Well-Being and the Outdoors: An Environmentalism Study Among a Religious Student Population

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**ABSTRACT.** Environmental attitudes (EAs, i.e., overall responsibility or general attitudes toward the environment), environmental behaviors (EBs, i.e., willingness to engage in or change behaviors relating to the environment), and environmental concerns (ECs, i.e., concern about environmental issues) are important variables related to outdoor recreation, health behaviors, mental health, and even religion. For the present study, we aimed to examine the relationship between these variables using an online survey of introductory-level students attending a religious university consisting primarily of members of The Church of Jesus Christ of Latter-day Saints. Results were then assessed using linear and stepwise regression analysis. Results indicate a significant positive correlation between EAs with diet quality (i.e., whole grains, vegetables, and fruits: \( p < .001 \)) and life satisfaction (\( p = .02 \)) and a negative correlation between EAs and negative affect (\( p < .001 \)). EBs were correlated positively with having a high-quality diet (i.e., whole grains, vegetables, and fruits: \( p < .001 \)), exercise behaviors (\( p = .01 \)), life satisfaction (\( p = .024 \)), and low levels of negative affect (\( p = .01 \)). Interestingly, ECs were correlated with high levels of anxiety (\( p = .001 \)), depressive symptoms (\( p = .002 \)), perceived stress (\( p < .001 \)), diet quality (i.e., whole grains: \( p = .02 \); vegetables: \( p = .005 \); fruits: \( p < .001 \)), and low levels of life satisfaction (\( p = .011 \)). Although EAs and EBs tended to correlate mostly with positive outcomes, ECs had several negative results implicating differences between EAs, EBs, and ECs. Thus, religious students were more willing and likely to engage in pro-EBs than previous studies have suggested.

**Keywords:** environmental attitudes, environmental behaviors, environmental concerns, outdoor recreation, religion

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E nvironmental attitudes (EAs), environmental behaviors (EBs), and environmental concerns (ECs) related to environmental preservation, outdoor activities, and food sustainability are essential as they are often related to proenvironment actions, which are viewed as ways to benefit the environment and humans simultaneously (e.g., Wells & Lekies, 2006). Additionally, factors including mental and physical health benefits, community norms, and the level of concern for the environment (specifically, the perception of environmental threats; Schmitt et al., 2018) impact the likelihood of individuals having positive EAs and engaging in EBs (Basedau
et al., 2017; Dietz & Whitley, 2018; Geeley, 1993; Hunter & Toney, 2005). In some instances, having and engaging in EAs and EBs can further one’s willingness to engage in other EBs (Dahm et al., 2009). Religious beliefs have also been shown to impact EAs and willingness to engage in EBs (Geeley, 1993; Hunter & Toney, 2005). However, these studies come from a different sociopolitical context, as the studies took place in different locations and as a considerable amount of time has passed since these studies were conducted. This suggests that a follow-up study examining these relationships could provide a more contemporary understanding. As such, for the present study, we examined the relationship between EAs, EBs, ECs and the interaction they have with outdoor recreation, diet quality, and mental wellness in a population of members of the Church of Jesus Christ of Latter-day Saints.

Outdoor Recreation
Outdoor recreation has been looked at in several contexts related to EAs, EBs, and ECs (Dunlap & Heffernan, 1975; Milfont et al., 2010; Teisl & O’Brien, 2003). To examine the relationship between outdoor recreation and EAs and EBs, Homer and Kahle (1988) developed the cognitive hierarchy model. Their model states that values, attitudes, and behaviors have a hierarchical relationship, flowing from abstract and general values to attitudes, leading to specific behaviors. According to this model, an individual’s view of the environment could be conceptualized as a pyramid, where values lie as the foundation to basic beliefs, which influence one’s attitudes, affecting behavior intentions and specific behaviors (Homer & Kahle, 1988). Taking this model into perspective, one can assume that particular behaviors, such as environmentally friendly behaviors or participation in outdoor recreational activities, would be influenced by the EAs held by an individual. Additionally, Milfont et al. (2010) expanded this model to include perceived threats affecting attitudes which then affect behaviors. This updated theory implies that perceived environmental threats can impact people’s attitudes, such as attitudes about climate change, and behaviors (Milfont et al., 2010).

However, it is essential to distinguish between appreciative activities (e.g., hiking, visiting parks, sightseeing) and consumptive activities (e.g., hunting, fishing). Dunlap and Heffernan (1975) explained that consumptive activities involve taking something away from the environment, whereas appreciative outdoor activities aim to enjoy nature, taking a more “preservationist” approach. Therefore, the different values underlying both types of outdoor activities could influence one’s attitudes toward the environment and consequent behaviors in different ways. Additionally, Teisl and O’Brien (2003) found that individuals who engage in more appreciative outdoor recreation tended to have higher levels of EBs and ECs. Their study also found that individuals who participate in forest-based recreation tended to have significantly higher EBs and ECs than people who listed no outdoor recreation (Teisl & O’Brien, 2003). This indicates a relationship between outdoor recreation in general with EBs and ECs and whether the recreation is appreciative or consumptive.

Health Behaviors
It is important to consider other factors such as health behaviors that might be related to EAs. Eisinger-Watzl et al. (2015) showed that, in Germany, people who buy organic food, which is widely recognized as sustainable food, tended to eat more fruits and vegetables than those who did not purchase organic food, while also consuming less sugary drinks and meat. Their findings indicate that those who bought more sustainable food had a healthier choice of diet. However, the study did not look at the direct correlation between EAs and diet quality, which suggests that EAs are a possible underlying factor that has not been widely explored. As this study was conducted in a location with access to a wide variety of healthy dietary options, other possible underlying factors may also be related, such as access to healthier food options.

The literature suggests that individuals with pro-EAs tend to recognize the need for more sustainable food practices (Scalvedi et al., 2018). However, often these people show contradicting behavior, being less willing or unable to purchase sustainable foods. Therefore, pro-EAs do not necessarily correlate with sustainable diets or willingness to buy sustainable food (Scalvedi et al., 2018). Indeed, in their study, Scalvedi et al. (2018) explored the relationship between eating habits and eco-sustainable food behaviors in Italy. They found that consumers concerned with convenience and taste generally did not have enough time in their schedules to worry about choosing sustainable foods or planning a healthy diet. They were usually working full-time and buying ready-to-eat dishes. The researchers stated that the low involvement shown by these people in their food purchase and
preparation indicated a lack of awareness of the dietary quality and sustainability of what they were consuming (Scalvedi et al., 2018).

Students’ food choices are similarly influenced by several factors such as convenience, taste, and price. Several studies have provided evidence that students’ food choices often neglect the intake of fruits and vegetables while showing an increased intake of high-fat foods (Deshpande et al., 2009). Situational effects, such as buffet-style cafeterias and big serving sizes, can also impact college student intake (Boyle & LaRose, 2008). Apart from the previously listed food-related issues, environmental awareness and moral obligations may also impact consumer purchase decisions. People who place a high value on sustainable food practices eat more fruits and vegetables and less fast food and sugar-sweetened beverages (Robinson-O’Brien et al., 2009). Another study of college students revealed that, when they completed a course on societal concerns around food and food production, they consumed more vegetables and less high-fat dairy, high-fat meat, and sweets (Pelletier et al., 2013). This suggests that students may not initially consider their diet’s impact on the environment and how their beliefs regarding the environment, or EAs, can impact their dietary choices.

One’s perceptions of “green” or organic foods can also impact wellness. Schuldt and Schwarz (2010) conducted a two-part study examining how the label of organic foods and ingredients can influence perceptions of calorie content and exercise. Diet and exercise are known factors for impacting health, so it is essential to understand that things typically considered unhealthy (i.e., cookies) but have an organic label can affect one’s diet and exercise decisions (Schuldt & Schwarz, 2010). In this sense, environmental attitudes are related to health behaviors, including diet and exercise.

**Mental Health**

Mental health is another domain that offers a different arena in which to explore relationships, such as life satisfaction measures and pro-EAs and EBs (Netuveli & Watts, 2020; Schmitt et al., 2018; Verhofstadt et al., 2016). Netuveli and Watts (2020) examined the relationship between EAs and EBs with emotional health. They found that people who lived in more environmentally friendly households (e.g., households that engaged in recycling, used green energy, and had positive attitudes toward the environment) reported better mental health and life satisfaction. However, their study indicated that personal EAs did not correlate with improved mental health and life satisfaction. They speculated that this might be due to negative personal feelings regarding climate change and high levels of ECs (Netuveli & Watts, 2020). Similarly, Schmitt et al. (2018) found that ECs, or the perception of environmental threats, were strongly negatively correlated to life satisfaction, despite implementing positive EBs. Thus, it makes sense that they also found that nearly all of the personal EBs they examined had significant positive correlations with life satisfaction.

Verhofstadt et al. (2016) looked at how certain behaviors are good for both the environment and subjective or mental well-being. Specifically, they found that not using electricity to heat one’s home and switching to a more environmentally friendly diet increased subjective well-being. These situations are ideal as they create a win-win situation both for individuals and the environment, despite individual proEAs having neutral or even negative impacts on mental wellness, as found by Netuveli and Watts (2020). As a whole, the current literature indicates that EAs and EBs are correlated positively with mental health, while ECs tend to be correlated negatively with life satisfaction and mental wellness.

**Religious Beliefs**

Positive attitudes and concern for the environment do not always predict whether individuals will engage in EBs or have strong EAs. Indeed, some individuals who express concern for the environment may choose not to engage in EBs if their community does not promote EBs or communicate ECs (Dietz & Whitley, 2018; Hunter & Toney, 2005). In a study with a small sample of adult members of The Church of Jesus Christ of Latter-day Saints in Logan, UT, this was the case when compared to the general U.S. population (Hunter & Toney 2005). Their results showed that these respondents were concerned about the environment, and they believed it was essential to protect it. However, these individuals were unwilling to change their behaviors for the environment or participate in proenvironmental activities. These religious participants also recorded higher perceived levels of individual ability to impact the environment than the general U.S. population (Hunter & Toney 2005). Hunter and Toney (2005) speculated that this might be affected by the fast level of economic development in the Logan, Utah, area and by local religious leaders. They also assumed that the high levels of concern with low levels of behavior could be related
to how much time and money members of The Church of Jesus Christ of Latter-day Saints donate to the church, which has an extensive humanitarian program (e.g., Helping Hands, Latter-day Saints Charities). Hunter and Toney’s (2005) study is one of few that examined the relationship of a religious population with EAs, EBs, and ECs. It is also important to note that this religious population may have unique church doctrine and practices that may impact psychosocial phenomena like EAs, EBs, and ECs (e.g., Wright et al., 2016; Wright, Hardy, et al., 2018). As of now, little literature has explored this topic, and Hunter and Toney’s (2005) study may be limited in terms of contemporary understanding of this relationship, indicating there is a need for further research.

Present Study
We sought to investigate outdoor recreation, health behaviors (i.e., diet quality), and mental wellness related to EAs, EBs, and ECs within a specific religious population. By examining the population of college student members of the Church of Jesus Christ of Latter-day Saints, we hoped to identify how their particular behaviors, attitudes, and emotions correlated with their views of the environment. We hypothesized that EAs, EBs, and ECs would positively correlate with appreciative outdoor activities, diet quality, and mental health, all of this within a homogenous group of religious college students.

Method
Participants
Following approval from the university’s Institutional Review Board, participants were solicited from a convenience sample of students enrolled in introductory psychology courses at Brigham Young University-Idaho who completed this study’s online questionnaire. Participation in a research study was a required component of the course, but students’ grades were participation-based only. Participants were given the option to choose from several different research projects conducted on campus. Data were collected over six semesters with a total of 693 participants. Of those participants, 81 participants were excluded because they either did not complete the survey, did not permit the use of their data in this study, or indicated they were not members of the Church of Jesus Christ of Latter-day Saints, for a total sample size of 612. The sample consisted primarily of women (72%) and was predominantly White (78%), with most of the participants being first-year students (75%). Participants’ mean age was 28.09, with a median age of 23 and a standard deviation of 11.2, which is somewhat higher than the traditional college age. This may be attributed to the years of voluntary work that members of this church complete during their early adulthood.

Measures
Our survey examined several constructs, including EAs, EBs, ECs, appreciative outdoor activities, exercise, diet quality, and affective/emotional/cognitive health (see Appendix for all survey items). Following the informed consent, participants were entered into a gift card drawing and were given course credit. To see all reliability coefficients for the measures, refer to Table 1.

Environmental Attitudes, Behaviors, and Concerns
We used six items to assess participants’ EAs. Examples of items used are, “We worry too much about the future of the environment, and not enough about prices and jobs today” and “I have a moral obligation to care for the environment.” The six items were on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree; Hunter & Toney, 2005). Seventeen items were included in the questionnaire to determine EBs measured as the willingness to change behavior for the environment. Examples of items used to determine EBs include, “How willing are you to recycle?” and “How willing are you to buy products made from recycled products?” These 17 items utilized a 7-point Likert scale from 1 (very unwilling) to 7 (very willing; Hunter & Toney, 2005). Thirteen items in the questionnaire determined ECs. Examples of items used to determine ECs include, “How concerned are you about natural resource depletion?” and “How concerned are you with loss of biodiversity?” These 13 items utilized a 7-point Likert scale from 1 (very concerned) to 7 (very concerned; author-generated). Mean scores were calculated for EAs, EBs, and ECs.

Outdoor Behaviors
Outdoor recreation activities were assessed using a 5-point frequency scale from 1 (never) to 5 (very often; author-generated) created for this study. Seven applicable behaviors were identified based on informal conversations with students. Participants reported the frequency in which they visited or engaged in each of the following activities: national parks, national monuments, state parks, picnic outdoors, hiking in the mountains or other outdoor locations, sightseeing among natural formations,
sceneries, or overlooks, boating on a natural or manmade lake, ocean, or other body of water. Ten items were created to assess hunting and fishing attitudes based on informal conversations with students. To improve the validity of these scales, four reverse-scored items were included. Ten items were used to assess participants’ attitudes toward hunting and fishing. These items utilized a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree; author-generated), with an average score created for hunting and fishing. Examples of items on this scale are: “Hunting is a human practice that helps protect the environment” and “Fishing is more detrimental to the environment than beneficial to humans.” Similar to outdoor recreation, we created a scale of six items to represent gardening attitudes based on informal conversations with students. Attitudes toward gardening and willingness to garden were measured using six items on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree; author-generated). Examples of gardening items are: “I am willing to grow my own food in a home garden” and “I think that growing my own food in a garden is good for my mental

| TABLE 1 | Correlation Matrix for Study Variables |
|---------|---------------------------------------|
| N (SD)  | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 |
| 1. Environmental Attitudes | 4.70 (0.81) (.60) |
| 2. Environmental Behaviors | 5.17 (.82) .56*** (.88) |
| 3. Environmental Concern | 4.85 (1.10) .49*** .62*** (.94) |
| 4. Cook Not-Microwave | 57.70 (42.97) .10* .19*** .11** – |
| 5. Cook Microwave | 33.76 (37.77) .06 – .02 .01 .44*** – |
| 6. Fast Food | 0.16 (0.23) – .09 .08 – .11** .01 – |
| 7. Fruits | 1.27 (1.15) .16*** .24*** .16*** .17** – .06 .12** – |
| 8. Exercise Behaviors | 31.93 (28.15) .10* .11** .02 .07 – .09* .06 .19*** |
| 9. Sugary Drinks | 0.45 (0.79) .01 – .10* .04 – .05 .03 .35*** – .08* – .06 – |
| 10. Whole Grains | 1.41 (1.25) .18*** .28*** .11* .26*** – .08 – .14*** .69*** – .24*** – .13*** – |
| 11. Gardening | 5.52 (1.30) .22*** .37*** .24*** .21*** .04 – .12** .16*** .12** – .08** .23*** .16*** (.93) |
| 12. Hunting/Fishing Attitudes | 4.69 (1.18) – .15** – .28*** – .32*** – .02 .00 .04 – .01 .11*** .06 .02 – .03 .07 (.94) |
| 13. National Park/Monument Behaviors | 9.59 (9.60) .16*** .16*** .04 .14*** .02 – .09* .14*** .11** – .07 .22*** .07 .13*** .17*** – |
| 14. National Park/Monument Behaviors | 5.60 (1.06) .31*** .44*** .59*** .06 .00 .09** .08 .02 .10** .09** .01 .17*** – .15** .07 (.90) |
| 15. Recreational Frequency | 2.69 (0.62) .11** .02 – .01 .00 .00 .01 .08* .21*** .03 .10** .10** .06 .23*** .16*** – .04 (.66) |
| 16. Anxiety | 2.87 (0.76) .05 – .02 .13** .12** .00 .07 – .12** – .12** – .13** – .17*** – .06 – .08** – .14*** – .05 .12** – .11** (.82) |
| 17. Positive Affect | 9.08 (3.39) .02 – .00 .12** – .05 .00 .11** – .12** – .09** .07 – .11** – .09** – .02 – .11** .02 .10** – .04 .62*** (.77) |
| 18. Depressive Symptoms | 2.62 (0.80) – .15** – .11** .03 – .11** .02 .15** – .18** – .08 .15** – .22** – .09** – .14** – .08 .11** .08 – .07 .66** .60*** (.65) |
| 19. Negative Affect | 3.33 (0.67) .09** .02 – .06 .08* .02 – .10** .17*** .15** – .07 .15** .12** .10** .12** .04 – .01 .14** – .55** – .49** – .35*** (.63) |
| 20. Perceived Stress | 2.64 (0.72) – .09** – .02 .15** – .11** .03 .10** – .15** – .17** .10** – .20** – .14** – .10** – .17** – .07 .10** – .15** .72** .62** .50** – .57** (.86) |
| 21. Life Satisfaction | 4.76 (1.35) .10* .09** – .10** .11** – .01 – .09** .14** .10 – .09** .15** .13** .13** .18** .11** – .04 .16** – .49** – .49** – .43** .51** – .58*** (.89) |

Note. Cronbach’s alpha internal consistency estimates appear in parentheses along the diagonal.

* p < .05. ** p < .01. *** p < .001.
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Heath Behaviors
Participants were asked to indicate, in minutes from 0–200, how much time they spent each day on average on each of the following to determine eating and cooking practices: “Cooking your own food including meal preparation and using a stovetop range, toaster oven, toaster, and/or oven but NOT a microwave” and “Cooking your own food including meal preparation and using a microwave to heat up your food.” It is important to note that, given the requirements for students to live in approved campus housing, we assumed that all apartments had a microwave per compliance with the university regulations. Other items were used to determine how often participants consumed various types of food on a 10-point scale from 1 (never) to 10 (5 or more times per day), including drinks with added sugar, fast food, fruits, vegetables, and whole grains (Wright et al., 2017). Exercise behaviors were assessed using a 6-item scale in which participants were asked to report how much time they spent engaging in different forms of exercise during the previous week. Items were scored on a 5-point scale (1 = none, 2 = less than 30 min/week, 3 = 30–60 min/week, 4 = 1–3 hr/week, 5 = more than 3 hr/week; Lorig et al., 1996).

Mental Health
Participants’ moods were assessed using an 8-item measure on a 5-point scale from 1 (not at all) to 5 (extremely; Wright et al., 2017). Participants reported how much each of the items listed was representative of their mood during the previous month. The mood items were divided into positive (i.e., happy, alert, enthusiastic, relaxed) and negative (i.e., sad, irritable, bored, nervous) categories. Each category was summarized into an average positive-mood and negative-mood scores. Depressive symptoms were assessed using the 5-item Center for Epidemiologic Studies Depression Scale (Bohannon et al., 2003) containing items on a 4-point occurrence scale from 1 (rarely or none of the time) to 4 (most or all of the time). Participants reported the frequency in which they experienced anxiety-related feelings during the previous month using a 4-item measure on a 5-point frequency scale from 1 (never) to 5 (very often) from Butz and Yogeesswaran (2011). Satisfaction with life was measured using the Satisfaction With Life Scale (Diener et al., 1985), including five items on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Perceived stress was assessed using the Perceived Stress Scale (Cohen et al., 1983), including seven items on a 5-point frequency scale from 1 (never) to 5 (very often).

Data Analysis
All quantitative data analyses were conducted using the open-source statistical software JASP version...
Correlations and simple linear regressions were computed for all variables using EAs, EBs, and ECs as the predicted outcomes. A stepwise multivariable regression analysis was used to establish the link between the previously mentioned factors to EAs, EBs, and ECs. All variables were examined in all models, and only those with a p value < .05 were retained within the analysis. Nonsignificant variables were not included in the stepwise tables. Four multivariable models were developed for each dependent variable. The first model included all of the predictor variables in the study. The second model included only the outdoor behaviors variables. The third model included health behavior variables, and the fourth model included only mental health variables. Adjusted R² was used to determine the amount of variance accounted for by the models.

**Results**

Means, standard deviations, correlations between study variables, and reliability coefficients of the measures are reported in Table 1. The bivariate regression analysis showed that national park/monument attitudes, gardening attitudes, and fruit intake were statistically significant predictors of EAs (see Tables 1 and 2), EBs (see Tables 3 and 4), and ECs (see Tables 5 and 6). Hunting/fishing attitudes were also significant predictors of all three outcome variables (p < .001), showing a negative relationship with each of them. Fruit, vegetable, and whole-grain intake, cooking without a microwave, and life satisfaction showed significant and positive relationships with EAs, EBs, and ECs. Interestingly, cooking with a microwave did not show significant relationships with any of the outcome variables.

**Environmental Attitudes**

Frequent or extensive national park/monument attendance, outdoor recreation frequency, exercise behaviors, and positive affect showed significant positive relationships to EAs. In contrast, negative affect and perceived stress had negative and significant relationships with EAs (Table 2). The stepwise analysis showed that national park/monument attitudes and attendance, negative affect, gardening, hunting/fishing attitudes, outdoor recreation frequency, and whole-grain consumption were the best and most significant predictors of EAs. Together, they accounted for 20% of the variation in EAs (see Table 3, Model 1). Both the negative affect and hunting/fishing variables showed negative relationships to EAs.

Consistent with our hypothesis, outdoor behaviors were significant predictors of EAs (see Table 3, Model 2), suggesting that interacting with nature was related to more pro-EAs.

**Willingness to Change Behavior for the Environment**

National park/monument attendance and exercise behaviors showed positive and significant relationships with EBs, while the intake of fast food, sugary drinks, and negative affect showed significant negative relationships (see Table 4). The stepwise analysis showed that national park/monument attitudes and attendance, gardening, hunting/fishing attitudes, vegetable intake, and life satisfaction were the strongest significant predictors of EBs, together accounting for 39% of the variation in EBs (see Table 5, Model 1). The hunting/fishing variable showed a negative relationship to EBs. Consistent with our hypothesis, outdoor behaviors were significant predictors of EBs (see Table 5, Model 2), suggesting that interacting with nature was related to a higher willingness to engage in pro-EBs (see Table 5, Model 2).

**TABLE 3**

| Table 3 | Environmental Attitudes Stepwise Regression Results |
|---------|--------------------------------------------------|
|         | (Constant) | $R^2$ | Adj $R^2$ | $\beta$ | $t$  | $p$   |
| 1. National Park/Monument Attitudes | .21 | .20 | .27 | 7.22 | <.001 |
| Gardening | | | -14 | -3.71 | <.001 |
| Hunting/Fishing Attitudes | .13 | 3.37 | <.001 |
| Negative Affect | | | -17 | -4.33 | <.001 |
| Recreation Frequency | | | .11 | 2.96 | .00 |
| National Park/Monument Behavior | .11 | 2.96 | .00 |
| Whole Grains | | | .10 | 2.59 | .01 |
| 2. Outdoor Behaviors | | | | | |
| National Park/Monument Attitudes | .18 | .17 | .26 | 6.70 | <.001 |
| Gardening | | | .16 | 4.30 | <.001 |
| National Park/Monument Behavior | | | .13 | 3.40 | <.001 |
| Hunting/Fishing Attitudes | | | -17 | -4.34 | <.001 |
| Recreation Frequency | | | .13 | 3.28 | .00 |
| 3. Health Behaviors | | | | | |
| Vegetables | | | .04 | .04 | .13 | 2.93 | .00 |
| Whole Grains | | | .09 | 2.07 | .04 |
| 4. Mental Health | | | | | |
| Negative Affect | | | .04 | .03 | -21 | -4.23 | <.001 |
| Depressive Symptoms | | | .15 | 2.85 | .01 |
| Positive Affect | | | .09 | 1.97 | .05 |
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**Concern for Environment**
Anxiety, depressive symptoms, perceived stress, life satisfaction, and fast-food intake showed significant relationships with ECs, with life satisfaction having a negative relationship (see Table 6). The stepwise analysis showed that national park/monument attitudes, hunting/fishing attitudes, gardening, fruit intake, perceived stress, and fast food were the best and most significant predictors of ECs, together accounting for 44% of the variation in ECs (see Table 7, Model 1). Negative affect and hunting/fishing variables both showed negative relationships to ECs. Consistent with our hypothesis, outdoor behaviors were significant predictors of ECs (see Table 7, Model 2), suggesting that interacting with nature was related to higher levels of concern for the environment (see Table 7, Model 2).

**Discussion**
There is a shortage of information regarding EAs, EBs, and ECs among members of the Church of Jesus Christ of Latter-day Saints within the current research literature. With a consistent growth rate of membership within this religion (Mormon R, n.d.), explaining the EAs, EBs, and growth rate of membership within this religion.

**TABLE 4**

| Willingness to Change Behavior for Environment Bivariate Regression Results |
|-----------------------------|------------------|------------------|------------------|------------------|
| (Constant)                  | R²               | Adj R²           | β                | t                | p                |
| 1. National Park/Monument Behavior | .03              | .03              | .16              | 4.07             | <.001            |
| 2. Hunting/Fishing Attitudes     | .08              | .08              | -.28             | -7.15            | <.001            |
| 3. Recreation Frequency         | .00              | .00              | .02              | 0.44             | .66              |
| 4. National Park/Monument Attitudes | .19              | .19              | .44              | 11.89            | <.001            |
| 5. Gardening                   | .13              | .13              | .37              | 9.58             | <.001            |
| 6. Fast Food                   | .01              | .01              | -.09             | -2.18            | .030             |
| 7. Fruits                      | .06              | .06              | .24              | 6.05             | <.001            |
| 8. Sugary Drinks               | .01              | .01              | -.10             | -2.45            | .01              |
| 9. Vegetables                  | .08              | .07              | .28              | 6.99             | <.001            |
| 10. Whole Grains               | .03              | .03              | .18              | 4.33             | <.001            |
| 11. Cook Not-Microwave         | .04              | .04              | .19              | 4.77             | <.001            |
| 12. Cook Microwave             | .00              | .00              | -.02             | -0.40            | .69              |
| 13. Exercise Behaviors         | .01              | .01              | .11              | 2.60             | .01              |
| 14. Anxiety                    | .00              | .00              | -.02             | -0.47            | .64              |
| 15. Depressive Symptoms        | .00              | .00              | .00              | 0.11             | .914             |
| 16. Negative Affect            | .01              | .01              | -.11             | -2.69            | .01              |
| 17. Positive Affect            | .00              | .00              | .02              | 0.54             | .59              |
| 18. Perceived Stress           | .00              | .00              | -.02             | -0.38            | .70              |
| 19. Life Satisfaction          | .01              | .01              | .09              | 2.26             | .024             |

ECs becomes important for understanding this growing demographic. We aimed to provide this information by examining the effects of students’ health behaviors, mental health, and frequency of outdoor recreational activities on their EAs, EBs, and ECs. The results presented here corroborate the current literature in many aspects, such as how the intake of fruits, vegetables, and whole grains is positively correlated with EAs, EBs, and ECs. Similar to prior literature, this study also shows that outdoor recreational activities explain an individual’s EAs, EBs, and ECs. Activities such as hunting and fishing were associated with lower reported EAs, EBs, and ECs, whereas a higher frequency of visits to national parks and monuments was associated with higher EAs and EBs. Surprisingly, there is a significant relationship between nonmicrowave cooking and EAs, EBs, and ECs, but microwave cooking did not show statistically significant relationships with EAs, EBs, and ECs.

EAs have a strong relationship with a high-quality diet, specifically concerning the intake of fruits, vegetables, and whole grains and cooking primarily without a microwave. We speculate that this may be due to a possible relationship between pro-EAs and food sustainability, as shown in prior research (Scalvedi et al., 2018). These factors are also correlated with negative affect and life satisfaction. This aligns with the findings of Netuveli and Watts (2020), who stated that people living in households that held more environmentally friendly attitudes reported higher levels of life satisfaction and overall better mental health. Our study shows a strong negative correlation between EAs and negative affect, further corroborating their findings. However, they found that personal EAs did not relate to better mental health. In contrast, our study shows a relationship between individual EAs and lower levels of negative affect with high life satisfaction. Netuveli and Watts (2020) did not look at EAs and ECs as separate variables. By approaching EAs and ECs separately, one can see the relationship between EAs and mental health without having ECs as a confounding variable. Increased EBs have a strong correlation with a high-quality diet and a moderate correlation with exercise behaviors, low negative affect, and high life satisfaction. Additionally, our findings indicate that religious students are more likely to engage in pro-EBs on average, contrary to the findings of Hunter and Toney (2005). A possible explanation for this discrepancy could be differences in the focus of the community. Our study took place in...
an area surrounded by national parks and locations to engage in outdoor recreational activities. While Cache County, referred to in Hunter and Toney’s (2005) study, is also located near several national parks, our study is in a smaller, more rural city and less industrialized than Cache County. This is likely to impact how accessible and nearby outdoor recreational areas are. The local norms of the community are heavily influenced by the beliefs of The Church of Jesus Christ of Latter-day Saints. These norms and the geographical location and setting may promote EBs more than the community included in Hunter and Toney’s (2005) study, whose norms may not be as heavily influenced by a singular religion. Another possible explanation for this difference could be that our study includes a larger number of individuals who feel that it is their responsibility to engage in EBs. When individuals perceive it is their responsibility to protect and preserve the environment, they are more likely to engage in EBs (Syropoulos & Markowitz, 2021). Hunter and Toney (2005) speculated that obligations might have already met; therefore, there was no longer a need to engage in more EBs. Our sample may include more individuals who feel it is their responsibility to engage in more EBs, which would account for the increased likelihood of engaging in pro-EBs. Alternatively, this may be due to changing environmental attitudes in the general population, such as an increased emphasis on “green” energy and transportation in recent years. Finally, it is also possible that participants are responding in a socially desirable manner and reporting higher levels of behavioral intentions than they actually possess.

Lastly, ECs had similar findings regarding diet quality, with other results showing that individuals high in ECs would experience more negative affect, such as anxiety and symptoms of depression. These findings fit well with the study done by Netuveli and Watts (2020), who speculated that it might be due to concern regarding climate change. With much general concern worldwide regarding sustainability and impending climate change, it makes sense that individuals high in ECs would feel more negative affect, such as anxiety and depressive symptoms.

**Implications**

Our analysis provides evidence of the relationship between outdoor behaviors and EAs, EBs, and ECs. It is, therefore, essential to consider the bidirectional relationship between exposure to nature
and willingness to change behavior and attitudes toward the environment. If the desire is to motivate people to care more about the environment and worry about its preservation, it seems that exposure to and interacting with nature in outdoor activities is an excellent place to start (Dunlap & Heffernan, 1975; Teisl & O’Brien, 2003). Greater calls to action for caring for the environment or cleaning heavily polluted areas would be imperative to enable outdoor recreation to occur, in turn relating to caring more about the protection of the environment. Our results also corroborate the literature on the relationship between diet quality and EAs, EBs, and ECs. Intake of fruits and vegetables was among the strongest predictors. Meal preparations that do not include the use of a microwave imply a higher quality diet. This may be due to the more frequent consumption of fruits, vegetables, and whole grains, as we saw a strong positive correlation between all these variables.

Individuals who reported higher levels of negative affect also showed higher levels of negative EAs and lower willingness to engage in EBs. This suggests that individuals experiencing more negative moods seem to have more negative feelings regarding the environment. However, positive affect was correlated with EAs but not with EBs or ECs. This is evidence that people with a more positive mood overall have a better attitude about the environment but are not likely to act on those attitudes or be concerned about the environment.

Individuals who scored higher on the hunting/fishing scale (e.g., enjoy hunting or fishing, believe that the activities help protect the environment, manage animal populations responsibly, or are more detrimental to the environment than beneficial to humans) reported overall more negative EAs, EBs, and ECs. These findings corroborate the current literature regarding the difference between consumptive and appreciative outdoor activities (Dunlap & Heffernan, 1975; Teisl & O’Brien, 2003). Individuals who demonstrated prohunting/fishing attitudes, which suggest taking something away from nature, have different EAs, EBs, and ECs than those who reported more appreciative interactions with nature.

**Potential Limitations and Future Research**

One possible limitation of our study is the potentially narrow generalizability due to its specific population. In addition, the self-reported measures used could be misleading due to participants’ tendency to present themselves in a perceived positive manner. It is also important to note another possible limitation in that four of our variables had Cronbach’s alpha scores of $\alpha < .70$ (see Table 1, e.g., Environmental Attitudes: $\alpha = .60$; Recreation Frequency: $\alpha = .66$). Finally, this study was conducted geographically close to multiple national parks and other outdoor recreational activity centers so that, with these resources readily available, students’ attendance and interaction with nature might differ from those observed in other locations. Future research should explore these differences and consider how students from other similar universities (e.g., BYU-Provo) and religiously oriented universities (e.g., Gonzaga University) differ in these characteristics. Our survey was a convenience sample taken from students attending Brigham Young University-Idaho. While this does give us great insight into students at this university who are religious, once again, our study may not be generalizable to students attending other schools or to a more general population.

Future research should look at the direct correlation between nonmicrowave cooking and the level of EAs, EBs, and ECs. Because nonmicrowave cooking implied a healthier diet and was a statistically significant predictor of all three outcome variables, further research should be done to see the possible influence nonmicrowave cooking may have on individuals’ EAs, EBs, and ECs. It may be

| TABLE 7 |
|---|
| **Concern for Environment Stepwise Regression Results** |
| (Constant) | $R^2$ | Adj $R^2$ | $\beta$ | $t$ | $p$ |
| 1. National Park/Monument Attitudes | .45 | .44 | .50 | 15.61 | <.001 |
| Hunting/Fishing Attitudes | −.24 | −7.70 | <.001 |
| Gardening | .17 | 5.36 | <.001 |
| Fruits | .11 | 3.55 | <.001 |
| Perceived Stress | .08 | 2.61 | .01 |
| Fast Food | .07 | 2.36 | .02 |
| 2. Outdoor Behaviors | | | | |
| National Park/Monument Attitudes | .43 | .42 | .52 | 16.29 | <.001 |
| Hunting/Fishing Attitudes | −.25 | −7.96 | <.001 |
| Gardening | .17 | 5.32 | <.001 |
| 3. Health Behaviors | | | | |
| Fruits | .05 | .04 | .15 | 3.76 | <.001 |
| Fast Food | .11 | 2.74 | .01 |
| Cook Not-Microwave | .10 | 2.45 | .02 |
| 4. Mental Health | | | | |
| Perceived Stress | .02 | .02 | .15 | 3.68 | <.001 |
worthwhile to examine geographic location in relation to EAs, EBs, and ECs; proximity to outdoor recreation areas or accessibility to higher quality diet foods may impact these factors. The current study did not focus on demographic variables predicting the outcomes. Still, future research should explore the relationship between ethnicity, age, socioeconomic status, gender, subjective health (Wright, Perkes, et al., 2018), and technology use (Wright, et al., 2020), which may impact student attitudes toward the environment. Future research may also benefit from examining whether there is a direct relationship from EAs to EBs, or vice versa. The main distinction between the predictor variables for EAs, EBs, and ECs was mental health. Perceived stress, depressive symptoms, and anxiety symptoms only significantly predicted ECs, not EAs or EBs. These differences should be further explored in future research. Our study showed that higher ECs correlate to reported higher depressive symptoms, anxiety symptoms, perceived stress, and lower life satisfaction, similar to prior research (Netuveli & Watts, 2020). Future research should also investigate possible correlations between attitudes about climate change and negative affect.

We hope that this research might shed more light on the factors that influence environmentalism. By knowing what these factors are, action can be directed towards implementing pro-environmental behavioral changes, thus leading to a greater sense of environmental stewardship within groups and communities.

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All research was completed by undergraduate students attending Brigham Young University-Idaho. This research was supported by internal funding from Brigham Young University-Idaho for student and faculty-directed research. As such, we declare a potential conflict of interest given the latter funding source.

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