatzoudis, C., & Grouios, G. (2002). Perceived constraints on recreational sport participation: Investigating their relationship with intrinsic motivation, extrinsic motivation and amotivation. *Journal of Leisure Research*, 34(3), 233-252.
- Arnould, E. J. (2007). Should consumer citizens escape the market? *The Annals of the American Academy of Political and Social Science*, 611, 96-111.
- Arnould, E. J., & Thompson, C. J. (2005). Consumer culture theory (CCT): Twenty years of research. *Journal of Consumer Research*, 31(March), 868-882.
- Axelrod, L. J. (1994). Balancing personal needs with environmental preservation: Identifying the values that guide decisions in ecological dilemmas. *Journal of Social Issues*, 50(3), 85-104.
- Barr, S. (2003). Strategies for sustainability: Citizens and responsible environmental behavior. *Area*, 35.3, 227-240.
- Barr, S. (2007). Factors influencing environmental attitudes and behaviors: A U.K. case study of household waste management. *Environment and Behavior*, 39(4), 435-473.
- Beatley, T. (1994). *Ethical land use: Principles of policy and planning*. Baltimore, MD: Johns Hopkins University Press.
- Beatley, T. (2000). Preserving biodiversity: Challenges for planners. *Journal of the American Planning Association*, 66(1), 5-20.



- Beatty, S. E., & Kahle, L. R. (1988). Alternative hierarchies of the attitude-behavior relationship: The impact of brand commitment and habit. *Journal of the Academy of Marketing Science*, 16(2), 1-10.
- Beatley, T., & Manning, K. (1997). *The ecology of place: Planning for environment, economy, and community*. Washington, DC: Island Press.
- Begley, E., Jr. (2008). *Living like Ed: A guide to the eco-friendly life*. New York, NY: Clarkson Potter Publishers.
- Belk, R.W. (1985). Materialism: Trait aspects of living in the material world. *Journal of Consumer Research*, 12(December), 265-280.
- Belk, R. (1988a). My possessions myself. *Psychology Today*, 22(7), 50-52.
- Belk, R. (1988b). Possessions and the extended self. *Journal of Consumer Research*, 15(September), 139-168.
- Benedict, M. A., & McMahon, E. T. (2006). The green infrastructure approach: Principles from past to present. In *Green infrastructure: Linking landscapes and communities* (Chapter 2). Washington, DC: Island Press.
- Berke, P. R. (2002). Does sustainable development offer a new direction for planning? Challenges for the twenty-first century. *Journal of Planning Literature*, 17(1), 21-36.
- Berke, P. R. (2008). The evolution of green community planning, scholarship, and practice: An introduction to the special issue. *Journal of the American Planning Association*, 74(4), 393-407.
- Bettman, J. (1970). Information processing models of consumer behavior. *Journal of Marketing Research*, 7(August), 370-376.
- Bettman, J. (1979b). Overview of an information processing theory of consumer choice. In *Information processing theory of consumer choice* (pp. 13-41). Reading, MA: Addison-Wesley.
- Beutler, I., Beutler, L. & McCoy, J. K. (2008). Money aspirations about living well: Middle school student perceptions. *Association for Financial Counseling and Planning Education*, 19(1), 44-60.
- Bianchi, S. M. (2000). Maternal employment and time with children: Dramatic change or surprising continuity? *Demography*, 37(4), 401-414.
- Biel, A., & Nilsson, A. (2005). Religious values and environmental concern: Harmony and detachment. *Social Science Quarterly*, 86(1), 178-191.

- Black, J. S., Stern, P. C., & Elworth, J. T. (1985). Personal and contextual influences on household energy adaptations. *Journal of Applied Psychology, 70*(1), 3-21.
- Bongiorno, L. (2008). *Green, greener, greenest: A practical guide to making eco-smart choices a part of your life*. New York, NY: The Penguin Group.
- Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2006). Community attachments as predictors of local environmental concern: The case for multiple dimensions of attachment. *American Behavioral Scientist, 50*(2), 142-165.
- Bradley, B. A., & Reinking, D. (2010). Enhancing research and practice in early childhood through formative and design experiments. *Early Child Development and Care, 1-15*.
- Brody, S. D., Zahran, S., Vedlitz, A., & Grover, H. (2008). Examining the relationship between physical vulnerability and public perceptions of global climate change in the United States. *Environment and Behavior, 40*(1), 72-95.
- Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of Learning Sciences, 2*(2), 141-178.
- Brown, K. W., & Kasser, T. (2005). Are psychological and ecological well-being compatible? The role of values, mindfulness, and lifestyle. *Social Indicators Research, 74*, 349-368.
- Brucks, M. (1985). The effects of product class knowledge on information search behavior. *Journal of Consumer Research, 12*(June), 1-16.
- Brulle, R., & Jenkins, C. J. (2008). Fixing the bungled U.S. environmental movement. *Contexts, 7*(2), 14-18.
- Buell, L. (2005). Downwardly mobile for conscience's sake: Voluntary simplicity from Thoreau to Lily Bart. *American Literary History, 663-665*.
- Burawoy, M., Burton, A., Ferguson, A. A., Fox, K. J., Gamson, J., Gartrell, N., . . . Ui, S. (1991). *Ethnography unbound: Power and resistance in the modern metropolis*. Berkeley, CA: University of California Press, Ltd.
- Campbell, S. (1996). Green cities, growing cities, just cities? *Journal of the American Planning Association, 62*(3), 296-312.
- Carlson, L., & Grossbard, S. (1988). Parental style and consumer socialization of children. *Journal of Consumer Research, 15*(June), 77-94.

- Carleton-Hug, A., & Hug, J. W. (2009). Challenges and opportunities for evaluating environmental education programs. *Evaluation and Program Planning*, doi:10.1016/j.evalprogplan.2009.07.005
- Chaudhuri, A. (2006). Attitude formation. In *Emotion and reason in consumer behavior* (pp. 38-54). Amsterdam, The Netherlands: Elsevier Press.
- Cherrier, H. (2009). Anti-consumption discourses and consumer-resistant identities. *Journal of Business Research*, 62(2), 181-190.
- Chua, J. (2012, March 15). Millennials are more 'generation me' than 'generation we,' study finds. *The Chronicle of Higher Education*. Retrieved March 19, 2012, from <http://chronicle.com/article/millennials-are-more/131175/>
- Clements, D. H. (2009). Design experiments and curricular research. In A.E. Kelly, J.Y. Baek, & R.A. Lesh (Eds.) *Handbook of design research methods in education: Innovations in science, technology, engineering, and mathematics learning and teaching* (pp. 410-422). New York, NY: Taylor and Francis.
- Cohen, M. J. (2005). Sustainable consumption American style: Nutrition education, active living, and financial literacy. In E. Hertwich, T. Briceno, P. Hofstetter, & A. Inaba (Eds.), *Proceedings of Sustainable Consumption: The Contribution of Research Workshop* (pp. 133-138). February 10-12, 2005, Gabels Hus, Oslo.
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94(Supplement), 95-121
- Coleman, J. (1994). Social capital. In *Foundation of social theory* (pp. 300-321). Cambridge, MA: Harvard University Press.
- Collins, A., Joseph, D., Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *Journal of Learning Sciences*, 13(1), 15-42.
- Collins, C. M., & Chambers, S. M. (2005). Psychological and situational influences on commuter transport-mode choice. *Environment and Behavior*, 37(5), 640-661.
- Corral-Verdugo, V., Carrus, G., Bonnes, M., Moser, G., & Sinha, J. B. P. (2008). Environmental beliefs and endorsement of sustainable development principles in water conservation: Toward a new human interdependence paradigm scale. *Environment and Behavior*, 40, 703-725.
- Crompton, T. (2008). Weathercocks & signposts: The environment movement at a crossroads. Godalming, Surrey, UK: World Wildlife Fund (WWF). Retrieved February 1, 2010, from [wwf.org.uk/strategiesforchange](http://wwf.org.uk/strategiesforchange)

- Daly, K. (2000). *It Keeps Getting Faster: Changing Patterns of Time in Families*. Retrieved January 27, 2009, from <http://www.vifamily.ca/library/cft/faster.html>
- Daniels, T. L. (2008). A trail across time: American environmental planning from city beautiful to sustainability. *Journal of the American Planning Association*, 74(4), 178-192.
- Daniels, T. L., Keller, J. W., & Lapping, M. B. (1995). *The small town planning handbook*, (2<sup>nd</sup> ed.). Chicago, IL: American Planning Association.
- Davis, J. (2012). EPA takes aim at Luminant over Texas plant permits. *Law360*, July 23. Retrieved from <http://www.law360.com/articles/362909/epa-takes-aim-at-luminant-over-texas-plant-permits>
- De Groot, J. I. M., & Steg, L. (2008). Value orientations to explain beliefs related to environmental significant behavior: How to measure egoistic, altruistic, and biospheric value orientations. *Environment and Behavior*, 40(3), 330-354.
- de Oliver, M. (1999). Attitudes and inaction: A case study of the manifest demographics of urban water conservation. *Environment and Behavior*, 31(3), 372-394.
- Deihl, K., & Zauberaman, G. (2005). Searching ordered sets: Evaluation from sequences under search. *Journal of Consumer Research*, 31(March), 824-832.
- DeYoung, R. (1993). Changing behavior and making it stick: The conceptualization and management of conservation behavior. *Environment and Behavior*, 25(4), 485-505.
- DeYoung, R. (2000). Expanding and evaluating motives for environmentally responsible behavior. *Journal of Social Issues*, 56(3), 509-526.
- Dernbach, J. C. (2009). Progress toward sustainability: A report card and a recommended agenda. Widener Law School Legal Studies Research Paper Series no. 09-12.
- Djupe, P. A., & Hunt, P. K. (2009). Beyond the Lynn White thesis: Congregational effects on environmental concern. *Journal for the Scientific Study of Religion*, 48(4), 670-686.
- Duffy, A. M. (2001). Balanced, literacy acceleration, and responsive teaching in a summer school literacy program for elementary school struggling readers. *Reading Research and Instruction*, 40(2), 67-100.
- Eckberg, D. L., & Blocker, T. J. (1989). Varieties of religious involvement and environmental concerns: Testing the Lynn White thesis. *Journal for the Scientific Study of Religion*, 28(4), 509-517.

- Eckberg, D. L., & Blocker, T. J. (1996). Christianity, environmentalism, and the theoretical problem of fundamentalism. *Journal for the Scientific Study of Religion*, 35(4), 343-355.
- Edelson, D. C. (2006). Balancing innovation and risk: Assessing design research proposals. In J. van den akker, K. Gravemiejler, S. McKenny, & N. Nieveen (Eds.), *Educational design research* (pp. 17-51). New York, NY: Routledge.
- Edgerton, E., McKechnie, J., & Dunleavy, K. (2009). Behavioral determinants of household participation in a home composting scheme. *Environment and Behavior*, 41(2), 151-169.
- Eisenhart, M., & Borko, H. (1993). *Designing classroom research: Themes, issues, and struggles*. Boston, MA: Allyn & Bacon. (Chapter 6)
- Epp, A. M., & Price, L. L. (2008). Family identity: A framework of identity interplay in consumption practices. *Journal of Consumer Research*, 35(June), 50-70.
- Etzioni, A. (1998). Voluntary simplicity: Characterization, select psychological implications, and societal consequences. *Journal of Economic Psychology*, 19, 619-643.
- Etzioni, A. (2004). The post affluent society. *Review of Social Economy*, 62(3), 407-420.
- Evangelical Environmental Network. (2011). Retrieved December 31, 2012, from [www.creationcare.org](http://www.creationcare.org)
- Ewert, A., Hollenhorst, S. J., McAvoy, L., & Russell, K. C. (2003). Therapeutic values of parks and protected areas. In D. Harmon, & A. D. Putney, *The full value of parks* (pp. 141-153). New York, NY: Rowman and Littlefield Publishers, Inc.
- Fay, B. (1996). *Contemporary philosophy of social science*. Malden, MA: Blackwell Publishers.
- Feldmeier, J. (2008). One man's anti-consumer challenge: Live with only 100 things for a year. *The Washington Post*. Retrieved November 30, 2008, from <http://www.washingtonpost.com/wp-dyn/content/article/2008/11/26/AR2008112604144.html>.
- Fernández-Juricic, E. (2000). Conservation education: The need for regional approaches supporting local initiatives. *Wildlife Society Bulletin*, 28(1), 164-167.
- Fien, J, Neil, C., & Bentley, M. (2008). Youth can lead the way to sustainable consumption. *Journal of Education for Sustainable Development*, 2(1), 51-60.

- Fien, J., Scott, W., & Tilbury, D. (2001). Education and conservation: Lessons from an evaluation. *Environmental Education Research*, 7(4), 379-395.
- Firestone, W. A. (1993). Alternative arguments for generalizing from data as applied to qualitative research. *Educational Researcher*, 22(4), 16-23.
- Fisher, G. W., & van Utt, G. (2007). Science, religious naturalism, and biblical theology: Ground for the emergence of sustainable living. *Zygon*, 42(4), 929-943.
- Fleming, M. L. (2009). Environmental education professional development needs and priorities study. Environmental Education and Training Partnership. Washington, DC: U.S. Environmental Protection Agency and the U.S. Fish and Wildlife Service.
- Friedman, H. S., & Schustack, M. W. (2012). *Personality: Classic Theories and Modern Research*. Boston, MA: Pearson Allyn & Bacon.
- Gagnon Thompson, S. C., & Barton, M. A. (1994). Ecocentric and anthropocentric attitudes toward the environment. *Journal of Environmental Psychology*, 14, 149-157.
- Gardner, J., Szatow, T., Horn, M., & Quezada, G. (2009). Sustainable living: A review of behavioural influences and policy options for Australia. Report number P2009/1726. Victoria, Australia: Commonwealth Scientific and Industrial Research Organisation (CSIRO).
- Gatersleben, B., Steg, L., & Vlek, C. (2002). Measurement and determinants of environmentally significant consumer behavior. *Environment and Behavior*, 34(3), 335-362.
- Gatersleben, B., White, E., Abrahamse, W., Jackson, T., & Uzzell, D. (2010). Values and sustainable lifestyles. *Architectural Science Review*, 53, 37-50.
- Geller, E. S. (1992). Solving environmental problems: A behavior change perspective. In S. Staub & P. Green (Eds.), *Psychology and social responsibility: Facing global challenges*. New York, NY: New York University Press.
- Gittlesohn, J., Evans, M., Helitzer, D., Anliker, J., Story, M., Metcalfe, L., Davis, S., & Cloud, P.I. (1998). Formative research in a school-based obesity program for Native American school children (pathways). *Health Education Research*, 13, 251-265.
- Gladwell, M. (1996, November 4). The science of shopping. *The New Yorker*. Retrieved August 23, 2010, from [www.gladwell.com](http://www.gladwell.com).

- Glesne, C. (1999). *Becoming qualitative researchers: An introduction* (2<sup>nd</sup> ed.). New York, NY: Longman.
- Goffman, E. (1951). Symbols of class status. *British Journal of Sociology*, 2(4), 294-304.
- Goldstein, N. J., Martin, S. J., & Cialdini, R. B. (2008). *Yes! 50 scientifically proven ways to be persuasive*. New York, NY: Free Press.
- Goodland, R. (2002). Sustainability: Human, social, economic and environmental. *Encyclopedia of Global Environmental Change*. Hoboken, NJ: John Wiley & Sons, Ltd.
- Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201-233.
- Gravemiejter, J., & Cobb, P. (2006). Design research from a learning design perspective. In J. van den akker, K. Gravemiejter, S. McKenny, & N. Nieveen (Eds.), *Educational design research* (pp. 17-51). New York, NY: Routledge.
- Guagnano, G. A., Stern, P. C., & Dietz, T. (1995). Influences on attitude-behavior relationships: A natural experiment with curbside recycling. *Environment and Behavior*, 27(5), 699-718.
- Gunningham, N., & Young, M. D. (1997). Toward optimal environmental policy: The case of biodiversity conservation. *Ecology Law Quarterly*, 24, 243-298.
- Guth, J. L., Green, J. C., Kellstedt, L. A., & Smidt, E. (1995). Faith and the environment: Religious beliefs and attitudes on environmental policy. *Journal of Political Science*, 39(2), 364-382.
- Gutierrez Karp, D. (1996). Values and their effect on pro-environmental behavior. *Environment and Behavior*, 28(1), 111-133.
- Hand, C. M., & Van Liere, K. D. (1984). Religion, mastery-over-nature, and environmental concern. *Social Forces*, 63(2), 555-570.
- Hanemann, W. H. (1994). Valuing the environment through contingent valuation. *Journal of Economic Perspectives*, 8(4), 19-43.
- Hanemann, W. H. (2006). The economic conception of water. In P. P. Rogers, M. R. Llamas, L. Martinez-Cortina (Eds.), *Water crisis: Myth or reality?* (pp. 61-92). London, UK: Taylor & Francis.
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162(3859), 1243-1248.

- Hart, S. L. (1997). Beyond greening: Strategies for a sustainable world. *Harvard Business Review*, January-February 1997, 65-76.
- Hauser, J. R., & Urban, G. L. (1979). Assessment of attribute importance and consumer utility functions: von Neumann-Morgenstern theory applied to consumer behavior. *Journal of Consumer Research*, 5(March), 251-262.
- Hawcroft, L. J., & Milfont, T. L. (2010). The use (and abuse) of the new environmental paradigm scale over the last 30 years: A meta-analysis. *Journal of Environmental Psychology*, 30, 143-158.
- Hawkins, S. A., & Hoch, S. J. (1992). Low-involvement learning: Memory without evaluation. *Journal of Consumer Research*, 19(September), 212-225.
- Heath, Y., & Gifford, R. (2006). Free-market ideology and environmental degradation: The case of belief in global climate change. *Environment and Behavior*, 38(1), 48-71.
- Hellmund, P. C., & Smith, D. S. (2006). *Designing greenways: Sustainable landscapes for nature and people*. Washington, DC: Island Press.
- Hempel, D. J. (1974). Family buying decisions: A cross-cultural perspective. *Journal of Marketing Research*, 11(August), 295-302.
- Herrington, J., McKenney, S., Reeves, T. C., & Oliver, R. (2007). Design-based research and doctoral students: Guidelines for preparing a dissertation proposal. In C. Montgomerie & J. Seale (Eds.), *Proceedings of EdMedia 2007: World Conference on Educational Multimedia, Hypermedia & Telecommunications* (pp. 4089-4097). Chesapeake, VA: AACE.
- Hill, R. P., & Stamey, M. (1990). The homeless in America: An examination of possessions and consumption behaviors. *Journal of Consumer Research*, 17(December), 303-321.
- Hilty, J. A., Lidicker, W. Z., Jr., & Merenlender, A. M. (2006). The ecological framework. In *Corridor ecology: The science and practice of linking landscapes for biodiversity conservation* (Chapter 3). Washington, DC: Island Press.
- Hoadley, C. M. (2004). Methodological alignment in design-based research. *Educational Psychologist*, 39, 203-212.
- Hobson, K. (2006). Bins, bulbs, and shower timers: On the 'techno-ethics' of sustainable living. *Ethics, Place and Environment*, 9(3), 317-336.



- Hogg, M. K., Banister, E. N., & Stephenson, C. A. (2008). Mapping symbolic (anti-) consumption. *Journal of Business Research*, 1-12.
- Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of Consumer Research*, 14(December), 404-420.
- Holdren, J. P. (2009). The science of climate change: What do we know? What can we do? Lecture at the UNFCCC COP-15, Copenhagen.
- Howes, Y., & Gifford, R. (2009). Stable or dynamic value importance? The interaction between value endorsement level and situational differences on decision-making in environmental issues. *Environment and Behavior*, 41(4), 549-582.
- Huneke, M. E. (2005). The face of the un-consumer: An empirical examination of the practice of voluntary simplicity in the United States. *Psychology and Marketing*, 22(7), 527-550.
- Ivey, G. & Broaddus, K. (2007). A Formative experiment investigating literacy engagement among adolescent Latina/o students just beginning to read, write, and speak English. *Reading Research Quarterly*, 42(4), 512-545.
- Iwata, O. (1997). Attitudinal and behavioral correlates of voluntary simplicity lifestyles. *Social Behavior and Personality*, 25(3), 233-240.
- Iwata, O. (1999). Perceptual and behavioral correlates of voluntary simplicity lifestyles. *Social Behavior and Personality*, 27(4), 379-386.
- Iwata, O. (2001). Attitudinal determinants of environmentally responsible behavior. *Social behavior and Personality*, 29(2), 183-190.
- Iwata, O. (2006). An evaluation of consumerism and lifestyle as correlates of a voluntary simplicity lifestyle. *Social Behavior and Personality*, 34(5), 557-568.
- Iyer, R., & Muncy, J. A. (2009). Purpose and object of anti-consumption. *Journal of Business Research*, 62(2), 160-168.
- Johnson, M. (1984). Consumer choice strategies for comparing noncomparable alternatives. *Journal of Consumer Research*, 11(December), 741-753.
- Johnson, E., and Russo, E. (1984). Product familiarity and learning new information. *Journal of Consumer Research*, 11(June), 542-550.
- Johnson-Pynn, J. S. & Johnson, L. R. (2005). Successes and challenges in East African conservation education. *The Journal of Environmental Education*, 36(2), 25-39.

- Judkis, M. (2010, March). 10 ways to save by going green. *U.S. News & World Report*, pp. 34, 36.
- Kaiser, F. G., Hübner, G., & Bogner, F. X. (2005). Contrasting the theory of planned behavior with the value-belief-norm model in explaining conservation behavior. *Journal of Applied Social Psychology*, 35(10), 2150-2170.
- Kaiser, R. G., Wölfling, S., & Fuhrer, U. (1999). Environmental attitude and ecological behavior. *Journal of Environmental Psychology*, 19, 1-19.
- Kanagy, C. L., & Nelsen, H. M. (1995). Religion and environmental concern: Challenging the dominant assumptions. *Review of Religious Research*, 37(1), 33-45.
- Kanagy, C. L., & Willits, F. K. (1993). A “greening” of religion? Some evidence from a Pennsylvania sample [Abstract]. *Social Science Quarterly*, 74(3), 674-683.
- Kaplan, S. (2000). Human nature and environmentally responsible behavior. *Journal of Social Issues*, 56(3), 491-508.
- Keep Texas Beautiful. (n.d.). Keep Texas Beautiful Homepage. Retrieved August 23, 2011, from: [www.ktb.org](http://www.ktb.org)
- Kelly, A. E., Baek, J. Y., & Lesh, R. A. (Eds.) (2009). *Handbook of design research methods in education: Innovations in science, technology, engineering, and mathematics learning and teaching*. New York, NY: Taylor and Francis.
- Kingsolver, B., Hopp, S. L., & Kingsolver, C. (2007). *Animal, vegetable, miracle*. New York, NY: HarperCollins.
- Klein, S. (2010, May 17). Study: ADHD linked to pesticide exposure. *CNN Health*. Retrieved May 17, 2010, from [http://articles.cnn.com/2010-05-17/health/pesticides.adhd\\_1\\_pesticide-exposure-organophosphates-fruits-and-vegetables?\\_s=PM:HEALTH](http://articles.cnn.com/2010-05-17/health/pesticides.adhd_1_pesticide-exposure-organophosphates-fruits-and-vegetables?_s=PM:HEALTH)
- Kotler, P. (1965). Behavioral models for analyzing buyers. *Journal of Marketing*, 29(October), 37-45.
- Kuo, F. E., Bacaicoa, M., & Sullivan, W. C. (1998). Transforming inner-city landscapes: Trees, sense of safety, and preference. *Environment and Behavior*, 30(1), 28-59.
- Kurz, T. (2002). The psychology of environmentally sustainable behavior: Fitting together pieces of the puzzle. *Analyses of Social Issues and Public Policy*, 2(1), 257-278.

- Lastovicka, J. L., Bettencourt, L. A., Hughner, R. S., & Kuntze, R. J. (1999). Lifestyle of the tight and frugal: Theory and measurement. *Journal of Consumer Research*, 26(June), 85-98.
- Lee, J. A., & Holden, S. J. S. (1999). Understanding the determinants of environmentally conscious behavior. *Psychology and Marketing*, 16(5), 373-392.
- Lehmann, S. (2010). Green urbanism: Formulating a series of holistic principles. *Sapiens*, 3(2), 1-10.
- Lehrer, J. (2010, January). Accept defeat: The neuroscience of screwing up. *Wired*. Retrieved January 18, 2011, from [http://www.wired.com/magazine/2009/12/fail\\_accept\\_defeat/](http://www.wired.com/magazine/2009/12/fail_accept_defeat/)
- Lehrer, R., & Schauble, L. (2004). Modeling natural variation through distribution. *American Education Research Journal*, 41, 635-679.
- Lenski, S. D. (2001). Intertextual connections during discussions about literature. *Reading Psychology*, 22, 313-335.
- Lockyer, J. (1998). Needs assessment: Lessons learned. *The Journal of Continuing Education in the Health Professions*, 18, 190-192.
- Mann, K. V. (1998). Not another survey! Using questionnaires effectively in needs assessment. *The Journal of Continuing Education in the Health Professions*, 18, 142-149.
- Marans, R. W., & Lee, Y. (1993). Linking recycling behavior to waste management planning: A case study of office workers in Taiwan. *Landscape and Urban Planning*, 26, 203-214.
- Margules, C. R., & Pressey, R. L. (2000). Systematic conservation planning. *Nature*, 405, 243-253.
- McCracken, G. (1986). Culture and consumption: A theoretical account of the structure and movement of the cultural meaning of consumer goods. *Journal of Consumer Research*, 13(June), 71-84.
- McDounough, W., & Braungard, M. (2002). *Cradle to cradle: Remaking the way we make things*. New York, NY: North Point Press.
- McKay, K., & Bormin, J. (2006). *True green: 100 everyday ways you can contribute to a healthier planet*. Washington, DC: The National Geographic Society.

- McKenney, S., & Voogt, J. (2009). Understanding the design research process: Reflections on PictoPal. Paper presented at the AETC annual meeting. Louisville, KY.
- McKenzie-Mohr, D. (2000a). Fostering sustainable behavior through community-based social marketing. *American Psychologist*, *55*(5), 531-537.
- McKenzie-Mohr, D. (2000b). Promoting sustainable behavior: An introduction to community-based social marketing. *Journal of Social Issues*, *56*(3), 543-554.
- McKenzie-Mohr, D., & Oskamp, S. (1995). Psychology and sustainability: An introduction. *Journal of Social Issues*, *51*(4), 1-14.
- McKenzie-Mohr, D., & Smith, W. (1999). *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, BC: New Society Publishers.
- McQuire, W. J. (1976). Some internal psychological factors influencing consumer choice. *Journal of Consumer Research*, *2*(March), 302-319.
- Mebratu, D. (1998). Sustainability and sustainable development: Historical and conceptual review. *Environmental Impact Assessment Review*, *18*, 493-520.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- Middlestadt, S., Grieser, M., Hernandez, O., Tubaishat, K., Sanchack, J., Southwell, B., & Schwartz, R. (2001). Turning minds on and faucets off: Water conservation education in Jordanian schools. *The Journal of Environmental Education*, *32*(2), 37-45.
- Mittelstaedt, J. D. (2002). A framework for understanding the relationships between religions and markets. *Journal of Macromarketing*, *22*(1), 6-18.
- Mittelstaedt, R. A. (1990). Economics, psychology and the literature of the subdiscipline of consumer behavior. *Journal of the Academy of Marketing Science*, *18*(4), 303-311.
- Moll, L., & Diaz, S. (1987). Change as the goal of educational research. *Anthropology & Education Quarterly*, *18*, 300-311.
- Monroe, M. C. (2003). Two avenues for encouraging conservation behaviors. *Human Ecology Review*, *10*(2), 113-125.
- Mosler, H., Tamas, A., Tobias, R., Caballero Rodriguez, T., & Miranda, O. G. (2008). Deriving interventions on the bases of factors influencing behavioral intentions

- for waste recycling, composting, and reuse in Cuba. *Environment and Behavior*, 40(4), 522-544.
- Nadkarni, N. M. (2004). Not preaching to the choir: Communicating the importance of forest conservation to nontraditional audiences. *Conservation Biology*, 18(3), 602-606.
- Nelson, M. R., Rademacher, M. A., & Paek, H. (2007). Downshifting consumer = upshifting citizen? An examination of a local freecycle community. *The Annals of the American Academy of Political and Social Science*, 611, 141-156.
- Newes-Adeyi, G., Helitzer, D. L., Caulfield, L. E., & Bronner, Y. Theory and practice: applying the ecological model to formative research for a WIC training program in New York, NY State. *Health Education Research*, 15(3), 283-291.
- Norušis, M. (2007). *SPSS 15.0 Advanced statistics procedures companion*. Upper Saddle River, NJ: Prentice Hall.
- Oakley, I., Chen, M., & Nisi, V. (2008). Motivating sustainable behavior. UbiComp Workshop Proceedings: 21-24 September; Seoul, South Korea.
- O'Connor, R. E., Bord, R. J., & Fisher, A. (1999). Risk perceptions, general environmental beliefs, and willingness to address climate change. *Risk Analysis*, 19(3), 461-471.
- Olofsson, A., & Öhman, S. (2006). General beliefs and environmental concern: Transatlantic comparisons. *Environment and Behavior*, 38, 768-790.
- Oreg, S., & Katz-Gerro, T. (2006). Predicting proenvironmental behavior cross-nationally: Values, the theory of planned behavior, and value-belief-norm theory. *Environment and Behavior*, 38, 462-483.
- Ostrom, E. (1990). Reflections on the commons. In *Governing the commons: The evolution of institutions for collective action* (Chapter 1, pp. 1-28). New York, NY: Cambridge University Press.
- Ott, L., & Longnecker, M. (2004). *An introduction to statistical methods and data analysis* (5<sup>th</sup> ed.). Pacific Grove, CA: Thompson-Brooks/Cole.
- Palincsar, A. S., Magnusson, S. J., Collins, K. M., & Cutter, J. (2001). Making science accessible to all: Results of a design experiment in inclusive classrooms. *Learning Disability Quarterly*, 24 (Winter), 15-32.
- Perry, J. L. (2000). Bringing society in: Toward a theory of public-service motivation. *Journal of Public Administration Research and Theory*, 10(2), 471-488.

- Phillips, D. C. (2006). Assessing the quality of design research proposals. In J. van den Akker, K. Gravemeijer, S. Mckenney, & N. Nieveen (Eds.), *Educational design research* (pp. 93-99). New York, NY: Routledge.
- Pilkey, O. H., & Young, R. (2009). *The rising sea*. Washington, DC: Island Press/Shearwater Books.
- Pooley, J. A., & O'Connor, M. (2000). Environmental education and attitudes: Emotions and beliefs are what is needed. *Environment and Behavior*, 32(5), 711-723.
- Poortinga, W., Steg, L., & Vlek, C. (2004). Values, environmental concern, and environmental behavior: A study into household energy use. *Environment and Behavior*, 36(1), 70-93.
- Poortinga, W., Steg, L., Vlek, C., & Wiersma, G. (2003). Household preferences for energy-saving measures: A conjoint analysis (abstract). *Journal of Economic Psychology*, 24, 49-64.
- Pothukuchi, K., & Kaufman, J. (1999). Placing the food system on the urban agenda: The role of municipal institutions in food systems planning. *Agriculture and Human Values*, 16, 213-224.
- Punj, G. N., & Staelin, R. (1984). A model of consumer information search behavior for new automobiles. *Journal of Consumer Research*, 9(March), 266-280.
- Ratchford, B. T., Lee, M., & Talukdar, D. (2003). The impact of the internet on information search for automobiles. *Journal of Marketing Research*, 40(May), 193-209.
- Ratchford, B. T., Talukdar, D., & Lee, M. (2007). The impact of the internet on consumers' use of information sources for automobiles: A re-inquiry. *Journal of Consumer Research*, 34(June), 111-119.
- Raval, H., McKenney, S. & Pieters, J. (in press). A needs and context analysis for teacher learning in an Indian NGO. *International Journal of Training and Development*.
- Reeves, T. (2006). Design research from a technology perspective. In J. van der Akker, K. Gravemeijer, S. McKenney, & N. Nieveen (Eds.), *Educational design research* (pp. 52-66). New York, NY: Routledge.
- Reigeluth, C. M., & Frick, T. W. (1999). Formative research: A methodology for creating and improving design theories. In C. M. Reigeluth (Ed.), *Instructional-design theories and models, Volume II: A new paradigm of instructional theory* (pp. 633-651), Mahway, NJ: Erlbaum.

- Reinking, D. (2007). Toward a good or better understanding of best practice. *Journal of Curriculum and Instruction*, 1(1), Retrieved, February 1, 2010, from <http://www.joci.ecu.edu/index.php/JoCI>
- Reinking, D., & Bradley, B. (2008). *On formative and design experiments*. New York, NY: Teachers College Press.
- Reinking, D. & Watkins, J. (2000). A formative experiment investigating the use of multimedia book reviews to increase elementary students' independent reading. *Reading Research Quarterly*, 35(3), 384-419.
- Reisch, L. A. (2001). Time and wealth: The role of time and temporalities for sustainable patterns of consumption. *Time and Society*, 10(2/3), 367-385.
- Renwick, M. E., & Green, R. D. (2000). Do residential water demand side management policies measure up? An analysis of eight California water management agencies. *Journal of Environmental Economics and Management*, 40, 37-55.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, 19(December), 303-316.
- Rissman, A. R., Lozier, L., Comendant, T., Kareiva, P., Kiesecker, J. M., Shaw, M. R., & Merenlender, A. M. (2007). Conservation easements: Biodiversity protection and private use. *Conservation Biology*, 21(3), 709-718.
- Roberts, J. A., & Bacon, D. R. (1997). Exploring the subtle relationships between environmental concern and ecologically conscious consumer behavior. *Journal of Business Research*, 40, 79-89.
- Rodale, M. (2010). One apple at a time: What organic can do for you. *Men's Health* (April), 113-117.
- Rodriguez, L., Farnall, O., Geske, J., & Peterson, J. W. (1998). Opinion formation on environmental protection: Understanding the origins and attitudes toward resource enhancement and protection in Iowa. *Journal of Applied Communications*, 82(2), 27-45.
- Rogers, E. M. (1976). New product adoption and diffusion. *Journal of Consumer Research*, 2, 290-301.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.

- Sachau, D. A. (2007). Resurrecting the motivation-hygiene theory: Herzberg and the positive psychology movement. *Human Resource Development Review*, 6, 377-393.
- Saha, D., & Paterson, R. (2008). Local government efforts to promote the “three E’s” of sustainable development: Survey in medium to large cities in the United States. *Journal of Planning Education and Research*, 28, 21-37.
- Sandlin, J. A. (2005). Culture, consumption, and adult education: Refashioning consumer education for adults as a political site using a cultural studies framework. *Adult Education Quarterly*, 55(3), 165-181.
- Sarigöllü, E. (2009). A cross-country exploration of environmental attitudes. *Environment and Behavior*, 41(3), 365-386.
- Sayer, A. (1992). *Method in social science: A realist approach*. New York, NY: Routledge.
- Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. San Francisco, CA: Jossey-Bass.
- Schultz, P. W., Zelezny, L., & Dalrymple, N. J. (2000). A multinational perspective on the relation between Judeo-Christian religious beliefs and attitudes of environmental concern. *Environment and Behavior*, 32, 576-591.
- Schwartz, S. H. (2003). A proposal for measuring value orientations across nations. In *Questionnaire development package of the European social survey* (pp. 259-319). Retrieved February 27, 2011, from [www.Europeansocialsurvey.org](http://www.Europeansocialsurvey.org)
- Shandas, V., & Messer, B. (2008). Fostering green communities through civic engagement: Community-based environmental stewardship in the Portland area. *Journal of the American Planning Association*, 74(4), 408-418.
- Shaw, D., & Newholm, T. (2002). Voluntary simplicity and the ethics of consumption. *Psychology and Marketing*, 19(2), 167-185.
- Sheeran, P. (2002). Intention-behavior relations: A conceptual and empirical review. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 12) (pp. 1-36). Hoboken, NJ: John Wiley & Sons.
- Shultis, J. (2003). Recreational values of protected areas. In D. Harmon, & A. D. Putney, *The full value of parks* (pp. 59-75). New York, NY: Rowman and Littlefield Publishers, Inc.
- Silverman, D. (2001). *Interpreting qualitative data: Methods for analysing talk, text and interaction*. London, UK: Sage Publications, Inc.



- Simon-Brown, V. (2000). Sustainable living—strategies for breaking the cycle of work and spend. *International Journal of Sustainability in Higher Education*, 1(3), 290-297.
- Simon-Brown, V. (2004). Intelligent consumption: Addressing consumer responsibilities for natural resources—and beyond. *Journal of Extension*, 42(5), 1-9.
- Singh, N., & Gilman, J. (1999). Making livelihoods more sustainable. *International Social Science Journal*, 51(162), 539-545.
- Singleton Jr., R. A., & Straits, B. C. (1999). *Approaches to social research* (3<sup>rd</sup> ed.). New York, NY: Oxford University Press.
- Sloane, F. C. & Gorard, S. (2003). Exploring modeling aspects of design experiments. *Educational Researcher*, 32(1), 29-31.
- Staub, S., & Green, P. (Eds.). (1992). *Psychology and social responsibility: Facing global challenges*. New York, NY: New York University Press.
- Stavins, R. N. (2001). Experience with market-based environmental policy instruments. In Resources for the future (Discussion Paper 01-58). Washington, DC.
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behavior: An integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309-317.
- Stern, P. C. (1992). What psychology knows about energy conservation. *American Psychologist*, 47(10), 1224-1232.
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424.
- Stern, P. C. (2005). Understanding individuals' environmentally significant behavior. *Environmental Law Reporter*, 35(11), 10785-10790.
- Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues*, 50(3), 65-84.
- 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 environmentalism. *Human Ecology Review*, 6(2), 81-97.
- Stern, P. C., Dietz, T., & Kalof, L. (1993). Value orientations, gender, and environmental concern. *Environment and Behavior*, 25, 322-348.

- Stern, P. C., Kalof, L., Dietz, T., & Guagnano, G. A. (1995). Values, beliefs, and proenvironmental action: Attitude formation toward emergent attitude objects. *Journal of Applied Social Psychology, 25*(18), 1611-1636.
- Strife, S. (2010). Reflecting on environmental education: Where is our place in the green movement? *The Journal of Environmental Education, 41*(3), 179-191.
- Stryker, S., Owens, T. J., & White, R. W. (Eds.). (2000). *Self, identity, and social movements*. Minneapolis, MN: University of Minnesota Press.
- Tarakeshwar, N., Swank, A. B., Pargament, K. I., & Mahoney, A. (2001). The sanctification of nature and theological conservatism: A study of opposing religious correlates of environmentalism. *Review of Religious Studies, 42*(4), 387-404.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative sources*. Thousand Oaks, CA: Sage .
- Texas Commission on Environmental Quality (TCEQ). (2012). Homepage. Retrieved August 23, 2011, from: <http://www.tceq.state.tx.us/>
- Theodori, G. L. and Luloff, A. E. (2002). Position on environmental issues and engagement in proenvironmental behaviors. *Society and Natural Resources, 15*, 471-482.
- Thøgerson, J. (2005). How may consumer policy empower consumers for sustainable lifestyles? *Journal of Consumer Policy, 28*, 143-178.
- Thøgerson, J., & Ölander, F. (2006). To what degree are environmentally beneficial choices reflective of a general conservation stance? *Environment and Behavior, 38*, 550-569.
- Throgmorton, J. A. (1996). *Planning as persuasive storytelling: The rhetorical construction of Chicago's electric future*. Chicago, IL: The University of Chicago Press.
- Tian, K., & Belk, R. (2005). Extended self and possession in the workplace. *Journal of Consumer Research, 32*(September), 297-310.
- Trumbo, C. W., & O'Keefe, G. J. (2005). Intention to conserve water: Environmental values, reasoned action, and information effects across time. *Society and Natural Resources, 18*, 573-585.
- United States Bureau of the Census (USBC). (2012). American Fact Finder Homepage. Retrieved from <http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>

- United Nations General Assembly. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment. Retrieved from <http://www.un-documents.net/ocf-02.htm#I>
- van Birgelen, M., Semeijn, J., & Keicher, M. (2009). Packaging and proenvironmental consumption behavior: Investigating purchase and disposal decisions for beverages. *Environment and Behavior, 41*(1), 125-146.
- van Bueren, E. M., & Priemus, H. (2002). Institutional barriers to sustainable construction. *Environment and Planning B: Planning and Design, 29*, 75-86.
- Vaske, J. J., & Donnelly, M. P. (1999). A value-attitude-behavior model predicting wildland preservation voting intentions. *Society and Natural Resources, 12*, 523-537.
- Vaske, J. J., & Kobrin, K. C. (2001). Place attachment and environmentally responsible behavior. *The Journal of Environmental Education, 32*(4), 16-21.
- Vikan, A., Camino, C., Biaggio, A., & Nordvik, H. (2007). Endorsement of the new ecological paradigm: A comparison of two Brazilian samples and one Norwegian sample. *Environment and Behavior, 39*(2), 217-228.
- Vining, J., & Ebreo, A. (2002). Emerging theoretical and methodological perspectives on conservation behavior. In R. Bechtel & A. Churchman (Eds.), *New handbook of environmental psychology* (Chapter 35, pp. 541-558). New York, NY: Wiley.
- Wall, R., Devine-Wright, P., & Mill, G. A. (2007). Comparing and combining theories to explain proenvironmental intentions: The case of commuting-mode choice. *Environment and Behavior, 39*(6), 731-753.
- Wheeler, S. M. (2008). State and municipal climate change plans. *Journal of the American Planning Association, 74*(4), 481-496.
- Williams, A. (2008). *The enemies of progress: The dangers of sustainability*. Charlottesville, VA: Societas.
- Wilson, R. W., & Brown, K. D. (2008). Carbon neutrality at the local level. *Journal of the American Planning Association, 74*(4), 497-504.
- Wolkomir, M., Futreal, M., Woodrum, E., & Hoban, T. (1997a). Denominational subcultures of environmentalism. *Review of Religious Research, 38*(4), 325-343.
- Wolkomir, M., Futreal, M., Woodrum, E., & Hoban, T. (1997b). Substantive religious belief and environmentalism. *Social Science Quarterly, 78*(1), 96-108.

- Woodrum, E., & Hoban, T. (1994). Theology and religiosity effects on environmentalism. *Review of Religious Research*, 35(3), 193-206.
- Woodrum, E., & Wolkomir, M. J. (1997). Religious effects on environmentalism [Abstract]. *Sociological Spectrum*, 17, 223-234.
- Wray-Lake, L., Flanagan, C. A., & Osgood, D. W. (2009). Examining trends in adolescent environmental attitudes, beliefs, and behaviors across three decades. State College, PA: The Pennsylvania State University.
- Yin, R. K. (1994). *Case study research: Design and methods*. Thousand Oaks, CA: Sage Publications, Inc.
- Zavestoski, S. (2002). The social-psychological bases of anticonsumption attitudes. *Psychology and Marketing*, 19(2), 149-165.
- Zinn, M. (2007). Adapting to climate change: Environmental law in a warmer world. *Ecology Law Quarterly*, 34, 61-105.
- Zint, M., Kraemer, A., Northway, H., & Lim, M. (2002). Evaluation of the Chesapeake Bay Foundation's conservation education programs. *Conservation Biology*, 16(3), 641-649.