THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF AGRICULTURAL ECONOMICS, SOCIOLOGY, AND EDUCATION

FACTORS THAT ENCOURAGE AND/OR INHIBIT BEHAVIOR CHANGE IN REGARD TO
MEAT AND DAIRY CONSUMPTION

BRIDGET CUDDY
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Reviewed and approved* by the following:

Theodore R. Alter
Professor of Agricultural, Environmental and Regional Economics
Thesis Supervisor / Honors Adviser

Robert Magneson Chiles
Assistant Professor of Rural Sociology
Faculty Reader

* Electronic approvals are on file.

ABSTRACT

This research aims to identify the factors of behavior that are most important to consider in regard to encouraging and/or inhibiting change in food consumption patterns, particularly from meat and dairy to plant-based alternatives. Behavior models within the Literature Review act as the method, and foundation of this research, highlighting the multitude of factors that shape human behavior. A conceptual analysis and synthesis of these models lead to the findings and discussion, which highlight several factors of behavior and their role in enacting change in regard to meat and dairy consumption. The findings show the complexity of behavior and the challenges of effecting human behavioral change. Five factors of behavior have shown to be particularly relevant to this research, as they contribute to the understanding of behavior change and the inherent challenges associated with them. This synthesis can equip researchers and the general public with the information to understand why people carry out particular consumption patterns and behaviors. A key to changing behavior is being mindful and aware of the consequences of one's behaviors and the possible personal responsibility present to make a change. In order to enact change, it's important for individuals and/or those seeking to exert external influence on individuals to understand the individual and community or cultural life experiences of individuals. People are complex and unique individuals who have passions and beliefs of their own. The possibility for growth and change is endless when various parties can come together, at the crossroads of their passions and beliefs, to solve complex problems and make the world a better place.

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PREFACE

One of the most important discoveries from completing this work is to ensure that people are feeling heard and valued. Although there are behaviors that could be changed, this doesn't mean that the people partaking in those actions are lesser individuals or wrong. Their experiences are their own and that's where the possibility of change is the most possible: at the crossroads of their passions and the things that are holding them back. This research aids in grasping the importance of being understanding and creative when approaching the task of changing behaviors. Frustration and bewilderment at the lack of willingness to change is natural at times, but the challenge is overcoming that in order to make a difference. A better world is possible, only if we approach it through conversation with true inquiry and respect and patience in our intentions. The first step is trying to understand, which this thesis aids in accomplishing.

Chapter 1 - Introduction

Living beings must consume nutrients in order to use the energy, and survive.

Consumption takes form in a multitude of ways across cultures and societies within the world.

The biological definition explains how all living organisms on Earth that are unable to create

their own food, are required to consume nutrients in order to stay alive (Collins Dictionary of

Biology, 2005). In the discipline of economics, consumption refers to the wants of humans and

the utility or satisfaction received, from purchasing various commodities (Black, Hashimzade,

Myles, 2009). Although differing, these definitions often times exist together on the same plain

when the food that humans eat to fuel their bodies, doubles as an action that stimulates the

economy and satiates the consumer's wants. For instance, going out to dinner at a local

restaurant serves both working definitions of consumption. Not only does the food serve as a

form of nutrition, but can also provide an opportunity for social interaction, supports local

businesses with the money used to pay for the food, and allows individuals to be part of an

entertaining experience rather than eating just to stay alive. On the more critical side of things,

there are many contentious debates involving activists, ethicists, and within the general

population about whether or not humans consume too much, doing so without any

acknowledgement of the possible adverse effects of such consumption patterns.

According to a 2010 UN report, diets heavy in meat and dairy have been found to

contribute to climate change, fuel poverty and hunger, and wreak havoc on humans' health. As

the population continues to grow, this becomes more of a pressing issue. This same report cites

that meat and dairy products account for 70% of global freshwater consumption, 38% of total

land use, and are responsible for 19% of the world's overall greenhouse gas emissions (Carus,

2010). On the health side of things, one study from 2005 showed, "positive associations of dairy and red meat food sources [to] coronary heart disease mortality" (Kelemen, Kushi, Jacobs, Cerhan, 2005), while another has concluded that there is, "strong evidence," that eating processed meat, dairy and fish increases the risk of certain cancers (World Cancer Research Fund International, 2018). Experts agree that the world's current eating habits and the growing demand for livestock-based products is quite simply unsustainable (Stoll-Kleemann, Oriordan, 2015). Our lack of attention and association drawn between what we consume and the health of our bodies and environment brings up the question about how conscious and aware we are of the effects of this interdependency as we carry out our everyday lives, consuming as we are conditioned to and have done in the past.

Being mindful and conscious has been adopted by researchers and scholars all over the world for psychotherapy (Melbourne Academic Mindful Interest Group, 2006), developing emotional intelligence in the workforce (HBR, Goleman, Langer, Congleton, & McKee, 2017), stress and anxiety reduction (Grossman, Niemann, Schmidt, Walach, 2010), and much more. Although mindfulness is a concept that can be applied to a multitude of concepts across a variety of disciplines, many present-day practitioners and historians give credit to the original practitioners of mindfulness, the Buddhists, for its creation and dispersal. Thich Nhat Hanh, a world renowned Buddhist monk explains mindfulness as, "a kind of energy that we generate when we bring our mind back to our body and get in touch with what is going on in the present moment, within us and around us" (Nhat, Hanh, n.d.). In practicing mindfulness, consciousness can be brought to the happenings in one's life and the sensations and emotions that are evoked by bringing attention to such matters. Nhat Hanh is one of the most influential present-day practitioners of Buddhism, as one of his goals is to make mindful living a more accessible

practice all across the globe. In spreading the teachings of mindfulness as a path, rather than a tool to simply gain something else, he hopes that individuals all around the world can begin to discover ethical ways of living, where every step along the way brings happiness, freedom and wellbeing, to ourselves and others (Nhat Hanh, N.d). He says:

> Meditation is not to escape from society, but to come back to ourselves and see what is going on. Once there is seeing, there must be acting. With mindfulness we know what to do and what not to do to help" (Nhat Hanh, N.d.)

Religious followers of Buddhism, strive for enlightenment and unconditional happiness through practicing mindfulness, in order to find answers to the causes of suffering and a release from it (Vail, n.d.). Within the religion, this could only be brought about by true awareness. In order to be aware, the mind needs to recognize that there is a deep interconnectedness between the actions, or inactions, carried out and the consequences that follow. In doing so, individuals are cognizant of their decisions and what may result from these thoughts, words and actions. When successful in achieving enlightenment, or even only striving for it, one chooses to carry out everyday life through positive acts of compassion and thoughtfulness due to this knowledge of the consequences, and who or what will be affected by them (Diamond Way Buddhism, n.d.). The concepts and framing of being conscious, aware, and mindful of one's actions has had the ability to transcend beyond the confines of the Buddhist religion, to other realms, applications, and disciplines, where it has been adopted and applied in order to provide other perspectives and increase attention to interconnectedness and awareness about one's way of being in the world.

There has been a recontextualization of mindfulness by non-religious practitioners of Buddhism and mindfulness, in order for a greater population to be reached. This adaptation has been contested by many who claim that the sacred teachings of Buddha have been slighted or

"mystified" by the westerners for their own personal gain and disingenuous enlightenment goals, through things such as stress relief or weight loss. Jon Kabat-Zinn, the creator of the Mindfulness Based Stress Reduction (MBSR) program, which draws from Buddhist enlightenment goals and meditation practices, argues against this claim and supports the adaption and adoption of mindfulness into western life, as it helps individuals to grow and find positivity through a variation of the state of enlightenment that the Buddhists have perfected (Religion, 2016). In addressing the concerns of those that feel the sacred religion has been exploited, he says that through the recontextualization of the dharma, the message, "would be maximally useful to people who could not hear it or enter into it through the more traditional dharma gates," now able to access this goldmine of knowledge, "within the frameworks of science, medicine (including psychiatry and psychology), and healthcare" (Wilson, 2014, pg. 87). Nhat Hanh himself has embraced the spread of mindfulness, as he has pioneered bringing this practice to the West since the early 1970s. His aim is to introduce mindfulness to all who are interested in learning how to, "apply ancient wisdom to the challenges of modern life," in an effort to, "generate a powerful collective energy that can help bring healing and transformation to ourselves and the world" (Nhat Hanh, n.d.). Nhat Hanh has been recognized by leaders across generations and has implemented vast change through his teachings of peace and mindfulness as the practice spread across the globe.

The reason that mindfulness connects explicitly to consumption patterns of food and the modern American diet is that, as a global society, we are spiraling into uncharted territory—our daily consumption as Americans contributes massively to the carbon emissions leading us into a future of intensifying climate change. The consumption of meat and dairy correlates to and relies upon the usage and consumption of so many other resources like land, water, and produce. It is

likely these trends will continue, and possibly increase if there continues to be a general lack of association drawn between our consumption choices and their consequences on the climate. Increased consciousness and awareness about dietary choices can thus help to improve our climate, air quality, sea levels, mass extinctions, and unnecessary deaths due to the spread of disease, all around the world (Denchak, 2019). These changes are not all entirely caused by a specific diet, but our impacts on the planet and daily choices are intertwined and interconnected; One domino falling may cause hundreds more to follow. The world and its inhabitants are complex, but change is possible and necessary. This research aims to analyze human behavior and better understand what makes it easier or more difficult to make behavioral changes in the context of diet and consumption of meat and dairy in modern society.

1.1 Purpose and Objectives

The purpose of this paper is to highlight and understand from an academic perspective the intricacies that are inherently present in behavior change through a literature review across various behavioral frameworks. Transforming the daily actions of humans is difficult in itself for a multitude of reasons, many of which, this research introduces and analyzes. Focusing on food consumption patterns adds another dimension to behavior change, hence, the reason for grounding the analysis in this difficult and deeply personal component of life.

The aim of this project is to offer insights into consumption behavior, especially of meat and dairy, because of how contentious conversations and debates can be surrounding this topic. The goals of this research are to increase awareness both in academic circles and in the general public about the factors and implications of consumption behavior, as well as the possibility of

behavior change. Understanding behavior is the first step in knowing how to approach an issue while respecting all parties in the process. A goal of the research is to help people to realize that there is need for a behavior change with respect to meat and dairy consumption and offer perspectives on the efficacy of a softer approach to implementing change through conversation, discussion, and the sharing of personal experiences and stories.

1.2 Roadmap & Moving Forward

The following section provides a literature review of various behavioral models that demonstrate an extensive explanation of human behavior. Chapter 2 begins by introducing those models. From there, a list is composed of several factors from the analyzed models that are most important to changing behavior, especially as it pertains to this thesis. The conclusion highlights the role of understanding behavior in order to implement change and offers suggestions for further research, policies, and adaptations to this work, in order to capture even greater variance in the ever-evolving and complex human relationship among ourselves, the food we eat, and the world within which we live and work.

Chapter 2 – Literature Review

The first model analyzed is the 4N Model created by a number of prominent psychologists about the rationalization of meat consumption. This model provides a range for why people choose to consume meat. Their approach is to shed light on reasons that may not have been so obvious before and also to highlight some of the reasons that many are familiar with and that possibly even individuals reading their report use to rationalize it themselves.

The second model drawn upon is the Comprehensive Action Determination Model (CADM) which has been proposed by Christian Klöckner and Anke Blöbaum. In order for their model to make sense, it's important to include the previous models that had been used prior to developing the more complex and in-depth, CADM. The Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Theory of Interpersonal Behavior (TIB), and the Norm-Activation Model (NAM) are drawn upon by Klöckner and Blöbaum in order to lay out their final model with factors from each of the previous ones mentioned. The literature review includes an analysis of each of these models leading up to CADM to offer some explanation for including so many aspects of behavior. Long story short, humans are complex.

The third and final model drawn upon and found to be pertinent to the research is the Fogg Behavioral Model (FBM), which was created by B.J. Fogg, a behavior scientist at Stanford University. Fogg lays out his model in a deceptively concise manner, equating behavior to only three factors. Seemingly simple, these three factors offer many subcategories and nuance that allows for all behavior, performed by anyone anywhere in the world, to be encompassed. This model is meant to give an explanation to something so complex with an equation that many can understand. The previous models address the first two factors that Fogg has coined as two of the three pieces that compose behavior, but the third factor, which will be discussed within the

analysis of the FBM, is one of the most important explainers of behavior as it relates to this research.

Before proceeding, it's helpful to know the method undergirding this research is archival research focused on literature, scholarly articles, and other academic pieces—broadly creating a literature review.

2.1 – Strengths and Limitations

This research analyzes and synthesizes tried and tested theories of behavior from well-known and accredited psychologists and behavior scientists. Research has been completed using these same models to test and theorize the causes of meat consumption. Still, further testing of the models and factors of behavior that are believed to be vital to change in regard to meat and dairy consumption could be addressed in future research to strengthen the findings and consensus. The method chosen for this project has provided additional groundwork to be laid in order to take furthering steps in the future. In the conclusion, suggestions are offered for how other researchers and scholars can pick up where I left off.

2.2 – Natural, Normal, Necessary, and Nice: the 4 N's

In order to see the connection between the climate crisis and our consumption patterns, it first must be acknowledged that humans are causing climate change. 97% of climate scientists agree that climate change is not only happening, but also that it's being caused by anthropogenic influences (Cook et al., 2016). What this means is that because of the direct involvement of humans, through pollution, the burning of fossil fuels, industrial agriculture, overconsumption of land, and not replenishing the resources we are using, we are consequentially changing the planet in ways that is leading to its collapse. Because of a certain degree of entitlement to the land in

which we live upon, we are affecting the health of our planet in extremely damaging ways, all for the sake of consumption and economic growth (Acciona, 2019). Some of the most modest estimates show animal agriculture contributing almost one-fifth to the global Greenhouse Gas Emissions whereas other organizations such as the USDA have estimated that it may be upward of 30% (USDA, 2010). There is not a consensus on the science, and there are still disagreements about the accuracy of these climate predictions from a small percentage of scientists, which creates doubt and questions in the minds of consumers and other influential decision makers in our world. Although there are multiple peer-reviewed publications that have found bias, and flawed research that is impossible to replicate with the same results, this is not enough to erase the apprehension from individuals' minds and prevents them from supporting and understanding the accurate results (Benestad, Nuccitelli, Lewandowsky, Hayhoe, Hygen, Dorland, & Cook, 2015).

The science may be confusing and confronting to many people, but it's concerning that the possibility of a modest 20% of these emissions being from animal agriculture is not enough to get people to make a change in their lives. Meat consumption continues to rise all across the world, with one of the highest levels recorded in the Unites States in 2018, the same year the IPCC *Global Warming of 1.5°C* report was published, tying in industrial farming as one of the main causes of Greenhouse Gas Emissions (IPCC, 2018).
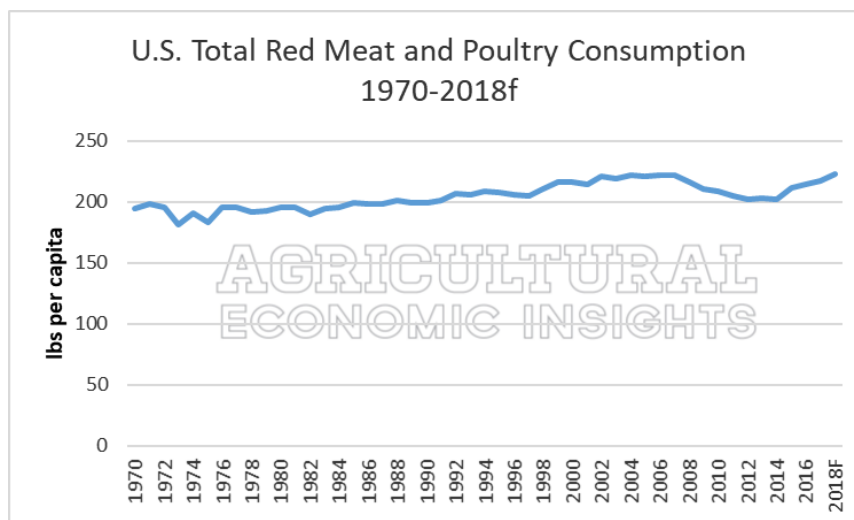
Fig. 1: U.S. Total Red Meat and Poultry Consumption 1970-2018 (Widmar, 2018)

A group of psychologists working within the 4N model set out to understand how meat eaters rationalized their meat and dairy consumption, and what that means about their likelihood to make changes in the future. Those that follow the 4N model believe that eating meat is *natural, normal, necessary,* and *nice*. These are the categories in which 83%-91% of people align with when asked why they eat meat.

To better understand the model itself, it's important to grasp what these words signify. The individuals that believe meat-eating is *natural* believe that because our bodies can digest meat and dairy and receive nutrients from the animal products, it is part of our human nature to be eating it. Often times, people will deduce that because we can digest meat and dairy, we must be meant to eat it to sustain ourselves. Those that believe it's *normal* to eat meat will either claim that we as humans have eaten meat for our entire human existence, or that it's part of our culture. There are even diets that market themselves as being that of the cavemen, eating only what the nomads hunted and gathered for. Normal can also be another word to describe simply what you're used to. People that believe eating meat is *necessary* think that we will not receive the nutrients, such as protein, that we need to survive if we do not eat meat and dairy. This comes

from both a lack of knowledge and a subsidized meat and dairy industry that has convinced the general public that the most quantitative and qualitative protein can only be found within animal products such as meat, dairy, and eggs. The fourth group of people believe that it's just *nice* to eat meat and dairy. These individuals enjoy the taste, smell, memories, and ease that comes with eating meat and dairy for their meals (Piazza, Ruby, Loughnan, Luong, Kulik, Watkins, Seigerman, 2015). The individuals that fall within these categories are not confined to one, many of them relating to multiple categories, if not all.

There has been a global paradigm shift in recent years where vegetarianism and veganism have gained momentum in the mainstream media and within the general public. In the United States alone, there has been a 600% increase from 1% to 6% of individuals identifying as vegan, between the years 2014 and 2017 (Research and Markets, 2017). As for the rest of the world the UK has seen a 350% increase in ten years, 400% in Portugal in the same time, and in Asia, "the Chinese government has encouraged the nation's 1.3 billion people to reduce their meat consumption by 50%" (Oberst, 2018). Although this may be something that people are aware of, this shift is still controversial for many, as it challenges the status quo. Meat is a staple in the average American diet, and those that don't follow this particular set of code, receive the backlash. This isn't unlike other situations where an individual or a group of people decide to go against the grain and disrupt the way of thinking and living for many. These trailblazing individuals are often attacked and their ideas are scrutinized for being radical. At one point in time desegregation was radical and the thought of mixing races in public or private settings bought people to the streets in protest, both peaceful and violent. Now, since The Civil Rights Act of 1964, discrimination based on race, color, religion, sex, or national origin is illegal by law (EEOC, N.d.) and the thought of one race being greater than another is culturally and socially

denounced. Another cultural shift in the past, more so relating to consumption and health, is the shift from doctors endorsing certain cigarette brands from the 1920's to the early 1950's, to the overwhelming evidence that they're carcinogenic and terrible for one's health (Elliot, 2008).

Similarly, with the shift from a meat and dairy focused diet to more plant-based diet, there is a great amount of backlash, as people process their thoughts, feelings, and beliefs about the matter. In one way or another, in all three cases illustrated, there is a certain amount of ignorance and unconsciousness present in these initial cultural norms. Looking back at the first two, we can all agree that discrimination is wrong, and cigarettes are bad for one's health. Meat and dairy though is a topic still so heavily contested and those that believe that lessening the intake of these products to be beneficial for a multitude of reasons, are still the minority. There are differing opinions across disciplines, especially from stakeholders and business owners who produce and sell these products. The experiences and involvement of these parties and individual farmers, shop owners, and communities in the conversation is large scale and necessary, as meat and dairy products are pivotal in so many people's lives. The proposed shift from meat and dairy is not meant to discount their livelihoods and experiences, but highlight the science coming out against the detrimental effects of meat and dairy on our environment, health, and so much more. For this reason, there is some variation of unconsciousness that needs to be disrupted. In shifting this consciousness, an opportunity for discussion presents itself where economic, political, cultural, and societal concerns can be addressed. Hopefully, the question as to why it's so difficult to make a shift in light of the scientific evidence, can be answered and change can begin to occur. This is what the 4N model tries to answer. It may seem obvious that people continue to eat meat and dairy out of ease, convenience, preference, acculturation, and so much more, but what does this say about society if we continue to use these justifications in the face of

dangerous changes that are happening all over our world? As we once had to adapt to the previous shifts in history, the time is here for a shift to occur in our diets, which this research aims to answer how possible such a change may or may not be.

The 4N model gives insight as to *why* individuals are still eating meat and dairy products and provides a framework for discussing with respect and openness to hearing and learning among people who see meat and dairy consumption differently. What this model says about people as individuals and a general population though, is much harder to come to any sort of conclusion on. Activist organizations and other animal rights groups and individuals argue that these people lack empathy and compassion to continue their lifestyles at the sake of the environment, the animals, or other humans, but this is a gross generalization. This model develops a framework which allows for dialogue, leading to social learning and less black and white overgeneralizations. Throughout the rest of this paper the aim is to understand the behavioral factors that allow for such a rationalizations discussed in the 4N Model to occur. In order to address this, the discussion section will concentrate on the science and its acceptance/denial by the public on both environmental and nutritional fronts, individuals' motivating factors to change or stay the same, internal and external influences, and how we can take steps forward to bridging the gaps between knowledge, intention, and action.

2.3 – *Comprehensive Action Determination Model*

Behavior is an overarching term that is used to define many actions, encompassing much of human life. In order for change to occur, there needs to be an understanding and explanation of human behavior. There are models that begin to categorize these actions in order to explain behaviors, such as the Theory of Planned Behavior (TPB), Theory of Interpersonal Behavior

(TIB) and the Normative Action Model (NAM). These are called "action determination models," which, for the purpose of this paper will be focused on through the lens of psychosocial environmental theory. The Comprehensive Action Determination Model (CADM) proposed by Christian Klöckner and Anke Blöbaum considers and expands upon the previous models that have value, but miss the mark on representing, "the multi-determination of environmental [behavior] on its own" (Klöckner & Blöbaum 2010). This section will begin by laying out applicable previous models in order to put into perspective the importance of CADM to my research, focusing on change in regard to meat and dairy consumption, which is consequentially tied to environmental actions and behaviors.

The Comprehensive Action Determination Model draws from several models, three of them being the Theory of Planned Behavior, Theory of Interpersonal Behavior and the Norm-Activation Model, which account for large portions of the CADM. What the hybrid of the three offers is that it allows for a greater understanding of human ecological behavior through the addition of 1) subjective and situational constraints and 2) intentions and habits, and 3) awareness and responsibility. Although the topic of this thesis and the publications being drawn from have differing ecological topics, the main focus of each has everything to do with pro-environment behavior and the importance of integrated research on behavioral and sociological actions. Such an integrated approach might allow the application:

> "to all [behavioral] situations, by describing many relevant factors influencing [behavior] and their relative importance depending on the domain. An integrative model is also beneficial from an interventionist perspective: by integrating all potentially relevant predictors of [behavior] into one model, it would be easier for planners to include all relevant aspects in their design of intervention strategies" (Klöckner & Blöbaum 2010, pg. 575).

The correlation drawn between these tried and tested models and behavioral change regarding meat and dairy consumption is relevant and important to study. The second half of this excerpt is important, because although interventionist plans for action will not be laid out throughout the bulk of this paper, the aim is to supply future researchers with the ammunition, knowledge and conviction to take this research a step further and do exactly that. The goal of this paper is to increase knowledge about behavioral consumption patterns, while inspiring other scholars and researchers to take this synthesis of information to enact change in the world through quantitative research and application strategies.

In order to understand the Comprehensive Action Determination Model thoroughly, I have analyzed and summarized the models which have the greatest breadth and importance to my research and the overall combination model: CADM.

2.4 *Theory of Planned Behavior*

The Theory of Planned Behavior (Ajzen, 1985) is a direct derivative from a previous model, the Theory of Reasoned Action (TRA) shown in Figure 2, with the addition of a third factor – perceived behavioral control (PBC) which can be seen in Figure 3. Going backwards from behavior, both models credit intention for leading to such actions and behaviors. These intentions are formed from both attitudes and subjective norms. The first explainer of intention is attitude which can be formed by either positive or negative behavioral beliefs. A positive belief could be: 1) avoiding meat and dairy reduces the effects of climate change, and the negative could be 2) avoiding meat and dairy does not reduce the effects of climate change. The second explainer of intention is normative beliefs which is then divided into two factors: 1) "the normative belief of how an individual's valued peers (parents, friends, etal.) would approve or

disapprove of the specific behavior" (Goodstein, 2019) (e.g. my parents think that avoiding meat and dairy is good and 2) "the individual's 'motivation to comply' and adopt the values of those peers" (Goodstein, 2019). What Ajzen deduced from this explanation of normative beliefs was that the important people in someone's life and their thoughts and opinions about that individual's choices weighs heavily and helps to determine that individual's future behaviors.
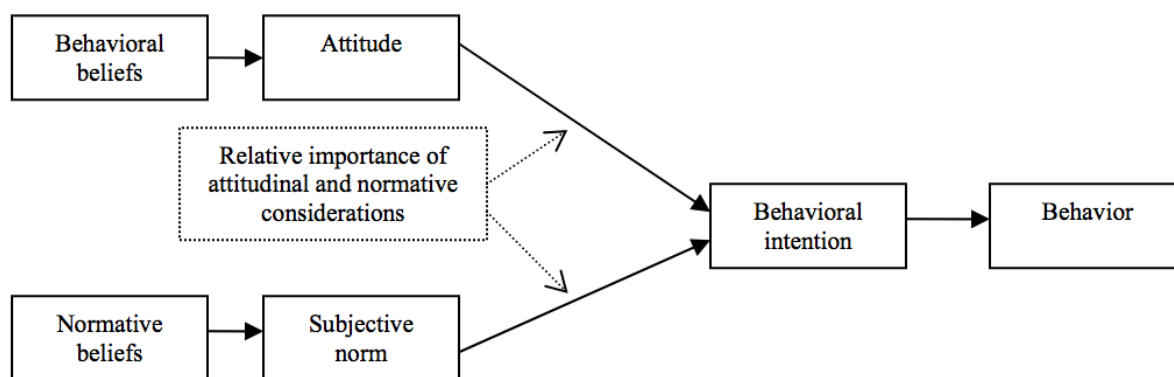
Figure 2: Theory of Reasoned Action (Fishbein & Ajzen, 1975)

Where TPB diverges from TRA is where the important addition of control beliefs influencing perceived behavioral control is introduced. This addition addresses the flawed theory that, "a person's subjective probability that they will perform some behavior" (Fishbein & Ajzen, 1975, p. 288) was enough to predict behavior. There are factors outside of an individual's control, (e.g., lack of meat-free and dairy-free options), that may influence their final behavior. What this means is that behavioral and normative beliefs are not thorough enough to capture all of the motivating factors that influence behavior, because there are externalities that may prevent a particular behavior, regardless of normative and/or behavioral beliefs which lead to intention.
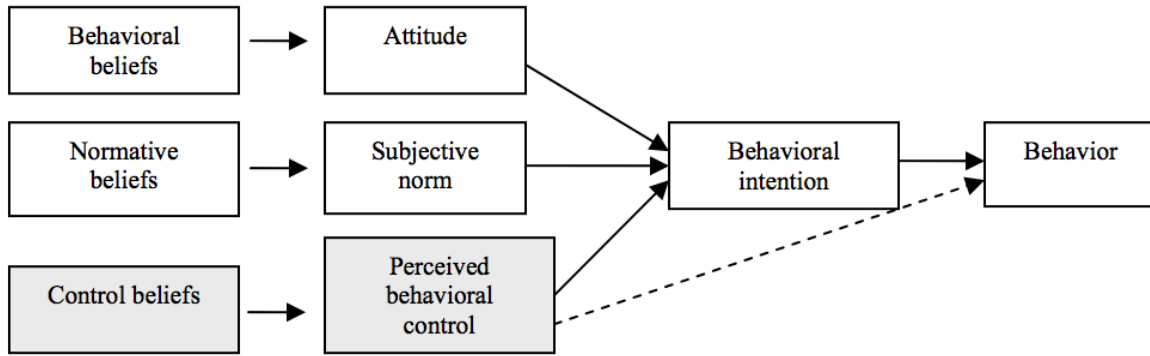
Fig. 3: Theory of Planned Behavior (Ajzen, 1985)

2.5 *Theory of Interpersonal Behavior*

Another important aspect of behavior is the role that our past behaviors play in future decisions and actions made. These frequent and continuous behaviors are known as habits. This model introduces a variety of explanatory factors of behavior, but for the sake of what is included in the Comprehensive Action Determination Model, which I will be using to analyze behaviors surrounding consumption patterns of meat and dairy, the factors of concerns within the TIB model are habits and facilitating conditions.
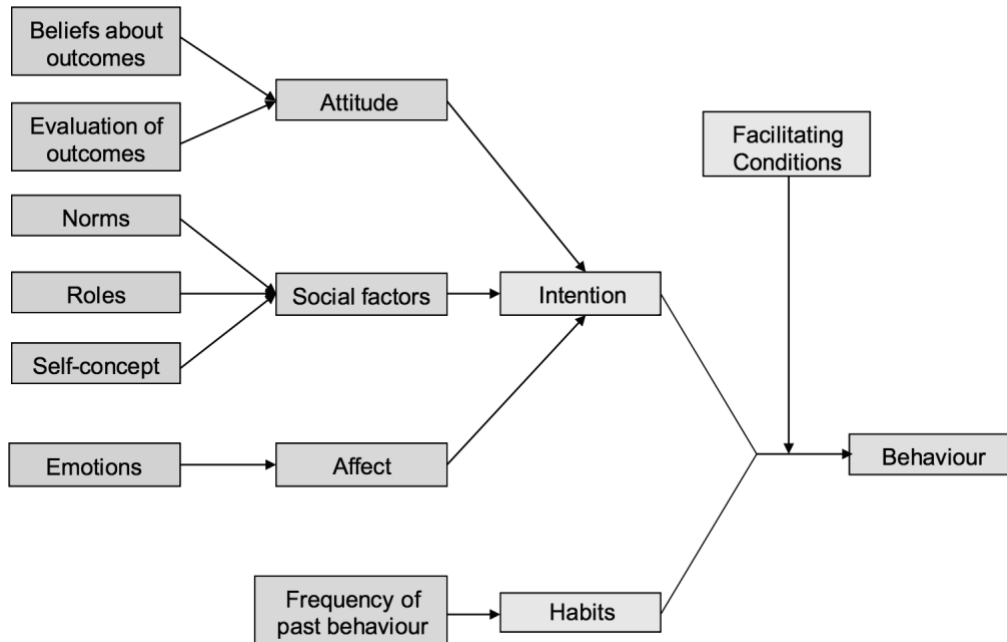
Fig. 4: Theory of Interpersonal Action (Triandis, 1977)

Triandis wanted to account for the greatest amount of variance when it came to behaviors and what may have taken place, in order to perform a certain action. Fishbein & Ajzen's models and the advocates for their approaches argue that the additions of many of the factors in TIB can all be included in the individual's attitude toward behavior within the TRA behavioral model (Goodstein, 2019). The addition of habits and facilitating conditions cannot be explained in previous models, making TIB an important approach to understand in order to piece together the final, most nuanced behavioral model: CADM.

Triandis assigned a great amount of influence of habits as one of the socio-psychological explanatory factors of behavior, claiming that, "as people repeat actions in the same context, the need for an intention-behavior relationship decreases and the influence of habit on behavior increases" (Ouellette & Wood, 1998, as cited in Goodstein, 2019). For example, if you have consumer meat and dairy at every meal or most meals your entire life, there's not much

consideration needed in order to "choose" to continue this same behavior for the next meal. Instead, it may be more of an unconscious decision based on comfortability and ease rather than consciously aligning beliefs, and intentions, transforming them into action.

Another additional explanatory factor of behavior included in the TIB is the facilitating condition(s) which enable and/or encourage a specific action. This can be contrasted to the Perceived Behavioral Controls in the Theory of Planned Behavior which addressed inhibiting and preventative factors of action. An example of a facilitating condition that *enables* the avoidance of meat and dairy would be a café offering a new vegan menu item, and a facilitating condition that *encourages* the avoidance of meat and dairy would be a café that solely offered vegan options, giving the customers little to no choice if they wanted to eat.

These factors, both habits and facilitating conditions, are imperative to consider in the final model for reasons such as unconscious consumption patterns and outside influences that urge individuals to perform some behavior, beyond the point of their deliberate intention to enact in that particular activity.

2.6 *Schwartz Norm-Activation Model*

This third and final model before the synthesized CADM is the Norm-Activation Model (NAM), proposed by Shalom Schwartz in 1977 and focuses on the role of personal norms and the impact they have on completing altruistic behaviors, rather than the linkage between intention and behavior leading to a rational choice, which is what the previous models have accredited for behavior (Goodstein, 2019, pg. 31 & 32).
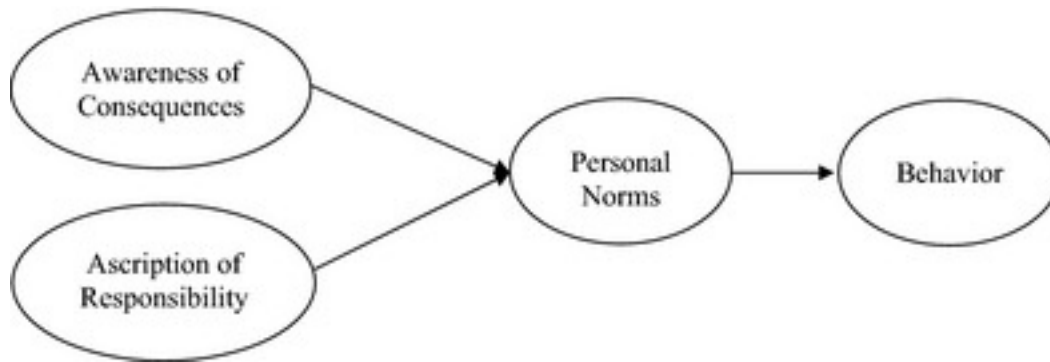
Fig. 5: Schwartz's Norm Activation Model (Schwartz, 1968)

The NAM has warranted a model all of its own, because the norms included in this explanatory action model differ from those within the 'rational choice' models laid out previously (i.e., TRA, TPB, TIB). In the previous models, the norms were measured based on, "general expectations that exist external to the individual," (Schwartz, 1977), whereas in the Norm-Activation Model, Schwartz distinguishes between the social and personal norms with the introduction of empathy, and status. This differentiation allows for a further investigation into an individual's behaviors, which, "may be motivated by empathy and by concern about the welfare and rights of other as well as for egotistic or practical concerns, such as one's social status or reputation, hope for direct or indirect reciprocity, or adherence to one's perceived system of fairness" (Carlson & Heth, 2010).

Additionally, Schwartz's model did not set out to explain all variance of every factor of behavior, but only the explanatory norms that played a role in behavior when they are *activated*. The two ways for an individual to activate such norms is to 1) an individual feels personally responsible, known as ascription of responsibility, or 2) understands that their actions, or lack thereof, will have an adverse impact on the welfare of other, known as an awareness of consequences (Goodstein, 2019). The importance of these additional factors within NAM are

extremely significant to the work of this thesis, because of the particular behaviors that those with the privilege to decide are performing. There needs to be acknowledgement of one's responsibility and the potential consequences for that individual to realize they face a moral choice. If not, the norm stays inactive and personal norms will not affect the behavioral action. For example, if an individual is unaware of the consequences of meat and dairy on the environment, there is not a sense of responsibility or opportunity to make a different food choice in order to be more environmentally friendly.

This model in particular, when applied to environmental behaviors, highlights the role of morals in the decision-making process of individuals. There is an altruistic aspect to acting based on what is right or wrong for something that is far beyond one's reach like something as seemingly distant as meat and dairy expediting environmental degradation. NAM succeeds in incorporating social and individual responsibility into the conversation, which the next and final model will include.

2.7 *Comprehensive Action Determination Model*

The previous models are imperative to understand in order to unravel the CADM, which is the last step in this behavioral model approach to environmental action, specifically, curbing meat and dairy consumption. Although extensive in their breadth and coverage of the factors either inhibiting or encouraging change, the previous models do not provide a complete understanding of behavioral motivations. The Theory of Planned Behavior takes the approach which assumes an individual makes a 'rational choice' while ignoring the collective, social, or habitual contexts. The Theory of Interpersonal Behavior introduces the role of Habit and Facilitating Conditions on an individual's behavior, but doesn't address personal norms. Lastly,

the Norm-Activation Model introduces a new meaning of norms with Awareness of Consequences and Responsibility/Need, but only includes the role that norms play in behavior (Goodstein, 2019, pg. 37). Each individual behavioral model offers a new perspective and approach to the vast ambiguity of behavior, but each fall short of including all facets of these factors. For this reason, the Comprehensive Action Determination Model attempts to gather a more nuanced and accurate understanding of behavior by implementing a hybrid of the previous models that have been summarized.
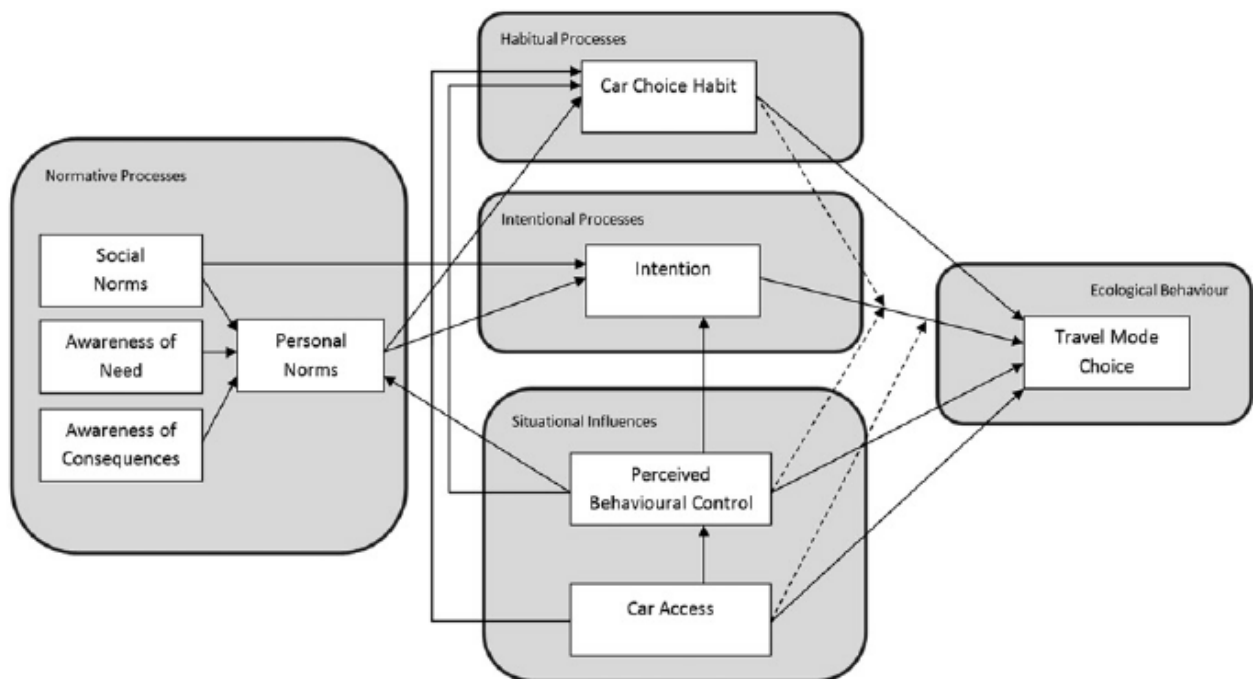
Fig. 6: Comprehensive Action Determination Model (Klöckner & Blobaum, 2010)

Klöckner & Blobaum created this model, which is divided into five meta-categories: intentional, habitual, and normative processes, situational influences, and ecological behavior. This particular model and its adaptations deviate from the 'rational choice' approach of previous models, through the consideration of habit, situation, and intention, all having direct and

mediating/moderating effects on ecological behavior, in this case, food choice. The following analysis of this model will allow for further understanding of behaviors surrounding ecological decisions such as food consumption patterns. Because the CADM has been formed surrounding the ecological behavior of travel mode choice, the assumption is made that changing the ecological behavior does not change the theorized efficacy of determining behavior through following this model.

There have been other attempts to replicate this model through applying it to recycling practices, such as with Douglas Goodstein's thesis This work draws upon those efforts and has shown to be promising in applying this model outside the realm of travel mode choice. Since this research was not a complete study in itself, it will be analyzed in comparison to publications and peer-reviewed articles.

The next model discussed is the Fogg Behavior Model which contrasts from the CADM in a few key and informative ways such as with the explicit acknowledgement of Prompts, that trigger a behavior to occur.

2.8 *Fogg Behavior Model*

Dr. B.J. Fogg founded the Behavior Design Lab at Stanford University and has directed his research to creating a simple and comprehensive model that can be understood at all levels. There are three "elements" that Fogg cites must converge at the same moment in order for a behavior to occur: Motivation, Ability and a Prompt. Figure 7 below shows the model that Fogg uses to illustrate his theory. When one or more of the three elements are not present, Fogg's theory is that the behavior cannot take place.
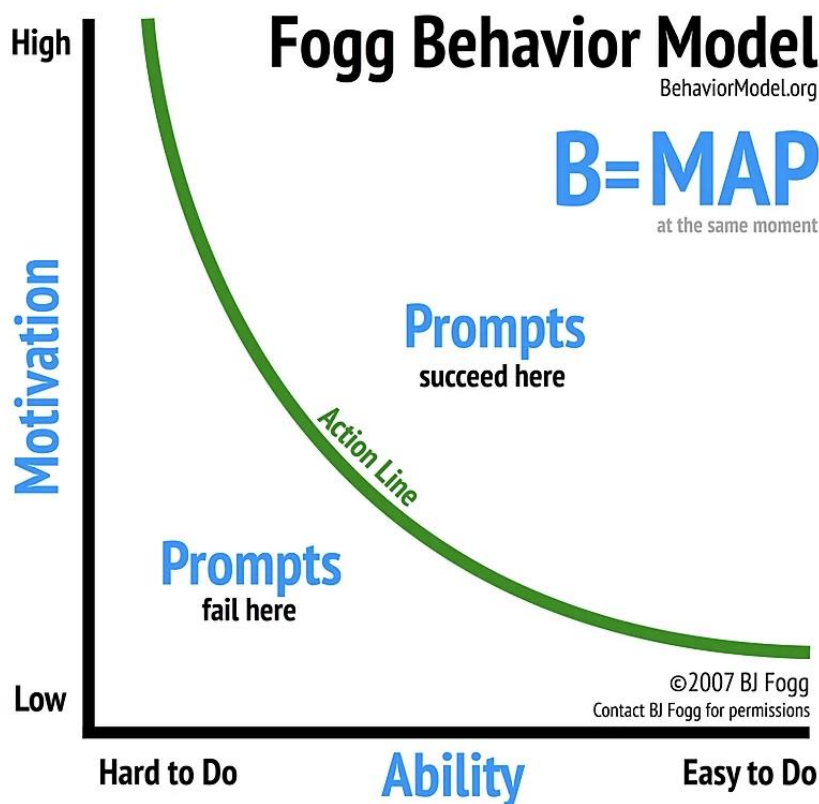
Figure 7: Fogg Behavioral Model (Fogg, 2007)

The Fogg Behavioral Model (FBM) aims to unclutter the mass of psychosocial theories and models that also focus on behavior, by offering an organized and concise approach to something that is so complex. FBM equates Behavior (B) to Motivations (M), Ability (A), and Prompts (P), all occurring simultaneously, which create the conditions for a behavior to occur, hence, B=MAP. The following paragraphs dive deeper into the individual components of Fogg's equation, in order to further grasp the concept and understand the significance to this research.

Beginning with the graphic itself, one's ability and motivation to behave a certain way is laid out on the x and y axes respectively. The concaved Action Line illustrates how these two elements interact in order for a behavior to be carried out. If someone is extremely unmotivated,

the behavior needs to be extremely easy to carry out. Conversely, if someone is highly motivated to carry out some action, the behavior itself could be more difficult, in relation to how motivated this person is. To give the technical term, Motivation and Ability have a compensatory relationship to each other (Fogg, 2007). The following examples illustrate how the FBM might perform when applying the theory to my topic of meat and dairy consumption. If someone is extremely motivated, they may be willing to perform a more difficult behavior, like cutting out meat and dairy from their diets, in order to align with their motivation. On the other end of the spectrum, if someone is not motivated for any reason to give up meat and dairy, completely unaware or unmoved by existing reasons to do so, the behavior they are being asked to take up would have to be extremely easy to do, like not eating meat for supper on Monday or every once in a while. Even this may be too difficult of a behavior to carry out, depending on how low the individual's motivation is. The FBM demonstrates how important individuals framing and mindset is into catalyzing and maintaining behavior change.

The three elements have subcomponents which allow for a greater understanding of the overarching terms. Motivation, Ability, and Prompts are used to create the model and the graphic shown in Figure X, so in order to understand these terms better, I will identify the subcategories that Fogg used to create this model.

Motivation is the first element which is split into three Core Motivators: Sensation, Anticipation, and Belonging. From here, to further simplify these subcomponents they are each split into their dichotomous opposite: pleasure/pain, hope/fear, acceptance/rejection. These are the Core Motivators in their most simplistic form for all human beings, that helps to encourage or inhibit action/behavior.

Ability is second element which is put on a scale from "able" on one end to "not able" on the other. Fogg highlights how it is often assumed that individuals have a greater ability to behave a certain way than they actually do, and he offers three paths to increasing ability: training, tools, and simplifying the behavior. Training individuals and teaching them new skills is an option, but not the suggested approach by Fogg, as people are lazy and resist learning new things. Giving a tool to allow for an individual to carry out a certain behavior is the next best option. An example that fits into my thesis is giving someone a vegan cookbook, making at-home-vegan-cooking easier to do. The last and most promising approach is to make the target behavior easier to do. By focusing on simplicity, ability increases. What this means is that by making a behavior simpler, resources are freed up to perform that behavior. The example given by Fogg is this:

> "Think about time as a resource, if you don't have 10 minutes to spend, and the target behavior requires 10 minutes, then it's not simple. Money is another resource. If you don't have $1, and the behavior requires $1, then it's not simple. Your weakest [resource] determines what makes a behavior hard to do" (Fogg, N.d.)

In Fogg's preceding example, it's easy to see that by simplifying the behavior, resources are freed up and that behavior is made easier to perform.

Prompts are the third and final element of this model, which in my opinion is the most important. Fogg and I both agree that without a prompt, the target behavior will not happen (Fogg, N.d.). In other words, if there is nothing triggering or cueing someone to perform a certain action, or change your behavior, there is no need to follow through with it, and maybe there isn't even an awareness that it needs to be performed in the first place. There are three types of prompts which Fogg cites, being: Facilitator, Signal, and Spark. When trying to influence behavior, it's important to use the prompt that best aligns with their target user's context, which combines Motivation and

Ability. Below in Figure 8, Fogg graphs where each type of prompt falls within the same outline that was shown earlier.
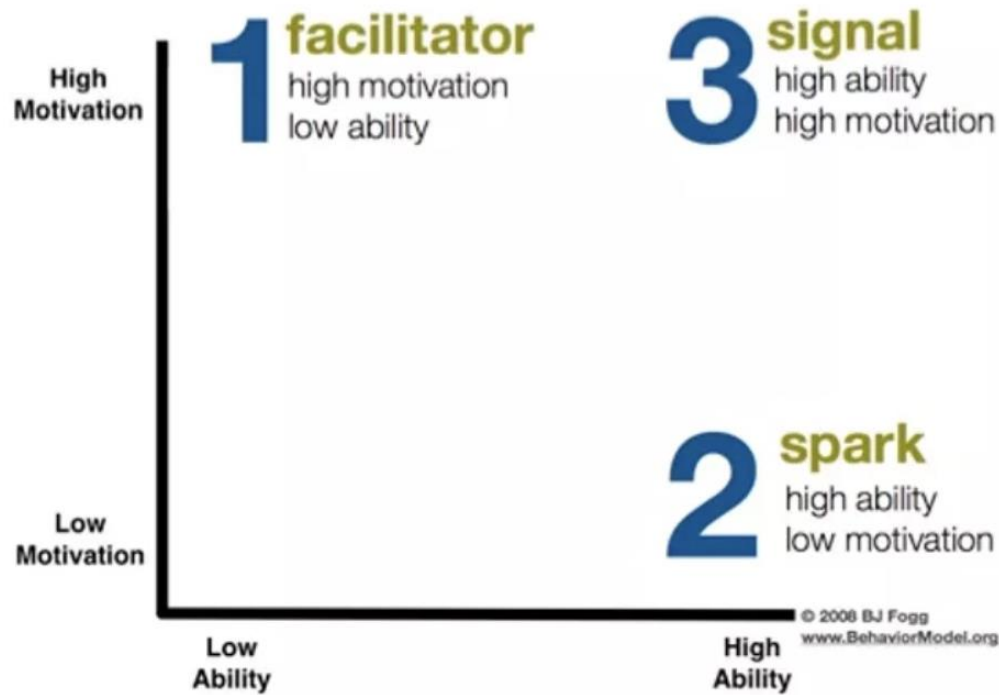
Figure 8: Prompt Motivation & Ability (Fogg, 2008)

Prompts themselves may seem simple at first glance, but can be powerful in their simplicity, which quite literally means that they are elegant (Fogg, N.d.). When a Prompt is effective for simple behaviors, this can lead to people performing more difficult behaviors following the initial action. For example, if I can prompt someone to incorporate one more serving a day of fruits, vegetables, or whole grains into their diet, that person may buy a cookbook, kitchen appliance, or new food, without any extra external triggering or intervention. Fogg calls this, "'elegant influence' because the consumer doesn't feel like he/she is being compelled to take the next step by purchasing extras" (Fogg, N.d.). This is an example of a natural chain of events that an effective and elegant Prompt has the possibility of putting into motion. Starting simple may seem counterproductive to many researchers who are studying behavior change looking to see the

greater public make drastic adjustments to their lives, but these simple Prompts are theorized to start a chain reaction, leading to more complex actions. According to Fogg and these Prompts, simplicity is what changes behavior, when the individual is given authority over the outcomes of life and isn't being pushed too hard, too quickly to do something they are not motivated or able to perform.

Each of the preceding models provide valuable perspectives on behavior and behavior change. In particular, the CADM and FBM have the greatest variance in order to address behavior as a whole, because of the breadth of the factors within the models. Each has its own strengths in focusing on the factors of behavior with different approaches. For example, the CADM is composed of several other models that are imperative to understand in order to grasp the final synthesis of the factors of behavior. There is an air of academia and specificity that is inherent within the CADM that makes it thorough, but also creates an opportunity for misunderstanding. This is where the FBM uses its strengths to convey the meaning of the model through known and understood language and broad terminology for the key factors of behavior. This gives the opportunity for a broader population to be reached, and allows for the application to all behaviors, rather than the travel mode choice, which was used as the example in the CADM. These two models are strong on their own, but, when considered in conjunction with one another, cover an even greater breadth of behavior, offering an improved and more thorough understanding of it. The next chapter, Chapter 3: Findings, will use factors from both the CADM and FBM to highlight the key considerations in the context of meat and dairy consumption and associated behavior change to reduce or eliminate meat and dairy consumption in the average American diet.

Chapter 3 – Findings and Implications

        The behavioral models analyzed in the previous section include various factors, or determinants of behavior, many of which are interconnected and somewhat broad in scope, in order to account for much of the influence on behavior, which in itself, is complex. Although the models are helpful to think meticulously and analytically about human actions, there is no single formula that could explain all of the reasons for people's behaviors. The analysis of the behavioral models in Chapter 2 illustrates this theory, as each proceeding model adds different facets that are meant to grasp the nuance of behavior. Even with the CADM and FBM, still, there are surely factors of behavior that have been inadvertently left out, solely based on the fact that a scientific model cannot capture every reason that explains why humans behave a particular way. With this being said, the Findings section aims to highlight the successes of the models in accounting for so many factors of behavior, in spite of the difficulties of doing so. In addition to the successes and shortcomings of the models, several factors of behavior are underlined as being most important when it comes to disrupting and changing consumption patterns. Several of these factors are especially important as they pertain to meat and dairy consumption, which is deeply embedded into many people's lives. These findings highlight the research question about factors of behavior and show that there are many more moving parts that need to be addressed and understood before an action or change can be expected.

        Each of the models aid in establishing and interpreting an approach to this specific research. Changing human behavior in regard to food consumption poses a great challenge, as it interferes with the identity, culture, emotions, history, and overall lives of individuals, especially in the context of various levels of understanding of the need and urgency of such a change. For

this reason, the models that were chosen offer a great amount of variance in order to encompass as many factors of behavior as possible, in order to avoid the over-generalization and diminishment of the life experiences of people. The models chosen are successful in allowing room for interpretation, in order to encompass the many facets of behavior. Through the analysis and synthesis of the models within Chapter 2, the following five factors given their prominence in the models, appear to have important relevance for this work as well. These factors of behavior are: 1) Attitudes & Beliefs, 2) Personal Norms, 3) Habits, 4) Perceived Behavioral Controls/Facilitating Conditions, and 5) Prompts/Triggers. The table below illustrates these factors and the behavior model from which they were retrieved. These factors have been selected because of the relevance drawn to consumption behavior and the influence they have on change, which will be explored in the remainder of this chapter.

Table 1. Five Factors of Behavior

Factor of Behavior	Behavior Model
1. Attitudes & Beliefs	TRA & TPB
2. Personal Norms	CADM
3. Habits	CADM
4. Perceived Behavioral Controls/Facilitating Conditions	CADM/FBM
5. Prompts/Triggers	FBM

The following sections of this chapter dive deeper into the specific factors outlined in the behavioral models that are important to consider when looking at changing food consumption behavior.

3.1 *Attitudes and Beliefs*

Personal experiences and perceptions about the world help to form attitudes and beliefs. These terms can determine how someone may respond to certain things, and can either prevent or expedite a particular behavior, depending on the individual's association of that target behavior and the attitudes and beliefs about it (New Zealand Government, 2018). An example of beliefs dictating how one will respond to a certain prompt is in the theory of confirmation bias. This psychological bias is, "the tendency to search for, interpret, favor, and recall information in a way that confirms or strengthens one's prior personal beliefs or hypotheses" (Plous, 1993). Confirmation biases can be used positively to encourage change and also negatively to prevent a change in behavior. This is an especially difficult factor to overcome when enacting change within the realm of food and food consumption because of the prevalence of food consumption in every individual's life from the moment they are born.

As it pertains to this research, attitudes and beliefs can create the perfect conditions for change, but also inhibit change if someone's beliefs go strongly against the proposed behavior. For example, individuals who are biased toward plant-based diets and have a positive attitude toward it, are more likely to change as their bias is confirmed. To make change more difficult, if individuals are biased against plant-based diets and have a negative attitude toward it, they are less likely to change as their bias is confirmed.

Attitudes and beliefs can be wonderful catalysts for change, but are also potential obstacles to change, due to the ties to experiences and memories that have shaped this person into who he or she is today (McLeod, 2018). Attitudes and beliefs are important to consider in this research because they shape our biases and we tend to accept ideas that confirm our biases

and reject those that do not. If our attitudes and beliefs are so rigid, there is little to no opportunity for change.

3.2 *Personal Norms*

This factor encompasses a moral and ethical dilemma for individuals, as it includes the ascription of responsibility, awareness of consequences, and external social norms, all combining to create personal norms. Another interpretation of personal norms are moral obligations, which people feel the need to perform for one reason or another, often times outside of their own wants or needs, because it's the right thing to do. Personal norms have important implications for effecting change or preventing it from happening, depending on what the target goal is, because of a strong association with and individual's behavioral intentions (Doran & Larsen, 2015). The key to the role this factor plays in effecting behavior change and a reason it's especially pertinent to this work is that it requires associations to be drawn between actions and consequences. This factor is complex, because according the CADM, personal norms exist due to the combination of social norms, awareness of need, and awareness of consequences. This requires individuals to have knowledge of their behavior and how it relates to the previously mentioned sub-categorical factors that combine to create personal norms.

Personal norms are another factor relevant to this research that offers a different approach to understanding behavior. Personal norms differ from attitudes and beliefs but could be combined to compliment one another, taking the passions and interests of an individual, and intertwining a new behavior that could help to accomplish an already existing ethical goal or moral compass. Eating a plant-based diet can be tied in to build upon already existing passions that people have, like animal rights, protecting the environment, lessening water consumption,

and lowering greenhouse gas emissions (Carus, 2010). According to the CADM, this factor of behavior can directly influence Intentions and Habits. Without an awareness of need or awareness of consequences, the personal norms cannot exist, leaving social norms to dictate the intentional and habitual processes. This is why this particular factor is one of the most important, because of the *need* for awareness, knowledge, and an understanding of a certain situation so the individual can make an informed decision, rather than being influenced by external factors like social norms. In regard to this inquiry, personal norms present an opportunity to learn about how individual actions can influence the things that we care about and assign responsibility to individuals to make more informed decisions about their consumption patterns.

3.3 *Habits*

Habits are the behaviors that we practice and partake in so regularly that they're committed to part of a daily routine, often times carried out unconsciously. Habits are difficult to break, especially if performed without knowing, or without any sort of association drawn between the habit and the consequence. This is one of the many differences between personal norms and habits, as the latter can often times be performed unconsciously and all on its own, whereas personal norms exist because of the awareness drawn to the consequences and ascription of responsibility. This particular factor is especially important to this research because of the difficulty to penetrate the continuation and practice of a particular behavior that has likely transcended through multiple generations.

Food has the ability to create a loving and comfortable feeling, especially if it is being associated with memories and experiences that have shaped people into who they are. This particular factor can be one of the most difficult to address, but has the weakest footing, in a

sense. Habits are so tough to break because of the positive feedback that is experienced by the individual after performing a certain action. The reason that habits have "loose footing" is because personal norms can directly influence our habits, which are automatically activated rather than considered and weighed (Schäfer & Bamberg, 2008). An example that relates to this research is someone being positively reinforced to continue the habit of eating meat and dairy because he or she enjoys the taste and is happy to be reminded of the memories that are associated with these foods. This habit can be disrupted though if an individual learns of the many adverse effects of meat and dairy consumption and the personal role played in perpetuating the current situation. If the newfound knowledge conflicts with one's personal norms, or moral obligations, the habit of eating meat and dairy may no longer be associated with positive memories. Habits play an important role in everyday routines, and are, "only consciously reflected upon in situations of crisis that make changes of behavior patterns necessary," (Schäfer & Bamberg, 2008) like in the example previously given. Continuing to carry out one's life like it has always been done, is an excuse that can easily be influenced by outside sources, if the participant is willing, able, and educated on the particular topic.

Mindfulness plays an important role in addressing habits and their influence on behavior, as it challenges an individual to be present and pay attention to oneself and one's surroundings in order to gain insight on and perspective of the situation. It is also well documented that habits are resistant to change without some sort of, "disruption to the environmental cues," that trigger that behavior (Campbell-Arvai, Arvai, & Kalof, 2014). Habits, being unconscious acts, are disrupted, as mindfulness and awareness seep in, possibly even allowing for the target behavior to be questioned altogether. Using mindfulness to break a habit could simply be done by asking someone to pay attention—the key to being mindful—and bring awareness to any and all

sensations that occur while carrying out that habit. There could be a revelation of sorts for the individual, or nothing at all, but the first step is in paying attention. From that point it's possible to ask if you're aware of the consequences of this habit, if you're responsible to carry it out or change it, if it aligns with your beliefs, and even if it makes you upset or feel good. When these questions are asked, thanks to the awareness brought to the once-unconscious-habit, individuals can decide knowingly if they'd like to continue, or if the habit isn't being performed on their own accord but because of other outside factors. Assuming there are no harrowingly preventative Perceived Behavioral Controls that are impeding on the individual's ability to change there is the opportunity to appeal to an individual's attitudes, beliefs, personal norms, and passions in order to be shaken from a particular habit. Such controls that prevent a behavior from being performed will be discussed in the following section in addition to the factors that allow for it to occur.

3.4 *Perceived Behavioral Controls (PBCs) and Facilitating Conditions*

These two factors act as dichotomous opposites, which gives this analysis a stronger explanation by including them both. These factors of behavior take place externally, outside the perceived control of the individual, and play a much greater role than many may think. PBCs prevent individuals from carrying out a certain behavior, regardless of any beliefs, personal norms, intentions, or other factors of behavior. Contrary to PBCs, Facilitating Conditions can make a certain behavior possible even if there was no intention, beliefs, positive attitude, or personal norm present until right before the behavior was prompted. These factors are immensely important to this particular research, because of the ability people have, or lack thereof, to make a change in their lives. Geography, socioeconomic status, culture, religion, access to knowledge,

and transportation are several PBCs that could prevent a behavior from being carried out, regardless of any intention of behaving a certain way.

Although there are many valid PBCs that would prevent individuals from eating a plant-based diet, this research was constrained to address those controls. Such controls that could directly impact individuals and communities include, but by no means are limited to: food deserts, racial disparities, government interests, economic inequality, stakeholders and lobbyists, lack of knowledge/education, and geographic location. It is important to highlight some of these controls, as many fall under the umbrella of government involvement in low-income neighborhoods, needing to work to better the conditions for disparaged workers and families through the creation of policies, paying living wages, and addressing nutritional concerns. Making a change in diet should not trump feeding all members in the household, paying bills, and prioritizing physical and mental health. This research acknowledges the severity of many PBCs that prevent change from occurring, and is not advocating for blanketed change, but rather equipping individuals with the tools to evaluate various consumption patterns and how they affects their lives.

On the other hand, Facilitating Conditions create an environment where a particular behavior can be carried out whereas it may not have been able to before the occurrence for one reason or another. Something as simple as grocery stores offering free samples of a vegan lasagna, mac and cheese, or anything of the sort could appeal to individuals who have been wanting to try vegan food but never had the extra money to experiment and take a chance on it. This example shows how a facilitating condition can act entirely on its own, allowing for a behavior to occur when it wouldn't have previously, foregoing the decision-making process, intentions, awareness of consequences, ascriptions of responsibility, and so much more. The

opportunity created by the facilitating condition allows for an individual to carry out the behavior that he or she may have wanted to previously but didn't have the ability to. This individual may begin consuming more plant-based foods due to that experience, in conjunction with other working factors such as an ascription of responsibility and/or awareness of consequences of eating more plant-based foods. A facilitating condition allows for a behavior to occur, that normally wouldn't be able to because of one PBC or another.

PBCs and Facilitating Conditions are important factors to this research because of their abilities to transcend all other factors and either impede or facilitate a particular behavior being carried out. This particular factor is one that is dependent on the most working parts and outside influences beyond the control of the individual, impeding on the autonomy of the person carrying out the target action or not. Family members, news media, stakeholders in the industry, and much more, all have the power to prevent a certain action. To give an example, lobbyists have a great deal of control over the food Americans eat, because of the money used to influence law makers and those in power. The American Meat Institute, National Meat Association, and the National Cattlemen's Beef Association, are some of the lobbying organizations that spend millions in order to ensure that lawmakers and congressmen have their best interests in mind (Johnson, 2014). Such endeavors have resulted in the United States Department of Agriculture (USDA) changing the food pyramid advice from, "'decrease consumption of meat,' to 'have two or three (daily) servings,'" (Nestle, 1993) thus highlighting the inherent conflict of interest that lies with their efforts to increase U.S. meat consumption and continue to advise the public about healthy food choices. These such truths create for layers of controls that confuse consumers who trust such an organization as the USDA to be reputable, credible, and looking out for the public's best interest. Such controls impede on individuals' access to knowledge, education, and overall

decision-making-power, if the information being given to them by sources they trust, are misguided and biased. Scientific understanding is constantly evolving and shifting as more studies are conducted and a greater understanding of nutrition and other such research that is pertinent to this work is piloted. Through an acculturation of thinking, people think of "scientific truths" not in terms of the reality of scientific research and knowledge production, which creates confusion as new studies and information are constantly being discovered and published.

3.5 *Prompts/Triggers*

Prompts are what trigger or inspire a person to act in the first place, especially as it pertains to changing behaviors. In many cases, if a prompt never occurs, or an association is never drawn between a prompt and a target behavior, there's never a reason to make a change. Prompts influence behavior because of an exposure to new information that introduces an individual to a foreign concept that would be otherwise unknown. Although this factor of behavior seems the simplest out of the ones chosen to highlight this research, it's arguably the most important. If the goal is to identify the factors influencing consumption patterns and there is never a prompt to make people consider making a change, nothing else is possible. When an individual is triggered, positively or negatively, and whether or not the behavior is changed, is the first step in anything happening.

A prompt can be anything imaginable that encourages a particular behavior. For example, if people are told they might very well lose weight on a plant-based diet due to the difference in caloric density between that and a diet consisting of meat and dairy, they may be more likely to switch if looks and weight-loss are priorities. Another prompt may be keeping a loved one alive. Like previously discussed in Chapter 1, meat and dairy may lead to Coronary Heart Disease

(Kelemen, Kushi, Jacobs, Cerhan, 2005) and various cancers (Stoll-Kleemann, Oriordan, 2015), so if the health of a family member or even oneself is the greatest priority, this could be the trigger that speaks to an individual and encourages a change. Even simpler, using the example for facilitating conditions, if an individual is offered a vegan sample at the grocery store, the only thing that prompts them to eat it is that it is there, and that it is free. This varies from facilitating conditions because the prompt does not enact a behavior that was waiting to occur, only if there was an opportunity, but introduces a new idea, concept, diet, and so much more to an unwitting individual. A positive experience with the free sample in the store could be everything that the individual needed to make a change, or at least even consider buying the product being sampled. Even the smallest of prompts can influence such a behavior as trying a new food or foregoing meat for a meal. What is so important about this factor of behavior, is that it can come from anywhere and can influence people in various ways when they least expect it.

3.6 *Implications and Discussion*

Through an analysis of the behavioral models, social scientists and psychologists have identified many of these factors as playing a large role in influencing consumption behaviors. In addition to these scientists, experts and medical professionals at the Multi-Service Eating Disorders Association (MEDA) and Psychology Today, argue that many of these same factors of behavior are important to consider when changing dietary habits. MEDA experts illustrate why breaking eating behaviors is so complicated and primal, as food is key to our survival and represents safety. So, as diets begin to shift, willingly or not, there is a perceived threat to that comfort and safety, whether real or perceived, evoking fear and apprehension to change (Anderson, 2018). Many of these factors align with expert opinions that focus on changing

unhealthy dietary habits, which can be drawn upon for the research. Within the conclusion, approaches for reaching individuals and groups of people in order to change consumption patterns will be laid out by medical experts of dietary change and eating disorders, which align with the factors of behavior that have been analyzed for this paper.

This behavior change research has a great power to influence society for the better, by equipping social scientists, scholars, and the general public with the knowledge of how to approach such layered and personal dilemmas with a greater understanding of how certain factors of behavior influence our decisions and actions. Such an approach offers an opportunity for discussions, learning, and growing. This research has set out to define behavior, and discover why it's generally so hard to make a change in one's life. The factors analyzed will allow for behavior change to be approached as something that can be tailored and speak to the experiences of the individuals. Aside from personal beliefs, governments, communities, and individuals, are left to make decisions for themselves on how to carry forth with the information that the behavior research throughout this paper has laid out. Plant-based diets are becoming more popular around the world. While they still may not be for everyone, it's important to allow people to have the option to choose, and be exposed to the other side of the meat and dairy industry.

Interests on both sides, whether it's the environmentalists and activists or the meat and dairy industries, are fighting to have their voices heard and their suggestions heeded. As previously mentioned, lobbyists have an immense power in influencing leaders who make laws and allow for the continuation of the status quo. Since alternatives to meat and dairy have been soaring in popularity, efforts have been made by the dairy industry to stifle this growth by suing companies for labeling their spreads, as "butter", "milk", or "cheese", without it having the

byproduct any "hooved animal" in it (Shanker & Mulvany, 2019). Such efforts are done in the interest of the dairy industry workers, but most importantly the industry as a whole and the CEOs and other leaders. On the other side of the battle, interests fighting for environmental justice, human health, economic equality, feeding the hungry, and protecting the animals, have been hard at work trying to implement change and revolutionize the system. Activists like Greta Thunberg, who coined the "School Strike for Climate" movement (Fridays for Future, n.d.), and progressive public officials like Alexandria Ocasio-Cortez, are creating a world where big corporations, the status quo, and harmful and inaccurate information are no longer being allowed to go unchecked or unchallenged (Ocasio-Cortez, 2019). Both sides of the debate have valid arguments; dairy workers may lose their jobs if less is consumed, and the environment will suffer if the consumption patterns continue. This is one of the many wicked problems that lie before society that need to be addressed and discussed, so as a global community, we can move forward.

Parker Palmer introduces an idea that he coins as "the tragic gap" in his book, *Healing the Heart of Democracy: The Courage to Create a Politics Worthy of the Human Spirit,* which is the space between the hard realities around us and what we know is possible (Palmer, 2014, pg. 191). In accepting the world for what it is, and realizing what it could be, acting with hope and courage becomes increasingly challenging. It is, however, increasingly necessary. It's easy to see the difficulties in making the changes to food consumption patterns that this work proposes, but it's in seeing where opposing interests cross paths that each party can then, "welcome opportunities to participate in collective problem solving and decision making, generating better solutions and making better decisions as [they] work with competing ideas" (Parker, 2014, pg. 14). What Palmer means is that it's in standing in this tragic gap, at the crossroads of tension between two seemingly opposite goals, there is a common interest. If this commonality is sought

out, understood, welcomed, respected, and listened to on each side of the issue, a greater understanding can be fostered and the possibilities of growth are endless. It's not solely the diversity of participants in the conversation that allows for growth and progress, but the respect that each individual of any participating group, respects the thoughts, ideas, and experiences of the other. Only then can positive and productive change occur.

      In moving forward to the Conclusion, it's important to highlight the successes of using the chosen methodology for this piece and the limitations in doing so. Completing a literature review of the behavior models has introduced various ways to approach the complexity of understanding behavior. Through using this methodology, a conceptual framework has been presented in order to understand the existing research about behavior change in respect to the current research question of this work. There still are limitations that are present when completing a literature review, though, as these theories have inspired thousands of research studies. Within the conclusion, these limitations will again be addressed, and approaches for improving upon this research will be provided.

Chapter 4—Conclusion

Throughout the paper, there has been a thorough investigation and conceptual synthesis into various factors of behavior as they relate to change and the consumption of meat and dairy. Highlighting some of the data showing the worldwide shift to more plant-based diets and some of the reasons for doing so has helped to put the research into perspective, while considering mindfulness. By integrating and synthesizing the literature reviews on behavior, the goal has been to highlight the intricacies and opportunities for change, and the various entries into creating a conversation around such proposed adaptations. Through this research, a greater perspective and insight has been gained into the realm of behavior and the challenges that arise in transforming individuals and their overall actions. Kari Anderson, a Doctor of Behavioral Health (DBH) and a Certified Eating Disorder Specialist/Supervisor (CEDS-S), focuses on implementing long lasting change in her patients, and offers some suggestions that align with the factors of behavior that have been analyzed for this paper.

Personal norms have been one of the focal points throughout this work, which combines social norms, ascription of responsibility, and awareness of consequences all into one. Anderson acknowledges a variation of social norms within her work, for creating opportunities for people to create only short-lived changes. She doesn't refer to these influencers on change as social norms, but instead, "Wanting to 'Be Good,'" and "Wanting to "Look Good'" (Anderson, 2018). These motivating factors to change eating habits don't necessarily originate from within, but rather externally or through the introjection of the values and beliefs of others, which draws ties to the lack of strength of social norms on their own. When looking to create long lasting change, Anderson recommends focusing on an approach of, "Wanting to 'Feel Good,'" which correlates more to personal norms, as the individual focuses on his or her intrinsically motivated reasons

for doing things, with awareness and consciousness in mind. Intrinsic motivation is derived and mustered from within because of the things that are important to that particular individual (Anderson, 2018). This is the key. In guiding individuals to think about their consumption patterns, asking what is most important to them could be the key to creating the greatest amount of long-lasting, mindful, and willing change. In regard to this research and trying to answer the question as to why changing consumption patterns is so difficult, it's important to ask what steps need to be taken to create that change. The answer is in reaching people in a way that they can see value and *feel* good about the decisions they're making. By using mindfulness, it's easier to listen to our thoughts and sense our emotions in order to be aware of the internal feedback loop within us, telling us what behaviors are well-received and make us feel good (Anderson, 2019). Anderson stresses the importance of trusting yourself when making decisions by saying:

> "If we are truly feeling autonomous and competent in our decision-making regarding our eating behavior, we simply eat in a way that makes us feel good. It is here where we make decisions based on competence, not shame, and have access to our executive functioning, allowing us to pause and make decisions rather than act out of habit" (Anderson, 2019).

Ensuring that the target individual or group is being treated as though they are unique beings and still able to make their own decisions, will result in a more receptive audience. For example, asking questions about what is most important to an individual, or what gets him or her out of bed in the morning or keeps them lying awake at night, are all positive ways to introduce such a change to someone's consumption behaviors. Aligning with individuals' thoughts, beliefs, personal norms, and overall passions presents the opportunity to make a connection in the minds of that target individual, nudging them toward making a change.

As previously discussed, the importance of respect for individuals and the acknowledgment and validation of their experiences is paramount for creating lasting change and

ensuring individuals have the opportunity to be autonomous. Such issues like consumption

patterns can be contentious topics for many reasons which have been discussed throughout this

piece. Such passionate topics require a courageous heart and steadfast beliefs, in order to

approach and confront. How we interact with the world, ourselves, and others should be

analyzed and considered thoughtfully, especially if change is trying to be enacted. In his book,

Across that Bridge: A Vision for Change and the Future of America, John Lewis can be quoted

using this same approach:

> "It begins inside your own heart and mind, because the battleground of human transformation is really, more
> than any other thing, the struggle within the human consciousness to believe and accept what is true. Thus to
> truly revolutionize our society, we must first revolutionize ourselves. We must be the change we seek if we
> are to effectively demand transformation from others" (Lewis & Jones, 2017, pg. 15).

If we are to expect change, understanding, and willingness out of others, we must be willing

to change how we understand others.

4.1 *Future Research*

Further research could involve a study on individuals who have made the switch to a

plant-based or even vegetarian lifestyle, documenting their reasons for doing so, and if there

were factors preventing it from happening sooner. Another approach would be to dive deeper

into the Perceived Behavioral Controls, introduced in Chapter 3, that play an extremely

important and often times star role in the lives of many individuals, giving little freedom to live

an intentional and autonomous life. Key informant interviews or a survey could even be a segue

into a literature review on PBCs and prompts, if there is a pattern in the responses of the

interviews/survey takers on what prevented an earlier change, or what prompted the change.

Future studies should be carried out in order to test the Comprehensive Action Determination

Model as it relates to food consumption patterns in the lives of individuals across various socioeconomic statuses. It's important to be able to experiment with the research and evidence that has been discovered by social scientists and psychologists that have created these models and analyzed them, in order to give further legitimacy to this work and to highlight the importance of factors of behavior when trying to change a particular one. Further research needs to be completed in order to test these informed theories, citing again the need for economic, social, and racial justice, through interviews, conversations, policy analysis, and field studies, in order to address all known barriers of dietary change.

4.2 *Final Thoughts*

It's important to remember when working to change human behaviors that are tied to emotions, culture, family, and memories, it's imperative to validate personal experiences. No individual is inclined to respond positively to an outsider informing them that they have been living their entire life incorrectly. We are all imperfect, learning as we navigate through this life together. In order to do better, we must know better. In sharing life experiences, we lift our fellow community members and world citizens up, as we strive to be better individuals and inhabitants of this wondrous planet.

We are all individual free thinkers with our own driving forces in life. If individuals are to be successful in positively influencing those around them, it's best to appeal to what matters to them as individuals.

Appendix A

Figure 7: Fogg Behavioral Model and Figure 8: Prompt Motivation & Ability have been included

thanks to the permission given by BJ Fogg, who can be reached at bjfogg@stanford.edu

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Bridget R. Cuddy

bridgetrosecuddy@gmail.com

EDUCATION:

The Pennsylvania State University | Schreyer Honors College   **University Park, PA |** *Class of 2020*
Bachelor of Arts Majors: Spanish & Global and International Studies
Minor: Sustainability Leadership—Food Systems
Honors Thesis in Community, Environment, & Development: Factors Inhibiting and/or Fostering Behavior Change in Regard to Meat and Dairy Consumption

Study Abroad:
Ronda International Study Center   **Ronda, Spain |** *Summer 2017*
Pontifica Universidad Católica de Chile   **Valparaíso, Chile |** *Spring 2019*

EXPERIENCE:

LionTutors LLC.   **State College, PA |** *Fall 2017 - Present*
Office Manager (15 hr/wk)
- Oversee thousands of individual customer transactions totaling $1.2 million for Fiscal Year 2019
- Manage day-to-day operations of 28 employees while cultivating positive and efficient workplace environment
- Establish beneficial working relationship between ownership and general staff, creating a productive workplace

Penn State Linguistics Department   **University Park, PA |** *Fall 2018 - Present*
Transcription and Research Assistant (8 hr/wk)
- Collaborate with distinguished linguistics doctorates on code-switching behaviors of bilingual speakers
- Interpreted and transcribed over 175,000 lines of bilingual code in Microsoft Excel
- Audit coded Excel spreadsheets for errors in pre-transcribed conversations

PIRE Linguistics Research   **Granada, Spain |** *Summer 2018*
Researcher (40 hr/wk)
- Participated in abroad research experience, requiring dedicated commitment and research throughout the year prior to the study initiation
- Conducted participant experiments to evaluate immersion and comprehension of Spanish and English idiomatic phrases
- Balanced checking account and dispersed appropriate funding to participants according to time spent in the laboratory
- Reported weekly to advisor in America to maintain communication and reduce potential for errors

LEADERSHIP and EXTRACURRICULARS:

Environmental Sciences   **University Park, PA** | *Spring 2018*
Teaching Assistant
- Implemented leadership training through weekly meetings, training sessions, weekend retreats, and journal writing
- Attended every lecture to take notes and attendance of two sections of 12 students each
- Facilitated weekly lab meetings with my sections to lead group discussions and inspire new thoughts
- Graded 24 journals bi-weekly to ensure quality and effort from each individual student

Phi Gamma Nu Professional Fraternity   **University Park, PA |** *Fall 2016 - Present*
THON Finance Chair   *Fall 2017 - Spring 2018*
- Coordinated fundraising events to raise money for the world's largest student-run philanthropy
- Managed and donated $126,000 for children fighting pediatric cancer at Penn State Hershey Children's Hospital
- Cultivated relationship with three assigned families who have or had a child battling cancer
Standards Board Member   *Spring 2017*
- Ensured all active members completed their required philanthropy and professional development credits
- Attended meetings and reviewed Fraternity bylaws to make improvements for the future of the organization

SKILLS:
Fluent in Spanish, Leadership, Emotional Intelligence, Active Listening