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A conservationist, an economist, and a medic walk into a moral
dilemma: Environmental decisions and rationalizing behavior

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A senior thesis submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Arts

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ABSTRACT

A recent *Biological Conservation*¹ paper found that while conservationists behave more sustainably than other professionals in some respects (e.g. compost more), they still have much room to improve. Three key domains of behavior the paper tested were meat consumption, daily commuting behavior, and air travel. In this research, we analyzed the voluntary comments people made in response to questions about their behavior in these areas to seek a better understanding of how conservationists explain or rationalize their behavior despite their knowledge of how their behavior impacts the environment. The results revealed that conservationists were more likely to rationalize their meat consumption behavior than economists. Otherwise, there was not a significant difference between the likelihood of conservationists, economists, and medical professionals to rationalize their behavior. The most common types of rationalizations used by respondents to justify their unsustainable behavior were Self-Sanctions and Moral Justification. Interestingly, the rationalizations offered in the comments of the respondents also took the form of Positive Self-Reactions, or self-praise for behaving in a sustainable manner. A future line of study could assess the efficacy of interrupting the ability of people to rationalize their unsustainable behavior as a leverage point to alter behavior.

[1] Balmford, A., Cole, L., Sandbrook, C., & Fisher, B. (2017). The environmental footprints of conservationists, economists and medics compared. *Biological Conservation*, 214, 260-269. doi:<https://doi.org/10.1016/j.biocon.2017.07.035>

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INTRODUCTION

Many conservationists disapprove of behavior that is bad for the environment but engage in it in their personal lives nonetheless. The fact that many conservationists fly multiple times per year to their conservation sites or to scientific conferences is evidence of this paradox (Bossdorf, Parepa, & Fischer, 2010; Waring, Teisl, Manandhar, & Anderson, 2014; Fois, Cuena-Lombraña, Fristoe, Fenu, & Bacchetta, 2016; Alcock et al., 2017).

Andrew Balmford, Lizzy Cole, Chris Sandbrook, and Brendan Fisher decided to investigate this phenomenon by conducting a questionnaire-based survey of 300 conservationists (people linked to conservation groups), 207 economists (people linked to economics groups), and 227 medics (people linked to biomedical groups) across 10 domains of behavior considered to have significant environmental impacts (Balmford, Cole, Sandbrook, and Fisher, 2017). The aim of the survey was to see how the ecological footprints of conservationists compared to comparable—in terms of educational and applied characteristics—professionals.

Because of their occupation, it is assumed that conservationists have received a significant amount of education about human impacts on the environment. According to earlier research, this should mean that conservationists exhibit a proportional amount of pro-environmental behavior in their daily lives (Carter, 1998; Arcury, 1990). However, the Balmford research demonstrates is that this is not the case across all dimensions of behavior. The survey found that conservationists do more to reduce their domestic energy use, take less personal flights, recycle more, and eat less meat than the other professionals surveyed, but they do not differ in how they commute to work and own more pets (Balmford et al., 2017). These results contribute to the growing body of research that has demonstrated that the relationship between environmental knowledge and pro-environmental behavior is incredibly nuanced and not as direct as previously thought (Arcury, 1990; Bamberg & Möser, 2007; Bolderdijk, Gorsira, Keizer, & Steg, 2013; Balmford et al., 2017).

Why are people behaving dissonant to their knowledge of the environmental impacts their behavior will cause and their values? Research has concluded that the reason is a complicated intermingling of internal and external factors, such as the habits,

social norms, demographics, responsibilities, culture, and economic status the individual has (Steg & Vlek, 2009; Bamberg & Möser, 2007; Gifford & Nilsson, 2014; Kollmuss & Agyeman, 2002). All of these factors, and many more, can influence one's ability and likelihood to behave in a pro-environmental way.

How is it that conservationists are able to transgress their morals and values and choose to behave in an unsustainable manner? Research suggests that neutralizations are to blame (Bersoff, 1999; Tsang, 2002; Antonetti & Maklan, 2014). Conservationists are able to justify their behavior by rationalizing it away. This is something that everyone is guilty of; however, rationalization becomes an issue when it facilitates the perpetuation of immoral or negative behavior. For conservationists, this is especially problematic because the occupation requires influencing others to behave in an environmentally sound and sustainable manner (Balmford et al., 2017). If the very same people who are calling on others to alter their behavior are not able to modify their own, perhaps we need to make a change in how we conduct conservation work. The authors of the Balmford paper suggested that perhaps tailoring interventions to target higher-impact behaviors could be more effective than the current approach.

After reading the Balmford paper, I was curious, did the conservationists who took the survey rationalize their behavior in their responses? Furthermore, did conservationists rationalize their behavior more than the other professionals surveyed? These central questions are the focus of my research. Professor Brendan Fisher gave me access to the survey data, and I found ample evidence that respondents had rationalized their unsustainable behavior. I wanted to know what kind of rationalizations they used. Research has found that interrupting one's ability to neutralize their actions can change their behavior (Bersoff, 1999; Antonetti & Maklan, 2014). Thus, these results could help determine types of intervention strategies that could be utilized to interrupt the ability of the individual to rationalize his or her behavior. Inhibiting the ability of someone to neutralize his or her unsustainable behavior could be the key to leveraging conservationists and people of all occupations alike to live more sustainable lifestyles

LITERATURE REVIEW

Preface

The following literature review synthesizes the information relevant to my research on rationalizing unsustainable behavior. The literature I delve into aims to give a multidisciplinary perspective on the topics discussed and context for my research. What follows is information supporting the assumption that conservationists knowledge of what pro-environmental behavior is, reviewing the paradox of conservationists behaving unsustainably, evaluating the impact environmental education has on altering behavior, reasons people transgress their morals, and how people rationalize their immoral behavior. The latter is relevant to my research because I examine the rationalizations conservationists use to rationalize their unsustainable behavior, which is antithetical to their values.

I. Conservationists Know of Pro-Environmental Behavior

Although it seems implicit that conservationists know more about the environment—and, therefore, how to best act in an environmentally supportive way—than other professionals, it is important to support this assumption with data. Research has demonstrated that environmental knowledge is associated with conservation group membership and education (Maloney and Ward, 1973; Arcury, 1990). However, more recent research found that conservationists score no better than economists on environmental knowledge and knowledge of pro-environmental behavior (Balmford et al., 2017). This may be attributable to similar levels of higher education, but it does imply that conservationists have environmental knowledge and an understanding of pro-environmental behavior.

Furthermore, research has observed that individuals with more positive attitudes towards the environment reported more pro-environmental behaviors (Blissing-Olson, Iyer, Fielding, and Zacher, 2013; Kollmuss & Agyeman, 2002). I think this can be extended to conservationists because I would argue that most have positive attitudes towards the environment. The literature indicates that conservationists have environmental knowledge and are familiar with pro-environmental behavior.

II. Environmental Education Does Not Always Result in Pro-Environmental Behavior

There was a long-standing belief, supported by research, that environmental education resulted in people altering their behavior to act in a more environmentally supportive way (Carter, 1998; Arcury, 1990). However, more recent research suggests that this direct cause-and-effect relationship may be less common and more complicated than originally thought (Arcury, 1990; Bamberg & Möser, 2007; Bolderdijk, Gorsira, Keizer, & Steg, 2013; Balmford et al., 2017).

A recent study found that environmental education only works to motivate pro-environmental behavior if the population being educated values the environment; moreover, it had no effect on the people who cared less about the environment (Bolderdijk, Gorsira, Keizer, & Steg, 2013). This is consistent with previous research, which found that awareness of environmental issues is not a direct determinant of pro-environmental intention (Bamberg & Möser, 2007). Although environmental education is important, the literature reveals that a multitude of additional factors impact one's willingness and ability to behave in an environmentally supportive way.

A. Factors That Influence Pro-Environmental Behavior

While someone may recognize the necessity of behaving in an environmentally sustainable way, one's intention to do so may be mediated by a plethora of social, cultural, personal, and other internal and external factors. The social factors include norms, religion, urban-rural differences, social class, proximity to problematic environmental sites, and cultural and ethnic values (Bamberg & Möser, 2007; Gifford & Nilsson, 2014; Kollmuss & Agyeman, 2002). The value disparities that regional differences create can also influence pro-environmental behavior. For example, one study illuminated the fact that being environmentally conscious conforms to traditional Asian values, while Western people tend to believe that this way of thinking opposes their traditional values (Aoyagi-Usui, Vinken, & Kuribayashi, 2003).

A study determined the personal factors that influence environmental behavior to be one's personal values (such as social or environmental values), political and world views childhood experience, knowledge and education, personality, sense of control,

goals, felt responsibility, cognitive bias, place attachment, age, gender, and chosen activities (Kollmuss & Agyeman, 2002). Other internal factors that impact pro-environmental behavior include motivation, emotion, locus of control, and priorities (Kollmuss & Agyeman, 2002). External locus of control, or the belief that what you do impacts the world around you, has a role to play in pro-environmental behavior. A study published in the *Journal of Business Ethics* concluded that the more a consumer believed their purchasing decision had an impact (“consumer effectiveness”), the more sustainable their consumption choices (Antonetti & Maklan, 2014).

Other researchers reviewing how to encourage pro-environmental behavior determined, however, that behavior is often habitual and governed by automated cognitive processes, rather than being preceded by complex reasoning (Steg & Vlek, 2009). This could either be interpreted to mean that the factors the previous research discussed may not have as dynamic of an effect on behavior as they suggest, or it could signify that these factors are subconscious influencers on behavior rather than conscious.

B. The Paradox of Conservationists Behaving Unsustainably

The study that served as the foundation and source of data for my research, “The environmental footprints of conservationists, economists and medics compared,” was relatively controversial when it was published in *Biological Conservation* in 2017. The findings of the study support the mounting literature that recognizes that conservationists do not always live in the most sustainable manner (Balmford et al., 2017; Alcock et al., 2017; Kennedy, Mcfarlane, Beckley, & Nadeau, 2009; Bearzi, 2008). Furthermore, conservationists often expect others to alter their behavior based on evidence that it has negative impacts on the environment while they themselves continue to participate in unsustainable activities (Bearzi, 2008; Balmford et al., 2017).

Air travel, in particular, is an activity with well-documented negative environmental externalities that conservationists participate in quite regularly (Alcock et al., 2017). A body of researched has emerged to address this issue, with researchers proposing carbon-offsetting conferences and alternative transportation systems to them (Bossdorf, Parepa, & Fischer, 2010; Stroud & Feeley, 2014; Waring et al., 2014; Fois et al., 2016).

This issue may not have been addressed sooner because psychological research has demonstrated that when other ingroup members (in this case, fellow conservationists) behave immorally, people's desire to maintain a morally upstanding group image may cause them to feel threatened and get defensive rather than addressing and altering the immoral behavior (van, Ellemers, & Doosje, 2015). Research has established that unethical behavior is perpetuated when people are able to justify their unethical actions as being morally acceptable (Bersoff, 1999). What is more, research has determined that jeopardizing the ability of people to construct neutralizations for their unethical behavior resulted in a decrease in these actions (Bersoff, 1999; Antonetti & Maklan, 2014). For example, in a study conducted by David M. Bersoff, participants in the experimental group were overpaid for taking part in a study. When the circumstances were manipulated to impede participants' ability to rationalize-away their behavior, Bersoff noticed a decrease in the number of participants who accepted the overpayment—the unethical behavior—rather than denying it and returning the money (Bersoff, 1999). This reveals that although people do transgress their morals and behave contrary to their values, there are intervention methods that may decrease this unethical behavior. These intervention methods may include the manipulation methods Bersoff used to impede rationalizing behavior in his study, such as asking the individual about their unethical behavior as they were about to engage in it, humanizing the actors the individual's behavior would negatively effect if he or she went through with the unethical behavior, and evaluating the behavior of people who, when faced with a similar choice as the individual, chose to engage in the unethical behavior (Bersoff, 1999). Another study found that in the context of consumer purchasing decisions, eliciting emotional reactions that increased the agency of a consumer counterbalanced the ability of the participants to utilize neutralization techniques (Antonetti & Maklan, 2014). Perhaps these methods could be enlisted to disrupt the ability of conservationists to rationalize-away their unsustainable behavior and, as a result, lead to a decrease in the unsustainable behavior altogether.

III. Morals & Values Do Not Always Translate to Behavior

One may intend to behave a certain way, but myriad reasons can influence one to

behave dissonant to this intention (Ajzen, 1991; Kollmuss & Agyeman, 2002; Ajzen, 2006; Neal, Wood, Labrecque, & Lally, 2012; Michie, Atkins, & West, 2014). For example, after being informed about environmental issues, someone may want to change their behavior to reflect one's newfound environmental values. However, factors such as subjective norms surrounding the behavior change, responsibilities, priorities, and perceived behavior control can result in the person who values the environment to refrain from changing their behavior (Ajzen, 1991; Kollmuss & Agyeman, 2002). For example, if the dominant culture people belong to encourages an unsustainable lifestyle, it is less likely that they will break that cultural norm and alter their behavior (Kollmuss & Agyeman, 2002). Another example of this would be if a parent who prioritizes his or her child's needs was told that they would have to make their children take a dangerous public transportation system to get to school rather than by person vehicle to live sustainably. The parent may not stop driving their child to school every day because they believe that doing so would be going against his or her priorities.

According to the Theory of Planned Behavior, perceived behavior control is comprised of self-efficacy (one's belief about whether or not one is physically capable of performing the behavior) and controllability (the extent to which conduct is up to the actor) (Bandura, Caprara, Barbaranelli, Pastorelli, & Regalia, 2001; Ajzen, 2006). Perceived behavior control, attitude toward the behavior, and subjective norms all act together to influence the behavior of the actor (Ajzen, 2006).

However, the new Behavior Change Wheel provides a more comprehensive depiction of the various factors that can influence one's likelihood to alter their behavior (Michie, Atkins, & West, 2014). The wheel is comprised of three tiers: sources of behavior, intervention functions, and policy categories. Sources of behavior would include environmental knowledge and motivation to make a change while intervention functions are leverage points that one could use to achieve changes in the policy categories, such as imposing restrictions to enforce guidelines or using coercion to pass legislation.

Habits the person has and the past behavior of the individual can also factor into the likelihood that someone will alter his or her behavior (Neal, Wood, Labrecque, & Lally, 2012; Ajzen, 1991). Overall, the literature indicates that there are a variety of

factors—internal and external, conscious and subconscious—that can overwhelm the desire or the intention of an individual to behave in accordance with his or her values.

IV. Types of Rationalizations

In literature section II, I mentioned that immoral behavior is perpetuated when people are able to justify their unethical actions as being morally acceptable (Bersoff, 1999). Well, people justify their behavior by restructuring their conduct (Tsang, 2002), in other words, by rationalizing it. Research reflected in the psychology literature has identified specific types of rationalizations that people use to neutralize their unethical behavior. The following defined terms are all types of rationalizations substantiated by research:

Table 1

Rationalization Types	Definitions
Self-Sanction (SS)	Allowing yourself to do something that conflicts with your morals for a specific reason
Moral Justification (MJ)	Deciding for yourself that a specific bad behavior is actually good or has a positive purpose
Moral Rationalization (MR)	You convince yourself an immoral behavior does not in fact violate your moral standards
Moral Licensing (ML)	Using a positive behavior you engage in to justify behaving in a negative or unethical manner
Sanitizing Language (SL)	Altering diction to make bad conduct seem benign or harmless
Advantageous Comparison (AC)	Juxtaposing your negative behavior with someone else's worse behavior to make yours seem less bad by comparison
Diffusion of Responsibility (DR)	Not my fault; downplaying your role in immoral behavior or actions
Positive Self-Reactions (PSR)	Praising yourself for doing things you view as good and/or moral

A. Self-Sanctions

When you allow yourself to do something which conflicts with your morals for a specific reason (Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C., 1996; Bandura, 1999; Bandura et al., 2001). For example, after people establish a moral standard, Self-Sanctions are used for actions that violate this standard (Bandura et al., 2001). Although they are intangible, Self-Sanctions are powerful; they can allow people

to selectively disengage from harmful conduct by effectively changing damaging behavior to moral ones (Bandura et al., 1996; Bandura, 1999). This can lead to the perpetuation of inhumane conduct (Bandura, 1999). Although, Self-Sanctions may be beneficial in at least one respect: one study found that those who apply moral self-sanctions to detrimental conduct behave less readily angry, behave in a less injurious manner, and are more prone to fostering pro-social relations than those who do not (Bandura et al., 1996). This may indicate that the acting of employing Self-Sanctions is an act of self-preservation.

B. Moral Rationalization

This is where you convince yourself that an immoral behavior does not in fact violate your moral standards (Tsang, 2002; Bhattacharjee, A., Berman, J. Z., & Reed, A., II., 2013; Schwartz, 2016). The way Moral Rationalization neutralizes behavior is because it postulates, “people can violate their moral standards because they have convinced themselves that their behavior is not immoral at all” (Tsang, 2002). Moral Rationalization can be involved “in small unethical acts, such as cheating on taxes, as well as large atrocities such as the Holocaust” (Tsang, 2002). Another example of its use in a small unethical act would be if “the envy of one’s work colleagues who are paid more than oneself for the same performance...lead one to morally rationalize padding expense accounts” (Schwartz, 2016). Moral rationalization can be dangerous because it can allow people to preserve their moral self-concept while committing an immoral behavior, which leads it to be used to justify both small unethical acts as well as serious evil acts (Tsang, 2002; Schwartz, 2016).

C. Moral Justification

Portraying immoral behavior as actually having a positive purpose (Rapoport & Alexander, 1982; Sanford & Comstock, 1971; Bandura et al., 1996; Bandura, 1999; Bandura et al., 2001; Tsang, 2002). The cognitive process of Moral Justification works by portraying conduct as being in the service of a valued social or moral purpose (Bandura 1996; Tsang 2002). For example, “the Nazi government of Germany made use of moral justification in representing the genocide of Jewish people not as murder but as ‘the holiest human right and...obligation’...” (Tsang, 2002). Another extreme example of Moral Justification is its employment as a way to neutralize the use of punitive conduct

directed towards people who have been dehumanized by insisting that the punishment is beneficial and necessary (Bandura et al., 1996). Once the behavior has been mentally reconstrued, the person “can then act on a moral imperative” (Bandura et al., 1996; Bandura, 1999). This makes sense of the famous Voltaire quote, “Those who can make you believe absurdities can make you commit atrocities” (Bandura, 1999).

D. Advantageous Comparison

Juxtaposing your negative behaviors with the far worse behavior of someone else, making yours seem less bad by comparison (Bandura, 1991; Bandura et al., 1996; Bandura 1999; Bandura et al., 2001; Tsang 2002). Advantageous Comparison can make poor behavior appear benign by contrasting it with detrimental conduct (Bandura, 1999; Bandura et al., 2001). For example, Nazi doctors who administered lethal injections to Jew in concentration camps could have used Advantageous Comparison “by comparing their method of killing with the more painful method of execution by shooting. In this way, they could have reinterpreted their action as ‘mercy killings’ rather than cold-blooded killings” (Tsang, 2002). The more egregious the contrasted activities, “the more likely it is that one’s own injurious conduct will appear trifling or even benevolent” (Bandura, 1991; Bandura et al., 1996).

E. Sanitizing Language

Altering diction to make immoral or negative conduct seem benevolent or harmless (Bandura, 1990; Bandura et al., 1996; Bandura, 1999; Bandura et al., 2001). This results in relieving those who use it of personal agency (Bandura, 1990; Bandura et al., 1996). For example, studies have found that people behave much more aggressively when the act of assaulting someone is given a sanitized label compared to when it is just called “aggression” (Bandura et al., 1996). The reason that this method of mentally restructuring conduct is effective is because “[a]ctivities can take on very different appearances depending on what they are called” (Bandura, 1999).

F. Diffusion of Responsibility

Downplaying your role in immoral behavior (Darley & Latané, 1968; Milgram, 1974; Bandura, 1999; Bandura et al., 2001; Tsang, 2002; Zimbardo, 2008). This cognitive process works by “deflecting responsibility onto others and away from the self” (Tsang, 2002). For example, in one study, college students believed they were either

alone in hearing an epileptic seizure or that 1 or 4 unseen others were also present (Darley & Latané, 1968). The presence of bystanders reduced the individual's feeling of responsibility and lowered his or her speed of reporting the incident (Darley & Latané, 1968). In this instance, the urgency the participant felt to report the emergency diminished as a result of believing that other individuals could take it upon themselves to report the emergency instead. A more mundane example of Diffusion of Responsibility can be found in a group decision-making situation. Each person could believe that the group, rather than oneself, is responsible for a poor decision (Tsang, 2002).

G. Moral Licensing

Using a positive behavior you engage in to justify behaving in a negative or immoral way (Monin & Miller, 2001; Khan & Dhar, 2006; Sachdeva, Iliev, & Medin, 2009; Jordan, Mullen, & Murnighan, 2011; Barkan, Ayal, Gino, & Ariely, 2012). For example, after one experiences an event that gives a boost to the moral self, one may relax his or her ethical standards, becoming more likely to engage in immoral or unethical behavior (Barkan et al., 2012). This cognitive process is also visible in consumer purchasing behavior. Researchers have found that committing to a virtuous act “reduces negative self-attributions associated with the purchase of relative luxuries” (Khan & Dhar, 2006). This is another instance of a moral “boost” resulting in one participating in an unfavorable behavior, which is the essence of Moral Licensing.

H. Positive Self-Reactions

Praising yourself for conducting yourself in a way that you view as moral and/or good (Bandura, 1991; Bandura et al., 2001). Positive Self-Reactions for one's moral behavior paired with negative Self-Sanctions serve as the regulatory influences for one's moral standards (Bandura, 1991). Furthermore, research has demonstrated that anticipatory positive and negative self-reactions for different courses of action are what get people to behave in accordance with their moral standards (Bandura, 1991). Also, Bandura believes that people pursue behaviors that result in Positive Self-Reactions and avoid those that bring about negative self-reactions (Bandura, 1991). As an educational report from the University of Melbourne Graduate School of Education outlines, Positive Self-Reactions can also be employed in a self-reflection setting to adapt to and mediate dissatisfaction (Harding et al., 2018). This is accomplished by having students recognize

what aspects of their performance they are satisfied with (Harding et al., 2018). The reflection dimension to Positive Self-Reactions is what this research focuses on.

OBJECTIVES

My aim was to analyze a subset of the survey data collected by the authors of the recently published *Biological Conservation* paper, “The environmental footprints of conservationists, economists and medics compared” to answer questions about environmental decisions and rationalizing behavior. The literature review above informs the following questions: do the survey respondents use the opportunity to comment on their actions to rationalize their unsustainable behavior? Furthermore, do conservationists rationalize their behavior more than the other professionals surveyed? Finally, what types of rationalizations do the respondents use to justify their behavior? We hypothesized that conservationists would rationalize their behavior more than both the economists and the medical professionals. We also assumed that the most common type of rationalization conservationists used would be moral licensing and that respondents would only rationalize their unsustainable behavior—when they received a poor score for a particular domain of behavior.

METHODS

Using data from the survey, we were able to evaluate our research questions and the validity of our hypotheses. The survey had 734 respondents: 300 conservationists, 207 economists, and 227 medics. We decided to focus our research on responses collected in response to the following questions:

- 1) For the most part, what method do you use to travel most of the distance to get to work?
- 2) Roughly how many of your week’s meals contain meat (including fish and chicken)?
- 3) Roughly how many flights do you take in the average year?

We chose to focus on these 3 questions (hereafter referred to as “the 3 questions”) because after each of these questions was posed in the survey, the respondent had the opportunity to comment on their answer; an optional question that simply stated: “Feel free to tell us why.”

I analyzed all of the comments (or lack of comments) made by the conservationists, economists, and medical professionals for all 3 questions, for a total of 2,202 cells of data—comments comprising about 1/3 of that list. For my first evaluation of the data, my aim was to determine the frequency the conservationists, economists, and medics, respectively, commented on their behavior. To do so, I scored each cell (all 2,202) with a 0 if the individual did not fill in a comment or a 1 if the individual did fill in a comment. Next, I sought to ascertain the proportion of comments that were rationalizations to those that were just statements—comments that were not rationalizations (*e.g.* “You mean - the flight is ‘3 hours or less?’ that is the way I answered this”). Comments that I assessed to be statements were given a score of 1 and rationalizations were given a score of 2. If no comment was left, a score of 0 was given.

To detect the types of rationalizations respondents used to justify their behavior, I categorized the comments that I scored a 2 in the previous section into the following rationalization categories: Self-Sanction (SS), Moral Justification (MJ), Moral Rationalization (MR), Moral Licensing (ML), Sanitizing Language (SL), Advantageous Comparison (AC), Diffusion of Responsibility (DR), and Positive Self-Reactions (PSR). These specific rationalization types were chosen as the categories because they were cited frequently in the literature and are the most applicable to the content in the comments. This interpretation of the data was subjective—it was based on my assessments of the respondents’ comments, informed by the literature and my own judgment.

Because there is a degree of subjectivity in identifying the type of rationalization used, Professor Brendan Fisher evaluated and scored the first 20 comments for each profession for the meat consumption question (for a total of 60 responses) without the ability to see the scores I had given each comment to determine if my assessments were reliable. We had a 35% agreement rate, so we discussed our methods of classifying and decided to re-evaluate our classifications. I went back over the responses and re-classified all of them, while Professor Fisher re-classified the ones we disagreed on the first time. After this second round, we had an 80% agreement rate. We then discussed the remaining outliers.

We then calculated the point estimate and 95% confidence intervals for the rationalization versus statements data for each of the three behaviors and performed a

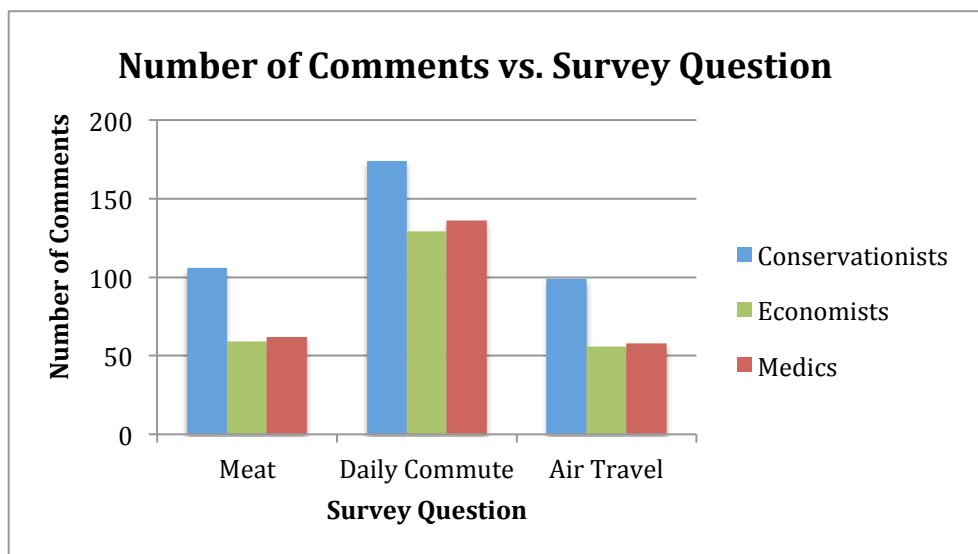
Chi-square test to determine if there were correlations across the decision to rationalize across the three behaviors.

At the suggestion of Dr. Chris Sandbrook, I also organized rationalizations for each of the three questions into two categories: people who scored poorly (<1) on the survey and people who scored well on the survey (1). This was to ascertain if there was a difference between the way people who performed poorly rationalize their behavior versus those who scored well (*e.g.* how people who eat 20 meat meals per week rationalize their behavior versus those who eat 0 meat meals per week).

RESULTS

Conservationists took the opportunity to comment on their behavior more than the other professionals for all three behaviors (Fig. 1). For the meat behavior, conservationists commented on their meat eating habits about twice as much as both the economists and medical professionals did (Fig. 1). Figure 1 also demonstrates that more people commented on their daily commuting behavior than on any of the three behaviors analyzed.

Figure 1



When given the option to comment on each of the three behaviors, survey respondents primarily used the opportunity to rationalize their behavior (Fig. 2). The only instance where this was not the case was for economists whose comments on their meat

consumption constituted more statements than they did rationalizations (Fig. 2). The prompt to comment on one's air travel elicited the greatest proportion of rationalized responses to statements across all three occupations (Fig. 2). Conservationists were not more likely than the economists or the medics to rationalize their daily commute or air travel behaviors (Fig. 3). However, conservationists were 1.6x more likely to rationalize their meat consumption compared to economists (Fig. 3).

Figure 2

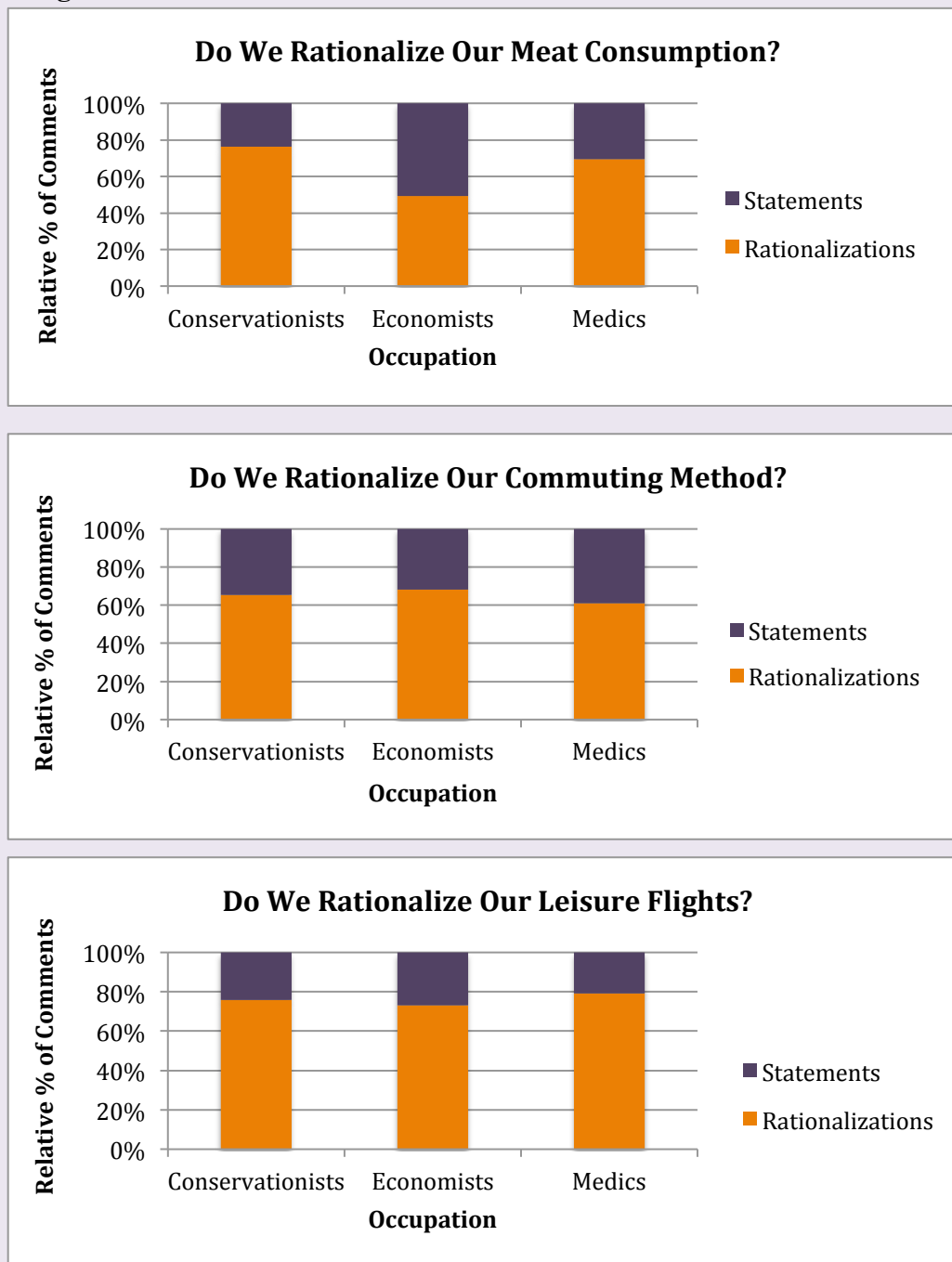
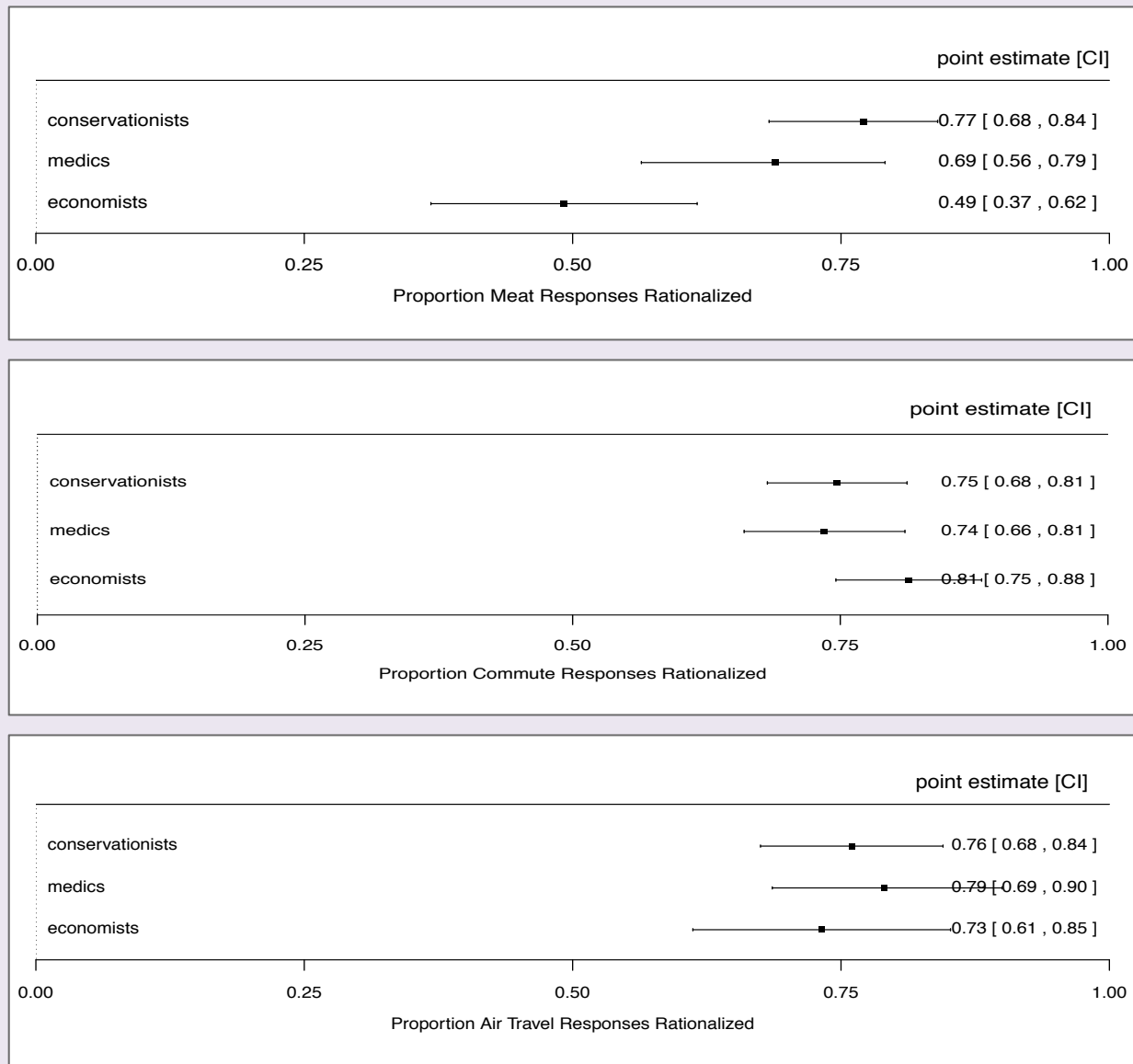


Figure 3

Positive Self-Reaction was the most common type of rationalization offered when people were allowed to comment on their meat consumption (Fig. 4). As such, the bulk of the comments were where respondents praised themselves for their eating habits. More people who scored poorly (<1) on the survey chose to comment on their meat consumption behavior than those who received a good score (1) (Fig. 4). Conservationists and medical professionals who scored poorly on the survey for their meat consumption primarily used Self-Sanctions, Positive Self-Reactions, and Diffusion of Responsibility,

respectively, to rationalize their unsustainable behavior (Fig. 4). This differs from economists, who primarily used Moral Justifications, Positive Self-Reactions, and Moral Licensing to rationalize their unsustainable mean consumption (Fig. 4). With the exception of one economist, all of the professionals who commented on their meat consumption even though they received a good score on the survey used Positive Self-Reactions (Fig. 4).

Figure 4

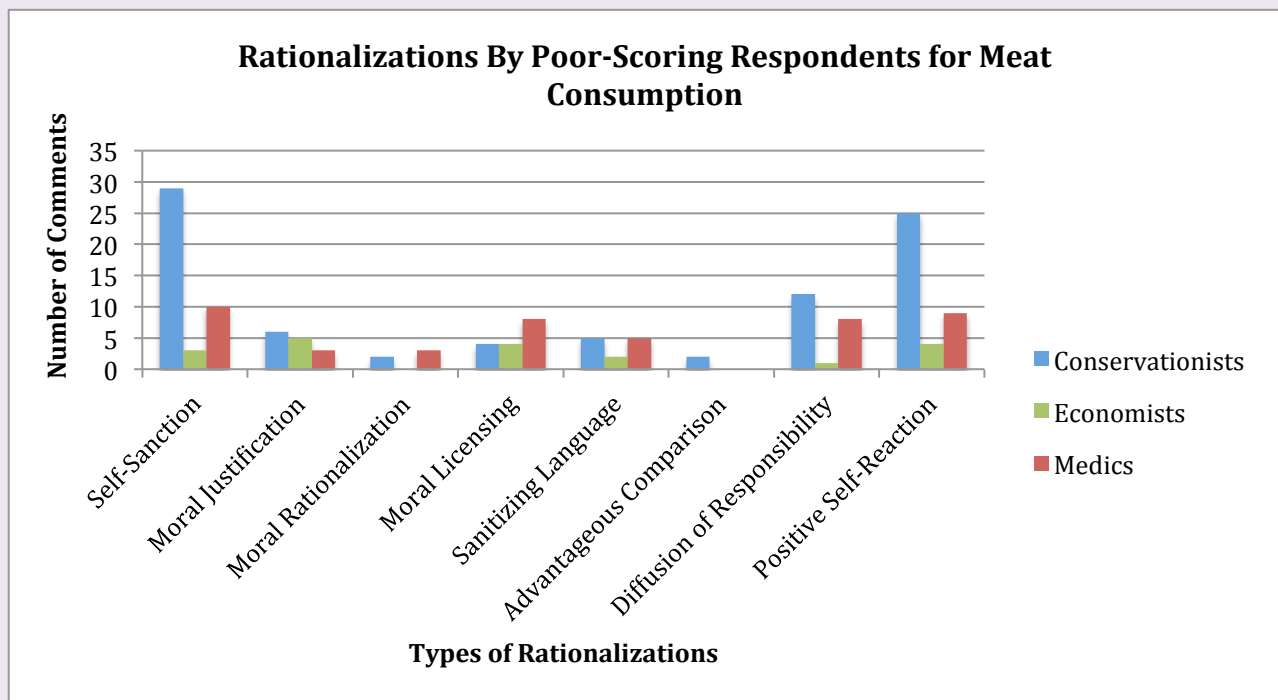
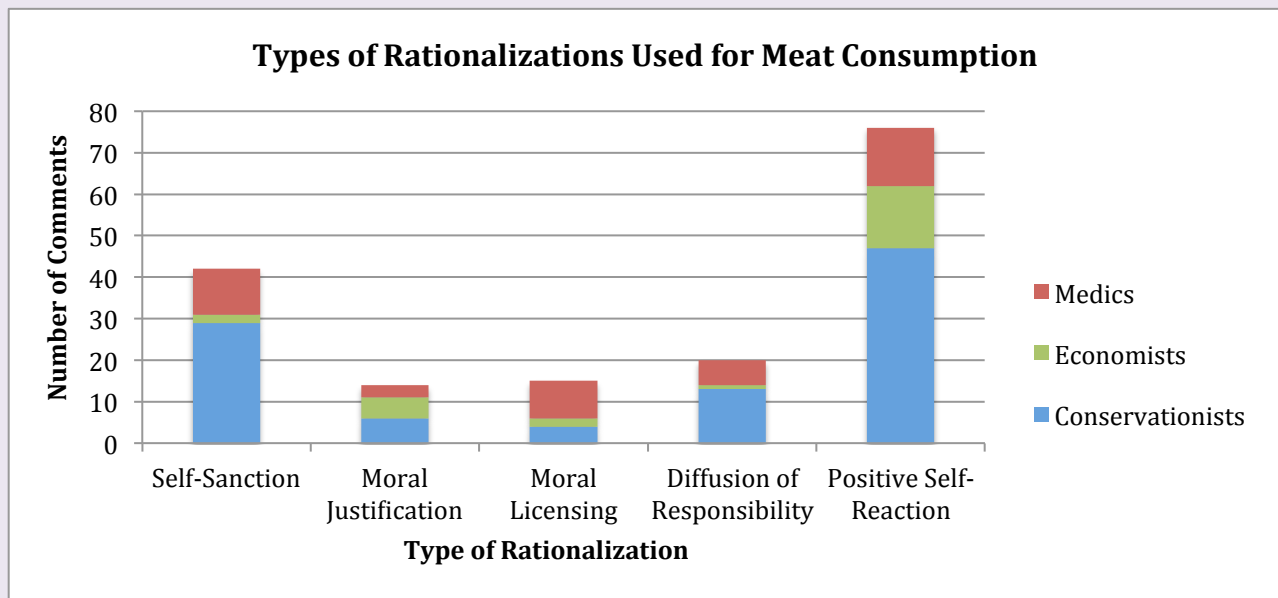
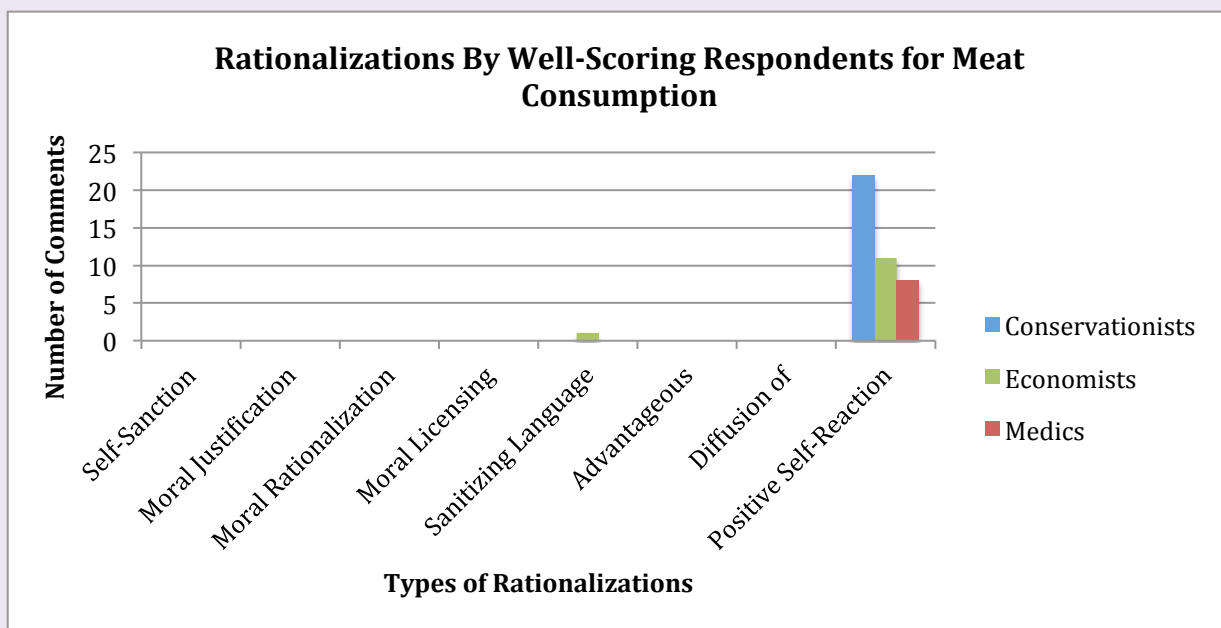


Figure 4 (Continued)



For daily commuting behavior, Self-Sanction was the most common type of rationalization type used by all three professions surveyed (Fig. 5). Positive Self-Reaction was the second most common type of comment offered for respondents' daily commuting behavior (Fig. 5). More people who scored poorly on the survey chose to comment on their daily commuting behavior than those who received a good score (Fig. 5). People who scored poorly on the survey for their commuting behavior overwhelmingly used Self-Sanctions to justify their unsustainable behavior (Fig. 5). Those who scored well on the survey for their commuting behavior primarily offered Positive Self-Reactions as their comments (Fig. 5). Far more conservationists commented on their behavior when they scored well on the survey than the economists and medics did (Fig. 5).

Figure 5

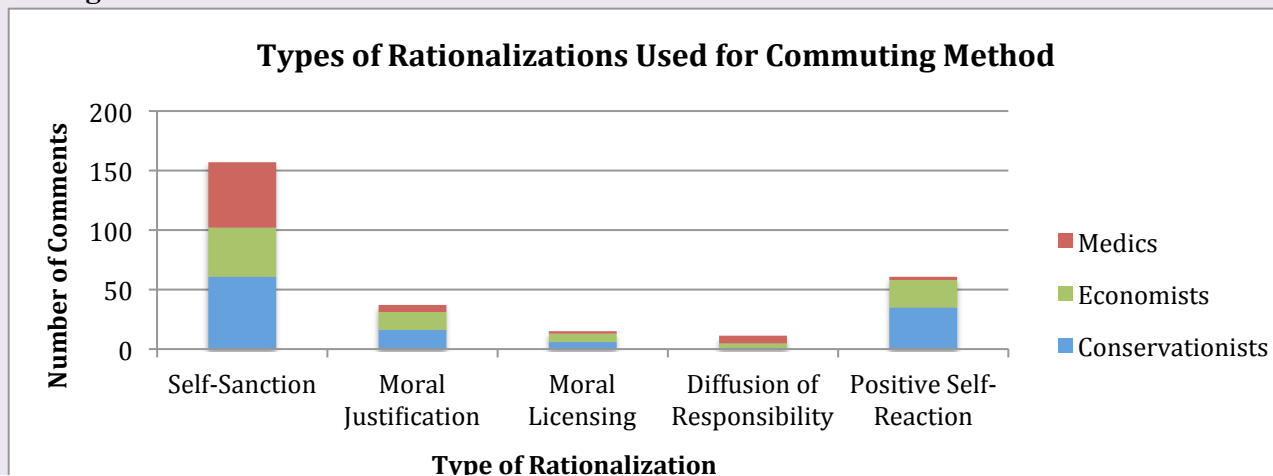
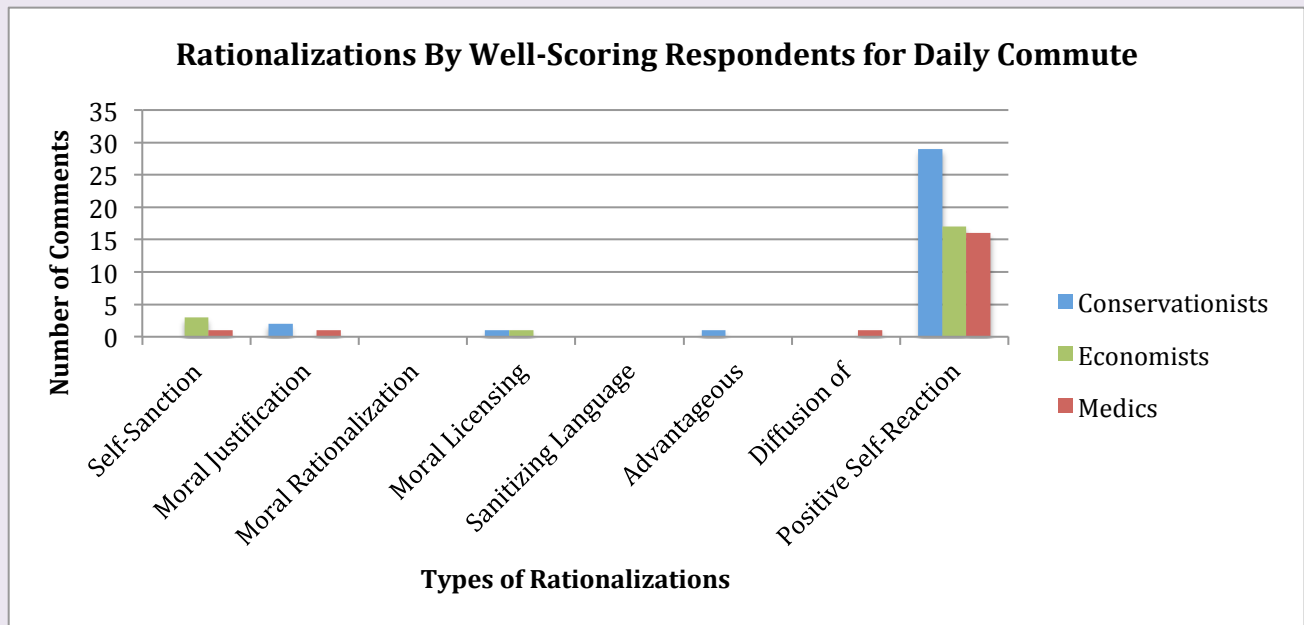
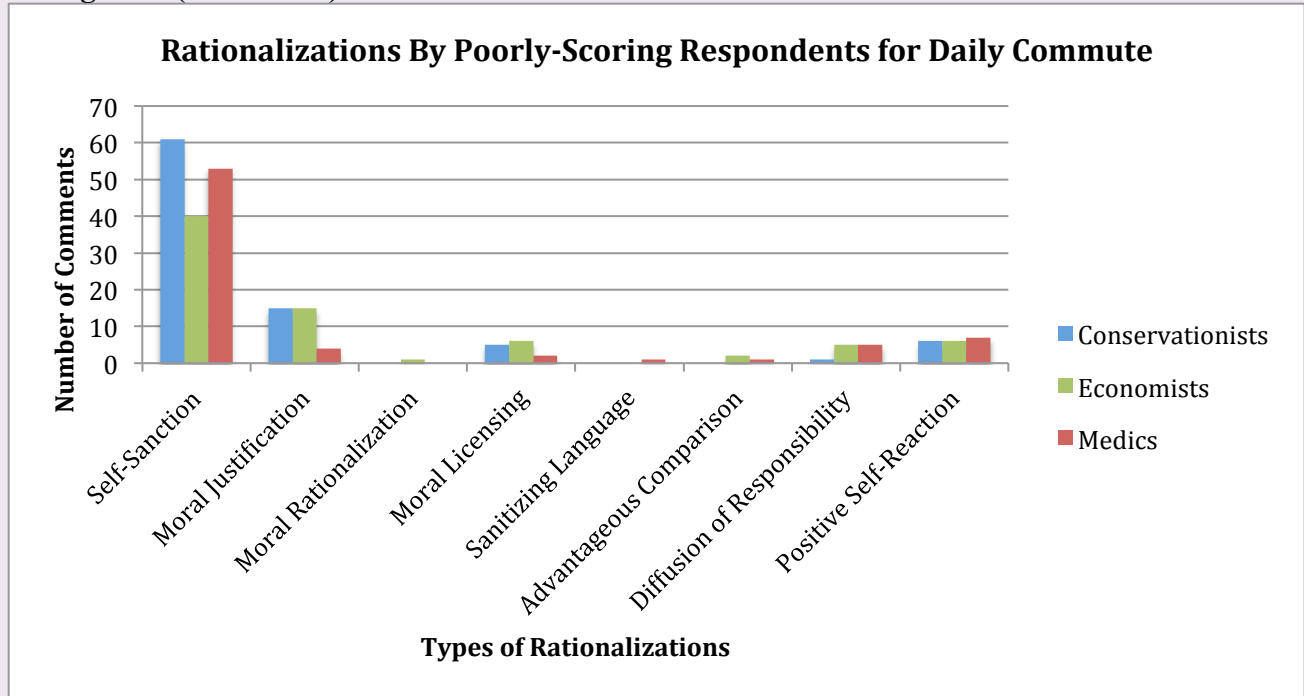


Figure 5 (Continued)



Self-Sanction was the most common rationalization offered by respondents to explain their air travel behavior (Fig. 6). More people who scored poorly on the survey chose to comment on their air travel behavior than those who received a good score (Fig. 6). Respondents who scored poorly on the survey for their air travel behavior most commonly utilized Self-Sanctions, Positive Self-Reactions, and Moral Justifications to rationalize their unsustainable behavior (Fig. 6). Although Positive Self-Reactions were

the most commonly offered comment by the individuals who scored well on the survey for their air travel behavior, Self-Sanctions, Moral Justifications, and even Advantageous Comparisons were also offered, respectively (Fig. 6).

Figure 6

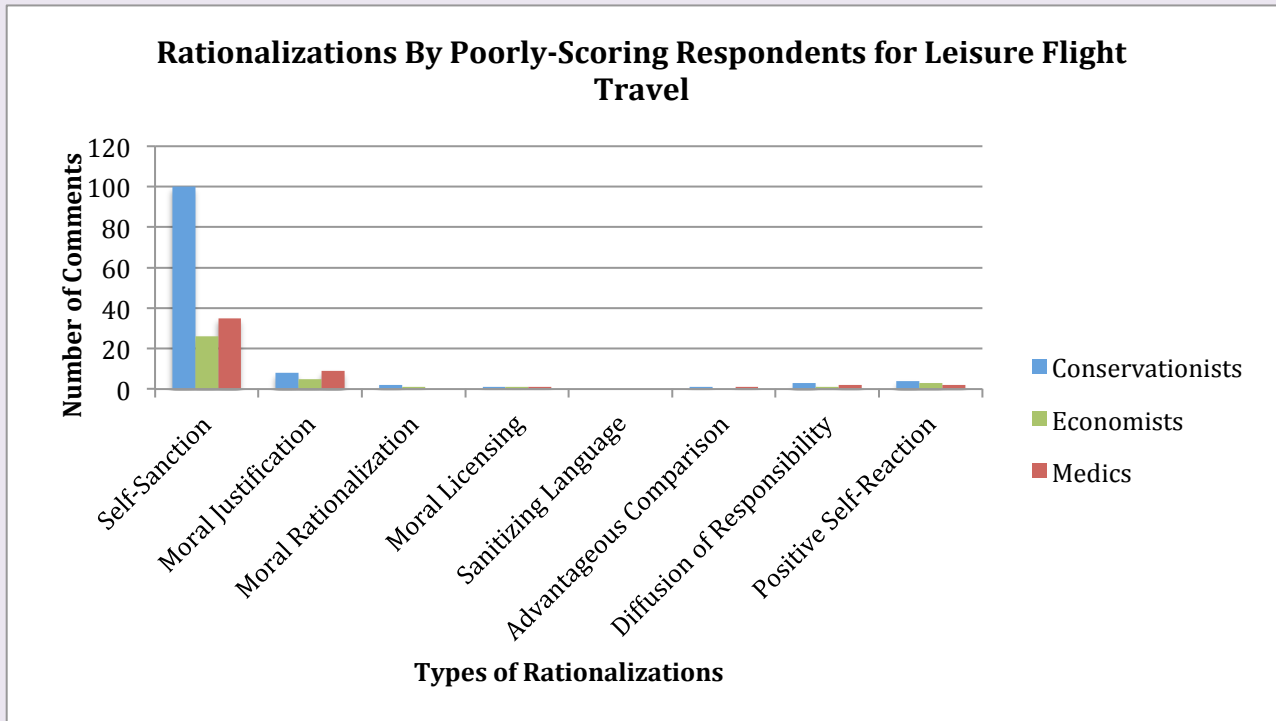
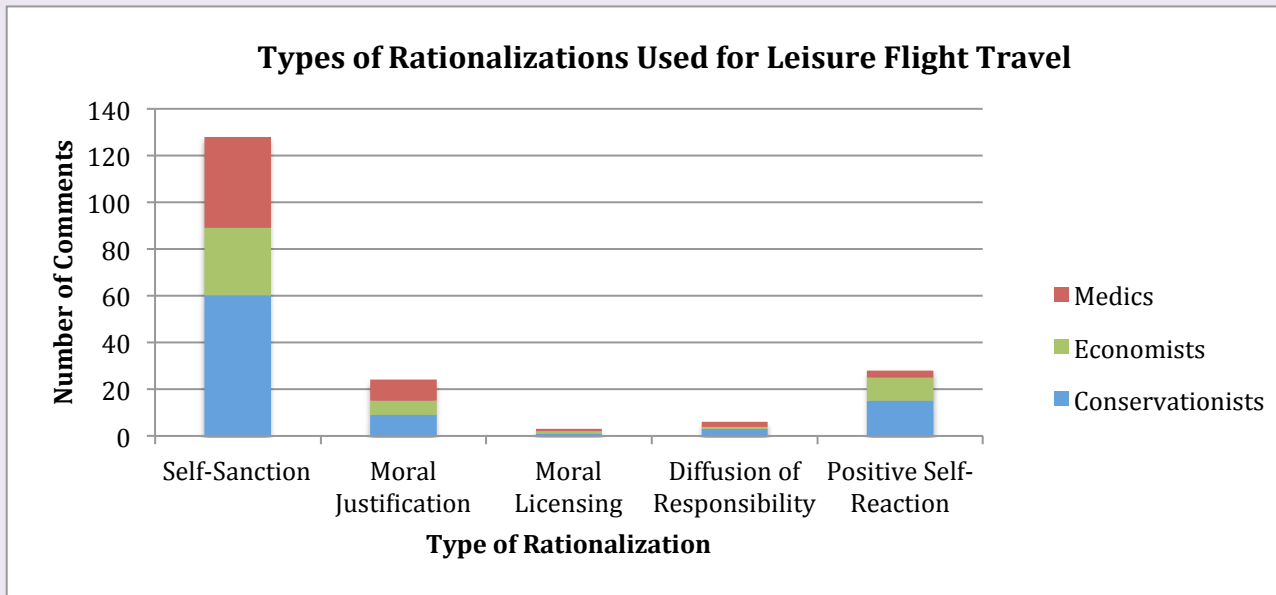
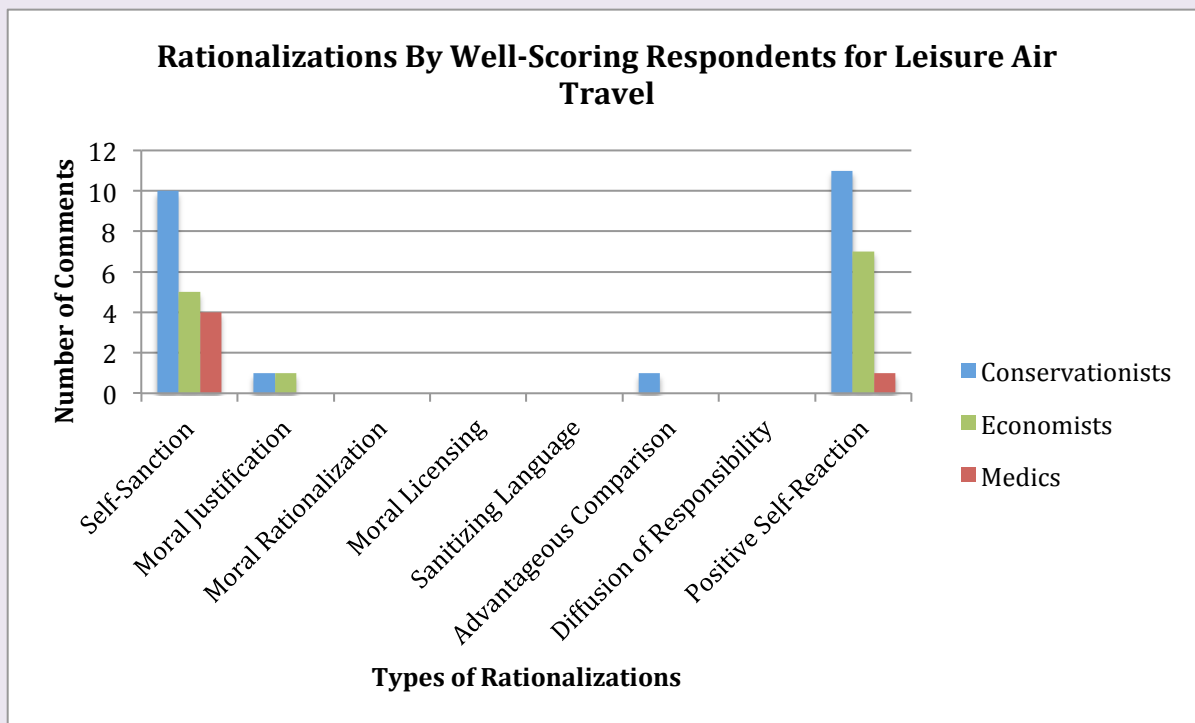
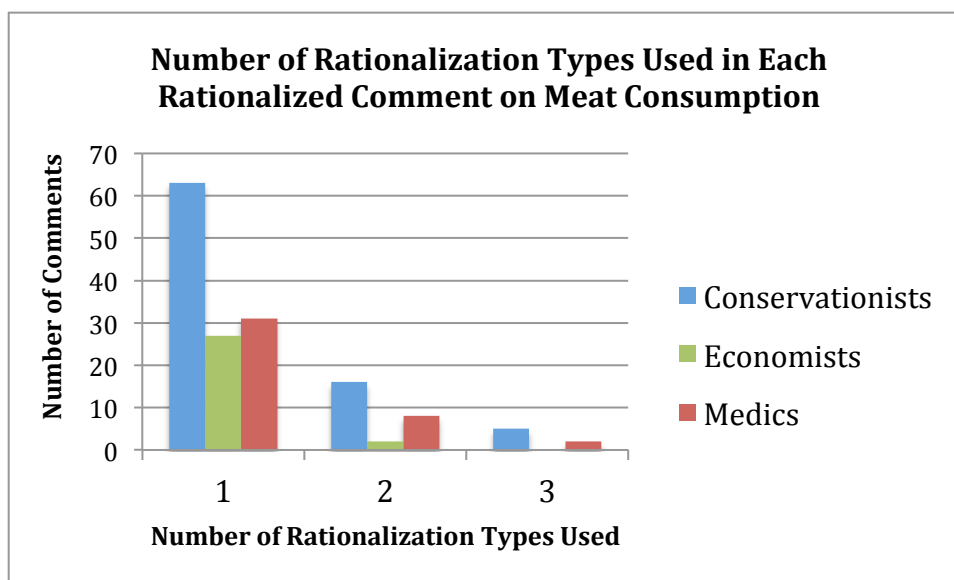


Figure 6 (Continued)



Conservationists were more likely to use more than one type of rationalization in their comment to justify their behavior. This was most evident for comments on meat consumption behavior (Fig. 7).

Figure 7



We tested if a person's willingness to rationalize one behavior meant they were more willing to rationalize another. We found no results of this. The results of the Chi-square test for rationalizing air travel and meat consumption behaviors were: X-squared = 72.3005, $df = 1$, $p\text{-value} < 2.2e-16$. For air travel and daily commute behaviors, the results were as follows: X-squared = 21.1015, $df = 1$, $p\text{-value} = 4.356e-06$. The results for daily commute and meat consumption behaviors were as follows: X-squared = 27.6091, $df = 1$, $p\text{-value} = 1.485e-07$. These Chi-square results indicate that there is no correlation across the three behaviors. Meaning, just because a person rationalized his or her meat consumption, for example, does not mean he or she was more likely to rationalize his or her daily commute or air travel behaviors.

What follows is overview of some of the comments respondents made to rationalize their behavior. This is included to reveal what kinds of comments people of different professions made to justify their behavior. This section can also give further insight into our process for categorizing the comments as Self-Sanctions, Moral Justifications, Moral Rationalizations, Moral Licensing, Sanitizing Language, Advantageous Comparison, Diffusion of Responsibility, Positive Self-Reactions, or a combination of these.

An example of a Self-Sanction is the following response, which a conservationist shared on the survey for the meat question: "I'm veggie for all except one sustainable fish meal per week -for health reasons." I would classify this as a SS because the person is allowing himself to transgress his morals for a specific reason, his health.

A Moral Justification is where a person decides for him or herself that a specific behavior is actually good or has a positive purpose. This conservationist used MJ to rationalize her choice to drive to work in her response: "It is the most affordable way to travel in terms of money and the most efficient way to travel in terms of time." Moral Justification was a very popular way conservationists rationalized their air travel. For example, one wrote that they fly: "To facilitate or support corporate-NGO partnerships which deliver meaningful conservation outcomes for priority species or sites." Another rationalized her choice to use a car to commute to work by writing: "I work very late and the car saves time, allowing me to do more for the planet overall. :)."

Moral Rationalization is where you convince yourself that an immoral behavior does not, in fact, violate your moral standards. This medical professional, for example, feels no personal responsibility to eat in a sustainable manner, responding to rationalize why he does not eat meat: “Because vegetarians/vegans are possibly some of the most pretentious people on the planet.”

Using a positive behavior one engages in to justify behaving in a negative or immoral way is the concept of Moral Licensing. This idea is expertly demonstrated by this conservationist’s rationalization for his method of commuting to work: “I live 37 miles away. (But I drive a Toyota Prius hybrid.)” Another example of ML would be this conservationist’s rationalization for the way they commute to work: “I work from home for 80% of the time but when I do go to the office I need to drive.”

Sanitizing Language refers to when someone alters his or her diction to make immoral conduct seem benign or harmless. The responses I identified as using SL were most frequently in the rationalizations to the meat question. For example, several respondents manufactured names to describe their unsustainable consumption of meat. One conservationist wrote, “I consider myself as a demetarian,” while an economist responded, “I am a ‘flexitarian’, prefer vegetarian food and will eat fish and chicken; do not eat red meat.” A medic attempted to rationalize her unsustainable behavior by concluding, “I am ‘reducetarian’ - I think there is a small health benefit to eating meat, but I try to keep in low for ethical and environmental reasons.”

Advantageous Comparison is when one juxtaposes one’s negative behavior with the far more severe behavior of someone else, making the initial behavior seem benign by comparison. A conservationist, for example, rationalized her meat consumption patterns by juxtaposing them with those of her family, stating: “I am personally avoiding beef and lamb, but the rest of the family are quite carnivorous.”

Diffusion of Responsibility is one downplays one’s role in immoral behavior or actions. For example, this conservationist blames her puppy for her unsustainable method of commuting to work writing, “Ownership of a puppy broke a long-term habit of cycling because of a need to return to the home at lunchtime for 6 months. That need no longer exists but pressure of work hours means we have not returned to the habit (yet!).” This conservationist’s response is another of example of DR: “My husband is a dedicated

carnivore.” She used her husband’s behavior to rationalize her unsustainable meat consumption, rather than taking responsibility for her actions. For this study, we only classified the comment as DR if the blame was placed on a living being. Blame placed on inanimate objects, preferences, infrastructural limitations, etcetera were classified as Self-Sanctions for the sake of continuity.

Positive Self-Reactions are the fascinating phenomenon where people pat themselves on the back for doing things that they view as good and/or moral. Unprompted—survey respondents were not required to fill in anything—felt the need to inform us of the positive behavior they engaged in. PSRs differ from the other rationalization types because all of the others are used to rationalize negative or immoral behavior. This term is used to do the opposite – it draws attention to positive or moral behavior the person has engaged in. For example, many conservationists, economists, and medical professionals responded simply “Vegetarian” or “Vegan” to rationalize their sustainable behavior. These responses were considered Positive Self-Reactions. Respondents also used PSRs to rationalize their sustainable daily commute and air travel habits. One conservationist wrote of their decision to bike to work, “It’s convenient, inexpensive, quick, flexible, pleasurable, and non-polluting.” Another wrote, “Quickest, easiest way. Chose where we lived so we did not need a car.” This individual is both informing us that their sustainable behavior is more beneficial than the alternatives, and she actively took this chosen behavior into consideration when she was selecting her home and chose the more sustainable option.

Many respondents used multiple types of rationalizations to justify their unsustainable behavior in their single response. For example, a conservationist responded:

“I fly for work because this is institutional policy (but with C offsetting) and because I believe in the value of face-to-face contact with colleagues. I fly for holidays because overland transport to destination would reduce holiday time at destination significantly and because flying is inexpensive relative to overland transport and because anthropologically induced climate change is not a huge concern to me--perhaps it should be, but I am much more concerned about other environmental problems.”

This response is a combination of SS, MJ, and MR rationalizations. The individual begins by stating that she allows herself to fly for the specific reason of valuing face-to-face interactions for work, a SS. She then goes on to write that flying actually has a positive purpose – it allows her to increase the amount of time she is able to spend at her holiday destination, a MJ. The conservationist concludes by deciding that flying does not even, in fact, violate her morals – stating that it is “not a huge concern” to her and that she is “much more concerned about other environmental problems,” a MR.

Another example of this three-tiered rationalization is the following response to the air travel question by a different conservationist: “My job requires frequent travel for meetings and conferences. My family lives in North America and partner's family in South America, so we are forced to fly long distance to visit them. I also love to travel, it is the one thing I will not sacrifice despite my environmental values.” This response begins with an SS, the individual allows herself to fly for the specific reason of her career. She then downplays her role in making the choice to fly by explaining that she is “forced to fly” to visit her partner’s family, a clear DR. Finally, she states that flying has the positive purpose of making her happy, a MJ. This last piece could also be classified as an SS because she writes that she will fly for the specific reason that she enjoys traveling.

DISCUSSION

Our results suggest the following answers to my main questions posed in the Objectives section:

1. Respondents used the opportunity to comment on their actions to rationalize their unsustainable behavior. In fact, more people who scored poorly on the survey commented on their behavior than people who scored well.
2. Conservationists were more likely to rationalize their meat consumption behavior than economists. Otherwise, there was no significant difference between the likelihood of conservationists, economists, and medical professionals to rationalize their behavior.
3. Respondents primarily used Self-Sanctions, Positive Self-Reactions, and Moral Justification to rationalize their behavior, using Self-Sanctions and Moral

Justification to rationalize their unsustainable behavior and offering Positive Self-Reactions to comment on their good (well-scoring) behavior.

Self-Sanctions

Because Self-Sanctions were the most common type of comment given to rationalize the respondent's unsustainable behavior, it is worth examining the specific reasons respondents offered to justify their behavior. For meat consumption, the most common reasons cited by respondents to account for their unsustainable meat intake was that they required protein and there were no viable protein alternatives to meat, preferred meat, had a habit of eating meat, or that the meat they ate was sustainably sourced or produced. Citing that their meat consumption behavior was a force of habit is consistent with literature on behavior determination, which states that behavior is often habitual and governed by automated cognitive processes (Steg & Vlek, 2009). Respondents who pointed to their need for a "good" source of protein may suggest a lack of self-efficacy, one's belief about whether or not one is physically capable of performing the behavior (Bandura et al., 2001; Ajzen, 2006). For example, people may have the desire and the motivation to eat a vegetarian diet, but they could believe that they would be physically incapable of maintaining one because it would not sustain them. This suggests that more research into and education about alternative sources of protein to meat may be a beneficial avenue of work if we are to push more sustainable diets.

The most common reasons respondents cited to account for their unsustainable commuting behavior were a lack of access to public transportation or pedestrian/cyclist infrastructure, unsanitary or crowded public transportation options, safety concerns around biking and public transportation, distance to work, and impracticality of driving alternatives. These reasons are consistent with those referred to by the literature as interfering with a person's ability to behave in a pro-environmental manner: responsibilities, priorities, and perceived behavior control (Ajzen, 1991; Kollmuss & Agyeman, 2002). The fact that there is no public transportation infrastructure, for example, reflects a lack of controllability, which falls under the perceived behavior control category (Bandura et al., 2001; Ajzen, 2006). The reasons given suggest that a demand for sustainable transportation is currently going unmet. Furthermore, if we are to

expect people to alter their daily commuting method, we must address the constraints limiting or discouraging them from doing so.

Although the question gave respondents the opportunity to comment on their leisure flight travel, many offered rationalizations of their work flight travel in the comments. The most common reasons cited to account for their unsustainable flight travel behavior were work necessity and conference attendance. This is consistent with literature published in recent years that addresses the paradox of conservationists flying in the name of conservation science (Bossdorf, Parepa, & Fischer, 2010; Waring et al., 2014; Fois et al., 2016; Alcock et al., 2017). There is much to evaluate in this area of study, such as developing alternative ways to conduct international conservation science and facilitate information sharing.

Positive Self-Reactions

At the beginning of this research process, it did not even occur to Dr. Fisher or me that survey respondents would use the opportunity to comment on their behavior to praise themselves for their positive behavior. However, this certainly was the case, with the second most common type of rationalization offered in the comments being Positive Self-Reactions. Respondents who had been vegetarians for 30 years were sure to inform the survey that this was the case. The comments on commuting behavior elicited the most Positive Self-Reactions, with conservationist after conservationist praising him or herself for living close to work, bicycling every day, or spending no money on gasoline. Nearly as many conservationists offered a Positive Self-Reaction for their meat consumption behavior as they did Self-Sanctions. This could indicate that less of a focus should be placed on imploring people to alter their meat consumption behavior; rather, time and resources should be spent addressing the reasons respondents cited to justify their unsustainable meat consumption.

Moral Justification

Many respondents rationalized their behavior by commenting the positive purposed that their unsustainable behavior had. For meat, the positives were that it was a great source of protein and was an important component of a diverse, healthy diet. The

benefits of using a car to commute to work included that they were time effective, convenient, and safer than the public transportation or cycling options available to the respondent. Respondents commented that flying to their vacation destination was cost effective, enabled them to have more time at their destination (less time commuting there), allowed them to visit their family more frequently, and was a more pleasurable experience than other methods of travel. Astoundingly, quite a few conservationists conveyed that visiting their conservation site or attending a conference here and there was worth the impact their flight would have on the planet. This finding puts how conservationists practice their discipline into question. Are there more sustainable ways to conduct this work? Also, this research suggests that sustainable diet, commuting, and travel method alternatives will need to meet or exceed these benefits for them to be viable and adaptable.

Research Constraints

For conservationists, it was not a stretch to assume that if someone is a conservationist, then they value the environment. This made categorizing the comments into the different rationalization types simple. The issue is that rationalizations are what allow people to transgress their morals. For this research, we made the assumption that valuing the environment is an implicit and intrinsic moral shared by everyone, because we rely on the environment for essential ecosystem services. Therefore, any behavior one engages in that negatively impacts the environment would be considered an immoral behavior. In reality, unfortunately, it may not be true to say that everyone values the environment. If this is the case, then only the rationalizations made by people who explicitly state that they value the environment are relevant.

The implications of these results only apply to the population of individuals surveyed for this research. This means that these findings are unlikely to be directly applicable to people in developing nations or people in lower income brackets. Rather, these findings are more relevant to people in developed nations and in a higher pay grade. For example, excessive meat consumption far more of an issue in the United States than it is in Nigeria, where many cannot afford to eat meat in excess. Therefore, this research must only be used in the context of its survey population and those similar to it.

Leverage Points & Future Areas of Study

The results of this study support the idea that one of the reasons conservationists are able to engage in unsustainable behavior is because they are able to rationalize it away. This claim is backed by literature, which states that neutralizations can facilitate the perpetuation of immoral behavior (Bersoff, 1999; Tsang, 2002; Antonetti & Maklan, 2014). The literature also reveals that interrupting the ability of people to neutralize their actions by rationalizing them away can result in a change in their behavior (Bersoff, 1999; Antonetti & Maklan, 2014). Thus, an area of future research could be putting this theory to the test and assessing if interrupting the ability of conservationists to rationalize-away their unsustainable behavior would make them likely to engage in it in the future. Identifying leverage points like this could be the key to leveraging conservationists and people of all occupations alike to live more sustainable lifestyles.

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