Influential Factors for Dietary Intake: Expanding the Prototype Willingness Model in the COVID-19 Pandemic

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Shane A. Snyder

Supervising Committee:

Angela Liegey Dougall, PhD

Jared Kenworthy, PhD

Daniel Levine, PhD

Adwait Khare, PhD

Erin Carlson, PhD

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Abstract

Only 10-13% of individuals consume enough fruit and vegetables. Not only do fruit and vegetables help stave off chronic disease, but they also help maintain weight, and contain nutrients that reduce inflammation, infection, and cancer incidence by enhancing the immune system. The COVID-19 pandemic has also put a strain on individuals, disheveling dietary routines, promoting sedentary behavior, and provoking increased stress. This research tested the prototype willingness model to examine factors that could influence fruit and vegetable intake while considering the influence of COVID-19 and more stable personal descriptors (i.e., perceived threat and fear from not consuming enough fruits and vegetables, body mass index, health conditions, social desirability, and demographic factors) in an adult sample. Hierarchical regressions were conducted to analyze these aims with a sample of 259 participants. The sample was primarily White (N = 78; 29.89 %), and female (N = 209; 80.08%), with a mean age of 19 (SD = 2.99). Most participants were not employed (69%) and had a family income mean range of $65,000-74,999. Results showed the prototype willingness model with attitudes, subjective norms, descriptive norms, nutrition knowledge, prototype descriptions, prototype similarity, willingness, and intentions was the most parsimonious. Additionally, willingness to eat healthy in the context of unhealthy eaters contributed most strongly to greater fruit and vegetable intake, and, finally, moderation was observed with COVID-19 trauma, checking stress, and T1 intake. As a takeaway, encouraging healthier eating in contexts when norms suggest otherwise and providing regular stress checkups along the behavior change pathway may be beneficial. In summary, this study elucidated the importance of known prototype willingness model factors and additional factors with potentially less influence for better dietary behaviors.

Keywords: fruit; vegetable; prototype willingness model; behavior change; healthy eating

Chapter 1: Introduction

From a public health standpoint, only 13% of adults obtain enough fruit and less than 10% obtain enough vegetables daily (Lee-Kwan et al., 2017). Currently, more individuals cook less, and traditional, less-processed foods have been removed from typical diets. The characteristic "western" diet has been denoted as overconsumption of high fat, sugar, and processed foods, which has been associated with multiple health risks. Diet has direct implications in at least four of the top ten most lethal causes of death (i.e., ischemic heart disease, stroke, diabetes mellitus, and cancer; Kapany et al., 2015). Importantly, improper dietary habits could lead to weight gain which is also associated with the same pathologies (Djalalinia et al., 2015). Adding to this public health issue of good nutrition, the coronavirus (COVID-19) pandemic and "stay-at-home" measures have confined 90% of adults to their residences causing disrupted dietary routines via greater home access to snack/comfort foods and added pandemic stress (Chen et al., 2020; Pearl, 2020). Although some of these disrupted routines may have been minor, subtle changes in weight over short periods could lead to substantial weight gain long term (Schoeller, 2014). Indeed, the "quarantine 15" was popularized and collectively accepted to describe the weight gain from inactivity and poorer dietary habits from this pandemic and has potentially undermined the drive to engage in healthier habits (Pearl, 2020). Thus, it is important to identify and mitigate unhealthy eating behaviors (e.g., high intake of saturated fat, refined products, and excess sugar) and encourage healthier ones (e.g., more plant-based foods) to prevent degradation of well-being during this health crisis. Unhealthy food defined here are those that are energy-dense ("empty calorie") food, such as processed foods and snack foods with high-fat content, sugar, and/or sodium added (Kakoschke et al., 2014). Contrarily, healthy foods are more unrefined (e.g., fruits, vegetables, whole grains). Essentially, healthy foods are less processed with minimal salt and sugar added and are more indicative of how they would be found naturally. In this research, antecedent factors for fruit and vegetable intake were examined along with the efficacy of short implementation intentions to understand how health decisions were made for these behaviors, and if intake increased.

The prototype willingness model (PWM) assessed here examined factors that could influence fruit and vegetable intake after consideration of the COVID-19 pandemic and more stable personal descriptors (i.e., perceived threat and fear of not consuming enough fruits and vegetables, body mass index/BMI, health conditions, social desirability, religious status, difficulty paying bills, and coronavirus/COVID-19 influence). Historically, the PWM has been used to understand health behaviors such as energy drink intake (Deiters, 2019; Heinze, 2019), snacking (Fuchs et al., 2015), general healthy eating (Dohnke et al., 2015), and commuting (Frater et al., 2017). However, this study was one of the first to examine this model with fruit and vegetable intake (specifically certain types of vegetables and whole fruit) with additional demographic descriptors in the context of the COVID-19 pandemic and the unprecedented widespread change in dietary habits. Currently, there is also limited longitudinal research with the PWM (particularly with health-promoting behaviors); therefore, this study examined whether prompting individuals to be more willing to consume more fruits and vegetables would lead to behavior increases at a later follow-up time. The findings supported this model's theoretical basis and extend its application to behavioral change during crises thereby suggesting targets for interventions. Second, when applying the PWM with the COVID-19 and stable personal descriptors/measures, we assessed if willingness given in certain contexts augmented the predictive power of this model. Research has shown a lack of willingness assessment in certain scenarios (particularly with fruit and vegetable intake), so this research examined more realistic and applicable scenarios that could provide a basis for targeting dietary behavior change. More studies to date have used scenarios that may not have been replicated (Dohnke et al., 2015; Ruhl et al., 2016) or the willingness scenario(s) used in previous research may have been too context-specific and produced more socially desirable behavior (Fuchs et al. 2015). Third, certain groups (e.g., non-healthy eaters/those that do not consume the recommended number of fruit and vegetables) may be more important to target for underconsumption of fruits and vegetables (especially during a health crisis) as there may be different predictive patterns of antecedent factors in this model for fruit and vegetable consumption based on how individuals are classified (Kendzierski & Costello, 2004; Ruhl et al., 2016).

Diet and Health

Despite fruit and vegetable underconsumption being an ongoing issue, there is some suggestion that people are eating healthier than they were ten years ago (Crawford, 2020). Fruit and vegetables are important because not only do they contain fiber to control fat levels and satiety (Slavin & Lloyd, 2012), they also contain many other phytochemicals. These phytochemicals include flavonoids and phytosterols that mitigate inflammation, cancer growth, and have beneficial effects on gut microbiota (Anderson et al., 1994; Cui et al., 2019; Van Duyn & Pivonka, 2000), resulting in better well-being, life quality, and healthy physiological responses. This is particularly true for raw fruit and vegetables, which produce better mood and less depressive symptoms (Brookie et al., 2018) compared to cooked, frozen, or canned fruit and vegetables. Pertinent in this current coronavirus situation, proper nutrition enhances the immune system to protect against potentially lethal viruses (Aman & Masood, 2020). The food we consume shapes the immune responses in the body, and from previous evidence, it was suggested that survival largely depends on immune function (i.e., adequate intake of vitamins and minerals; Aman & Masood, 2020). Yet, many adults are not able to reap these benefits because many do not consume what is recommended (5-9 servings of fruits and vegetables a day; Lee-Kwan et al., 2017).

The Prototype Willingness Model

To understand how health decisions are formed and what may lead to increased fruit and vegetable intake in different groups of people, researchers have proposed behavior-change theories encompassing multiple intrapersonal factors that influence decision making (Sheeran et al., 2017). As mentioned, one such theory that has garnered interest particularly because it assessed situational context is the PWM (Gibbons & Gerrard, 1995; Gibbons et al., 1998; Sheeran et al., 2017). Although originally developed for specific risk environments and health-risk behavior in adolescents, it has since been applied to determine multiple behaviors. These behaviors include not only alcohol intake (Zimmermann & Sieverding, 2010, 2011), risky sex (Gibbons et al., 1998), speeding (Chaleshgar et al., 2013; Elliot et al., 2017), and energy drink intake (Deiters, 2019; Heinze, 2019), but also health-promoting behaviors like general healthy eating (Dohnke et al., 2015), snacking (Fuchs et al., 2015), and active commuting (Frater et al., 2017). Conceptually, it is made up of two pathways/processes; the reasoned action pathway and the social reaction pathway (Gerrard et al., 2008; Gibbons et al., 1998). The reasoned pathway essentially defines behavior as mostly planned and is built upon Ajzen's theory of planned behavior (1985); however, the social reaction pathway attempts to explain behavior as socially dependent or dependent on when the behavior is available. Indeed, the reasoned pathway was originally composed of, 1) attitudes/thoughts and 2) behavior intentions toward the desired behavior. The social reaction pathway, contrarily, consists of 1) social prototypes (how individuals view the typical person who engages in the target behavior) as a distal determinant, which in turn impact 2) willingness (intention given social context) as a second proximal determinant toward the behavior (Gerrard et al., 2008; Gibbons et al., 1998). While intentions and willingness may seem similar, the intention is a planned process such that the individual intends to do the behavior. In contrast, willingness is a readiness to engage in a behavior (Deiters, 2019) and is more reactive. The individual may not plan to engage in the behavior but may do so when convenient or the individual may plan to do a behavior but lack the readiness to do so in a specific situation (Deiters, 2019; Todd et al., 2016). For example, an individual may have the intention to eat a salad for lunch, but when they get to the restaurant and others are ordering burgers, their willingness to engage in eating a salad changes and they eat a burger instead. Conversely, individuals with stronger self-control or better self-regulation may have been "inoculated" to make better health choices when in situations in which healthy eating is difficult, and these individuals could overcome adversity or pressures to eat less healthy food. Individuals may also have incentives for engaging in healthier behavior (e.g., avoid potential regret and penchants toward actions that promote health; Loewenstein et al., 2007). This would help them align their current state with their idealized self. Indeed, behavioral economics incentives utilize individuals' tendencies to be somewhat irrational (Haff et al., 2015). Prototype similarity has also been suggested and used with the PWM to explain additional variance in intentions, willingness, and behavior (Todd et al., 2016; van Lettow et al., 2016). It is how similar individuals view themselves compared to the prototype (the typical person who engages in the behavior of interest) and is more predictive of health-promoting behaviors (van Lettow et al., 2016). Subjective norms (how others behave toward and approve of the desired behavior) and descriptive norms (what others actually do) are antecedents in both pathways (Gibbons et al., 1998). Essentially, the reasoned approach states the more positive one's attitudes and the stronger his/her perception of norms, the stronger his/her intention, and the more likely he/she engages in the behavior as often seen with certain pro-environmental behaviors like recycling (Yuriev et al., 2018). The reactive approach adds to the reasoned approach through self-control, facilitation from others, and/or incentive to be like others or to avoid regret/shame (Herman, 2015; Klesges, 1984; Loewenstein, et al., 2007; Zajonc, 1965). This pathway includes the favorability of models to predict willingness (relevant during a health crisis) and, in turn, the likelihood of the behavior. Indeed, Gerrard et al. (2008) reviewed dual-process models (including the PWM) and found dual-process models help to better explain the decision-making of adolescents compared to single-process motivational models (e.g., theory of planned behavior). Previous research also has suggested applying this model to more health-promoting behaviors (Todd et al., 2016) to fully understand how it can predict behavior as no studies to date have fully examined specific dietary behaviors like fruit and vegetable consumption separately and over time.

Prototype Willingness Model and Dietary Behaviors

Implications for fruit and vegetable intake were drawn from the broader literature on dietary change and were examined here in the context of the PWM. As previously stated, willingness is influenced by prototype description and it was noted that in adolescents, the more positive individuals viewed an unhealthy eater prototype and the less positive they viewed a healthy eater prototype, the more likely they were to eat less healthily (Dohnke et al., 2015; Gerrits et al., 2009; Ruhl et al., 2016). The converse of this also was true, such that the more positive adolescents' image of the healthy eater, the better their eating behaviors (Dohnke et al., 2015). As mentioned, social facilitation behavior (partaking in a behavior when others engage in the behavior; Herman, 2015; Zajonc, 1965), as well as internal or external incentives of the individual (Loewenstein et al., 2007), may help to explain the mechanism underlying the social reaction pathway. Greater self-regulation or control may also provide some influence in the social reaction pathway (De Witt Huberts et al., 2014). Yet, subjective norms and prototype description did not always predict willingness, but intention and willingness still significantly predicted eating behavior (Dohnke et al., 2015). This has been applied to both healthy and unhealthy foods (Ruhl et al., 2016) even when considering hunger (Dohnke et al., 2015), but intentions did not always lead to better eating behavior (Fuchs et al., 2015). Research with the PWM in dieters and non-dieters has found individuals engage in different decision-making processes based on their dieting status (Ruhl et al., 2016). Current dieters had greater knowledge (they utilized more nutrition information) and intentions to eat healthier than non-dieters, yet did not do so (Ruhl et al., 2016). Regarding unhealthy food, dieters also reported more negatively for behavioral antecedents (e.g., attitudes, prototypes, norms, intention, and willingness) compared to non-dieters (Ruhl et al., 2016). These differences suggest different antecedents (variables of the social reaction and reasoned pathways) of the PWM affect behavior depending on individual factors. Attitudes and nutrition knowledge also were documented to be the strongest predictors of eating healthy foods, but not unhealthy foods (Ruhl et al., 2016). Although the main assumption of the PWM fits the general eating pattern, it still has been unclear how the model applies to specific foods and different eating scenarios (Dohnke et al., 2015).

In contrast to health-risk behaviors that have usually been prohibited or discouraged, eating is essential, thus healthiness and context of eating occasions need to be considered (Fuchs et al., 2015). Few studies have truly tested the PWM with all its determinants, particularly with healthy eating as the PWM has been more focused on single determinants of the social reaction pathway with health-promoting behaviors (Dohnke et al., 2015). Like risk behaviors, however, health effects more often depend on the amount and frequency with which foods are consumed (Fuchs et al., 2015). Despite individuals eating more healthily (Crawford, 2020), the obesity rate has climbed. The current pandemic adds even more emphasis on the need to target obesity and test if healthier eating habits could be increased with the use of the PWM while considering the COVID-19 pandemic and stable personal descriptors.

Prototype Willingness Model Considerations

Even though the PWM consists of many constructs, it is not complete, and research has suggested one shortcoming via perceived threat (Sheeran et al., 2017). This consists of perceived risk (magnitude of health threat), perceived susceptibility, and fear about not engaging in the target behavior. Researchers have recently argued that nutrition knowledge be examined concerning dietary behavior because more knowledge is related to consumption (Dickson-Spillmann et al., 2011) and significantly contributed to the reasoned and reaction pathways (Ruhl et al., 2016). The importance of hunger and other physiological mechanisms with dietary consumption could be beneficial as well (Fuchs et al., 2015). Because of the differing perceptions of prototypes based on personal factors (Keresztes et al., 2009; Ruhl et al., 2016), it is also important to understand how the PWM antecedents (variables of the social reaction and reasoned pathway) and fruit and vegetable consumption are influenced by the pandemic and other more stable personal descriptors such as one’s self-concept, perceived threat and fear of not consuming fruits and vegetables, body mass index (BMI), health conditions, social desirability, sociodemographic factors (religious status and difficulty paying bills), and coronavirus/COVID-19 influence.

Schemas

Regarding relationships with food, previous interventions have highlighted that one's schema is tied to the practice of health behaviors like healthy eating (Kendzierski & Costello, 2004; Kendzierski et al., 2015; Noureddine & Stein, 2009). A self-schema is essentially a domain-specific self-definition organized as a cognitive structure built on experience that is important to the individual (Markus, 1977). An identified self-schema has been proposed to make certain responses more accessible, i.e., those with healthier eating schemas were more knowledgeable of healthier foods (Kendzierski et al., 2015). Individuals with healthy eating schemas consequently may have greater self-efficacy to overcome time, schedule, or other constraints (such as stay-at-home order routine derangements) and may allow the PWM to predict eating behavior better. Further, individuals that had initial healthy eating schemas who did not meet recommendations for fruit and vegetables (more prominently vegetables) were able to increase their consumption if asked about intention formation (Kendzierski et al., 2015). In this research, participants were asked six statements for each behavior that assessed how descriptive each statement would be of them and how important each is. Eating schemas were tested as moderators because they may influence behavior, knowledge, and attitudes (Kendzierski et al., 2015). Because healthier eaters presumably have better intentions for healthy eating (Kendzierski et al., 2015), we expected those with less healthy eating schemas to have less positive fruit and vegetable predictive willingness and intentions and subsequently have less intake.

Implementation Intentions

Although it is common for individuals to say they want to eat fruit and vegetables, few often follow through with such intentions. For example, people make goals or resolutions for themselves each New Year, but do not develop specific plans and fall short. While goal-oriented intentions specify the “what” to change behavior, implementation intentions cover “where, when, and how” to change behavior (Adriaanse et al., 2011) which would be beneficial to help individuals get back to their pre-COVID dietary consumption habits, initiate, or increase their fruit and vegetable consumption as it was used here. Indeed, to gauge efficacy and adherence toward beneficial behaviors, implementation intentions serve to measure these concepts and translate behavior goals into specific action plans (Adriaanse et al., 2011).

BMI

Another factor that could influence intentions, attitudes, prototype description, and behavior is BMI. Indeed, a large portion of the world population is overweight or obese (approximately 39%; WHO, 2020). A number that has tripled since 1975 and may be particularly higher during this pandemic given the widespread disruption of exercise and eating regimes (Pearl, 2020). Individuals with higher body mass may also have stronger predispositions to eat less healthy but increased BMI has been associated with healthier eating (Patel et al., 2018), because individuals with higher BMIs may be more likely to diet. This measure is also somewhat controversial in men, more muscular individuals, and taller individuals (Nuttal, 2015) from how it is calculated. While this measure may inaccurately classify individuals to be at higher risk for health issues, the use of BMI here was a covariate and not as a moderator to categorize individuals into weight classes.

Health Conditions

Like BMI, certain health conditions may indicate a predisposition for individuals to eat or avoid certain foods. Some of these health conditions include Type II Diabetes, Celiac disease, phenylketonuria (PKU), or other food allergies. Given COVID-19 also may be more harmful to those with health conditions, these individuals may have more restrictions to obtain healthier foods. Individuals with other chronic conditions like cardiovascular disease may limit certain foods to maintain health too (Forouhi et al., 2018). Because of the different effects that health conditions could have on behavior, it was important to understand how having a health condition could influence health decisions for fruit and vegetable intake.

Demographics

In addition to health conditions, certain demographic factors (namely socioeconomic factors like education and income) could be influential on personal health regimes. Employed and/or individuals with more income typically have more resources, flexibility, and fewer difficulties for engaging in healthier behaviors like fruit and vegetable intake amidst a pandemic (Dibsdall et al., 2003). Thus, socioeconomic status as defined as difficulty paying bills was used as a covariate in this research.

Stress

Having fewer resources could also influence individuals to have greater stress. The current health crisis adds to the perceived stress as many are out of work, potentially low on food and income, and personal health could be at stake. Food selection could also change under stress as stress could lead individuals to seek unhealthier, comforting foods (Zellner et al., 2006). For these reasons, COVID-19 stress was used as a covariate and moderator in the following research. Aggregately, these abovementioned factors helped explain and determine the pathways that lead to greater fruit and vegetable intake and identify which factors could help promote better dietary behavior.

Current Study

From reviewing the previous literature, this study assessed what factors predicted fruit and vegetable intake. Specifically, whether the PWM could be applied to predict these behaviors and if short implementation intentions could be used to increase fruit and vegetable intake over a week during the COVID-19 pandemic to help individuals return or develop better eating habits. It is also important to assess how this model applies to more specific behaviors and contexts because of a need to assess more health-promoting behaviors (Todd et al., 2016). Differences could exist between the behavior determinants too (Dohnke et al., 2015). As such, dietary information from participants was collected and factors of the PWM with more stable personal descriptors were examined to see how these measures together influenced fruit and vegetable intake. Broadly, Aim 1 first inspected how this behavior pattern fit the PWM as a manipulation check in this current health crisis as previous research has suggested with healthy eating behaviors (Dohnke et al., 2015; Fuchs et al., 2015; Figure 1). Ancillary with this first aim was to assess if social reaction antecedents (i.e., prototype description and willingness) with the assessment of the change in slopes for attitudes, subjective norms, descriptive norms, prototype similarity, and knowledge explain additional variance in the model above the reasoned action pathway (e.g., attitudes, subjective norms, descriptive norms, intentions with knowledge and prototype similarity added later; Aim 1.2). This hypothesis was based on previous research suggestions (Todd et al., 2016) along with willingness to capture self-control and influences of social facilitation via encouragement, arousal, or enjoyment from others to increase (or decrease) behavior (De Witt Huberts et al., 2014; Klesges 1984; Zajonc, 1965). To put this into an example, if individuals have a more positive view of a healthy eater, are more willing to eat more healthily in specific contexts, have individuals around them that think eating healthy is beneficial and do so, they think eating healthy is beneficial, think of themselves as being similar to a person who eats healthily, and the individual has knowledge of eating healthy, these factors would contribute to better behavior. The opposite perspective (i.e., negative view of a healthy eater, less willing, individuals around them being more critical, dissociation between self and healthy eater, and lack of knowledge) contributes to worse behavior, so the positive relationship between antecedents and behavior would be applied in both directions. These tests of the PWM were expected to explain the best model for increasing fruit and vegetable intake.

Aim 2 used the complete model from Aim 1 and assessed the influence of different contexts of fruit and vegetable consumption willingness on actual fruit and vegetable intake. Here, a series of willingness-induced scenario questions were interchanged in the model to assess the efficacy of these scenarios on fruit and vegetable intake behavior amidst this pandemic, and if certain scenarios may be more influential targets than others for promoting and maintaining behavior (Figure 2). Aim 3 assessed the efficacy of this model between different groups of people (e.g., healthy eating schematics and non-healthy eaters/non-schematics) to see how the PWM behavioral antecedents, (i.e., intentions and willingness) and other covariates differ between different groups of individuals and understand what factors may be important to consider for interventions or behavior change in either group to target those that may be at greater risk of health complications like contracting COVID-19 (Figure 3). This last aim filled the gap in the literature on how certain groups make dietary decisions as research suggested to address (e.g., Ruhl et al., 2016). With these aims, more longitudinal research is warranted with the PWM. As such, this research prompted individuals with intention goals at baseline (Time 1/T1) to influence a positive change in fruit and vegetable intake short-term a week later (Time 2/T2) using a longitudinal design. An assessment of dietary intake behaviors was completed at both times to see if a positive change could be noted during the COVID-19 pandemic and provide a feasible way to intervene and promote health behavior for a future crisis, educational, and policy reasons. These studies were also primarily conducted in adolescents, so considering older ages sheds light on how the PWM with other constructs as listed in Aims 1-3 fits for a broader age group.

Aim 1 Manipulation Check with PWM

To explain in greater detail, Aim 1 served as a manipulation check to test whether the PWM fit the health-promoting behaviors of greater fruit and vegetable intake from T1 to T2 with the use of implementation intentions (intervention component) to build on previous research (Dohnke et al., 2015; Gerrits et al., 2009; Keresztes et al., 2009; Figure 1). Broadly, we predicted the reasoned pathway and the social reaction pathway to positively predict behavior, with the social reaction pathway explaining significantly more variance than the reasoned action pathway in this first aim (Todd et al., 2016). The reason for this is that individuals who can react to increasing their healthier behaviors in certain contexts may have stronger self-control or self-regulation to avert indulgences (De Witt Huberts et al., 2014). Thus, as described above, the positive relationship between the social reaction pathway and behavior is necessitated in both directions in which the social reaction pathway tests how well individuals act in line with their intentions. Previous research has also found the social reaction pathway to be predictive of behavior as well (Deiters, 2019; Fuchs et al., 2015; Heinze, 2019; Todd et al., 2016) as it improves the explanation of behaviors above reasoned models (Gerrard et al., 2008). As such, my hypotheses under Aim 1 were as follows.

1.1. Measure the PWM for fruit and vegetable intake (separately) with a more general willingness scenario to serve as a manipulation check to assess if the implementation intentions (intervention component) that participants completed at T1 helped to increase their fruit and vegetable intake at T2 and if the model fits the behaviors. Furthermore, this would help explain what collection of factors are important for promoting fruit and vegetable consumption at one time point and from baseline to T2 in this pandemic. Here, I anticipated both the reasoned action and social reaction pathways of the model to both positively predict fruit and vegetable intake with the social reaction pathway explaining significantly more variance in fruit and vegetable intake because of greater self-regulation or self-control when individuals are posed with pressures (De Witt Huberts et al., 2014).

1.2. Test the models in Aim 1.1 but with the addition of nutrition knowledge and prototype similarity in the reasoned action pathway (and assessed for slope change in the social reaction pathway) for fruit and vegetable intake. The addition of these two variables tested if they contribute more to the explanation of behavior and if this addition should henceforth be examined with the PWM.

1.3. After adding knowledge and prototype similarity into the model, some of the stable personal descriptors (perceived threat and fear of not consuming fruit and vegetables, BMI, health conditions, social desirability, sociodemographic factors, and coronavirus/COVID-19 influence) were added as covariates to see if these additional antecedents explained greater variance in fruit and vegetable consumption. We anticipated these covariates with knowledge and prototype similarity for fruit and vegetable intake would explain more variance (positively predict) than the models without them for a more complete process (Sheeran et al., 2017). Here, we also anticipated the social reaction pathway (i.e., prototype description and willingness) with the assessment of slope change for attitudes, subjective norms, descriptive norms, prototype similarity, and knowledge to add more explanation of behaviors above the reasoned action pathway (i.e., attitudes, subjective norms, descriptive norms, prototype similarity, prototype similarity, knowledge, and intentions).

Aim 2 General vs. Specific Scenario Examination with PWM

While indeed, the social reaction pathway (i.e., prototype description and willingness) with the assessment of slope change for attitudes, subjective norms, descriptive norms, prototype similarity, and knowledge has been found over multiple studies to predict behavior more than the reasoned action pathway (i.e., attitudes, knowledge, subjective norms, descriptive norms, and intentions; Todd et al., 2016), previous research has used more general or averaged behavioral willingness scenarios for fruit and vegetable intake (e.g., Ruhl et al., 2016), which makes it unclear how generalizable certain scenarios vary across behaviors. More often, scenarios may be more specific depending on the behavior (e.g., Deiters, 2019; Frater et al., 2017; Heinze, 2019). Also, the National Institutes of Health [NIH] strategic planning committee has put an emphasis on the role of context and how it influences and sustains behaviors (NIH, 2020). For these reasons, this research tested multiple willingness scenarios against each other to understand why certain people do not behave desirably in certain situations and elucidate whether certain scenarios or behavioral factors for certain scenarios are more predictive of behavior than others (Figure 2). No doubt COVID-19 has influenced willingness as well, as exposure/influence of COVID-19 was controlled for in the model. Here, the general scenario used in Aim 1 was interchanged with three additional specific scenarios at a time in which all participants were exposed to all scenarios (see Methods). Like the previous aim, I anticipated the social reaction pathway (all social reaction variables) to be more predictive of behavior than other factors (Todd et al., 2016).

With the more complete model or regression analysis from Aim 1, we examined fruit and vegetable intake for three other specific willingness scenarios (see Methods) because the general scenario was assessed in Aims 1.1-1.3. Here, we anticipated the social reaction pathway to be more predictive of fruit and vegetable intake in scenarios in which other people partook in the behavior. This assumption was based on social facilitation behavior in that individuals are more likely to partake in the behavior when others engage in the behavior as well, as opposed to when one is merely observed by others (Herman, 2015; Zajonc, 1965). Social contexts also provide more enjoyment, encouragement, and arousal (Klesges, 1984; Zajonc, 1965). Another factor that could lead individuals to eat more or engage in better behavior is disinhibition which could influence greater willingness to be more apt to handle and choose healthier options in these scenarios (De Castro, 1990). In this case, the presence of others engaging in healthier behaviors could override a tendency to eat less healthy. The pro-environmental behavior literature does suggest similar behavioral antecedents to predict behavior too such as personal attitudes, subjective norms, and knowledge (Yuriev et al., 2018).

Aim 3 Subgroup Examination with PWM

Different subgroup(s) of the sample were tested to see how each influences the predictive value of the PWM (i.e., healthy eating schematic and less healthy/non-schematic eaters, sex, T1 intake, and COVID-19 stress; Figure 3). Certain groups may be more important to target for addressing behavior change such that if certain factors do not contribute to certain behaviors within certain groups (e.g., if attitudes or knowledge do not predict intentions for fruit and vegetable intake or if subjective norms contribute more to the reasoned pathway in those that meet recommended intakes of fruits and vegetables compared to the reaction pathway in those that do not), then it could give reason to focus on factors that do or other factors not included.

For instance, dieters were found to have more knowledge and intentions than non-dieters (Ruhl et al., 2016) and healthier eaters were found to have more favorable eating patterns (Dohnke et al., 2015). However, it is unclear how these differences translate to how one views themselves in terms of health and how stress (with the full model and additional measures) influences both fruit and vegetable intake. This is particularly true during this pandemic when health resources could be scarce and targeting individuals most at risk of health complications from the COVID-19 virus could be beneficial. I anticipate those with healthier eating schemas, females, those that eat a greater number of fruit and vegetables, and those with less COVID-19 stress to be more willing to engage in the target behaviors than those with less healthy eating schemas, males, those who eat fewer fruits and vegetables, and those with higher stress, respectively (Kendzierski & Costello, 2004; Kendzierski et al., 2015).

3.1. Eating schema. To detail this further, individuals with healthy eating schemas (based on self-descriptions) would have both better social reaction and reasoned action factors and subsequent behavior (would be more positive and strong) for fruit and vegetable consumption compared to individuals with unhealthy eating schemas/non-schematics as shown in the comparison between dieters and non-dieters (Ruhl et al., 2016).

3.2 Sex. A large body of literature has shown that females tend to eat healthier than males, and generally have more positive attitudes toward health and health behaviors (e.g., Dutta & Youn, 1999). These trends even apply to college students (Davy et al., 2006). Because of these findings, sex was used as a moderator to see if females eat healthier than males in this sample.

3.3. Healthy eaters. Similar to eating schema, those who do eat more fruit and vegetables (based on reported intake) would have greater social reaction and reasoned action antecedents and subsequent behavior (would be more positive and strong) for fruit and vegetable consumption than those who eat fewer fruit and vegetables per day.

3.4 Coronavirus/COVID-19 stress. As with the previous two hypotheses, COVID-19 stress was tested as a moderator to examine differences in reported intake between those with high pandemic stress and low pandemic stress. Less stress may equate to less burden, so we anticipated those with lower pandemic stress to have better social reaction (i.e., prototype description, prototype similarity, and willingness) with the assessment of slope change for attitudes, subjective norms, descriptive norms, and knowledge from the reasoned antecedents and intentions than those with high pandemic stress.

Chapter 2: Methods

Participants

Participants (*N* = 261) consented, participated in, and completed both T1 and T2 surveys, and were recruited via the Psychology Research Subject Pool (SONA) at the University of Texas at Arlington (UTA) in the Fall 2020 Semester (September to November). They completed the second survey roughly one week after they completed the T1 survey. To be eligible, participants had to be $\geq$17 and English speakers. Power analyses indicated a sample size of approximately 249 was required with power set at .80 for a small-to-medium effect size (.09) with 20 predictors (9 reasoned action and social reaction variables, previous diet behavior, perceived threat of not consuming fruit and vegetables, fear of not consuming enough fruit and vegetables, BMI, any health conditions, social desirability, socioeconomic status, religious status, coronavirus/ COVID-19 impact, and a moderator (i.e., sex, eating schema status, and coronavirus stress) and any interaction variables. Demographically, most participants were White (*N* = 78; 29.89%), and female (*N* = 209; 80.08%), with a mean age of 19 (*SD* = 2.99). Most participants were not employed (69%) and had a combined family income mean range of $65,000-74,999 (see Tables 1 & 2 for additional demographic data). Participants received compensation in the form of research credit for psychology classes, and this study was approved by the UTA Institutional Review Board (IRB).

Individuals who fit the survey inclusion criteria were provided the study description and link to the survey (in Questionpro) which included some preliminary instructions about how to complete the survey and the survey items. Participants completed all survey items at T1 and just a portion of the items again at T2 (consumption behaviors, intentions, and willingness). Participants who completed the items at T1 were told at the start (in the informed consent) and reminded at the end of that survey that their input was needed to complete a short follow-up survey (T2) a week from the day they completed this first survey. They then completed each survey once. A short period was chosen because the model was shown to be more predictive in the short term (McEachan et al., 2009). During both surveys, all participants were exposed to all questions for a within-subjects design. Eight attention check items were placed somewhat evenly spaced throughout the first survey and the second survey to ensure participants paid attention to the required assessments. They needed to pass all attention checks for their data to be kept for analyses. Follow-up reminder emails were sent to remind participants before their T2 follow-up, the day of, and after their proposed day of completing the survey (if they had not completed it).

Measures

Prototype Willingness Model

To understand the variables of the PWM, this study assessed statements and questions about the attitudes, knowledge, subjective norms, descriptive norms, prototype description, prototype similarity, intentions, and willingness of the participants for both fruit and vegetable consumption. These questions regarding the PWM were from measures originally developed by Gibbons & Gerrard (1995) and Gibbons and colleagues (1998) but adapted from later work (i.e., Armitage, 2005; Deiters, 2019; Frater et al., 2017; Heinze, 2019; Ruhl et al., 2016; Wong & Mulan, 2009).

Attitudes. As part of the reasoned action pathway and then later added to the social reaction pathway, attitudes were assessed on a scale from 1 to 5 for 6 adjective opposites (Deiters, 2019; Frater et al., 2017; Heinze, 2019; Appendix) with the same stem: *I think that regularly consuming fruit and vegetables are…?* Responses were averaged over each adjective opposite to get a measure of attitudes for fruit and vegetable consumption and found to be acceptable ($\alpha = .70$).

Nutrition Knowledge. To be tested as a later addition to the reasoned action pathway and then the social reaction pathway (Aim 1.2), nutrition knowledge was adapted from a previous scale (Dickson-Spillmann et al., 2011; Parmenter & Wardle, 1999). Participants received a 1 for each correct answer, 0 if they did not know, and -1 for each incorrect answer. Only the first three scales were summed to assess nutrition knowledge ($\alpha = .68$) as used in a previous study (Ruhl et al., 2016;) to encompass a variety of nutrition information important for personal health.

Behavioral Intention. Two questions for the reasoned action pathway were averaged ($\alpha = .65$) to measure intentions at T1 and T2. Although, T2 intentions were assessed after dietary behaviors, so an emphasis was placed on T1 intentions for analyses with two different stems: "*Do you intend to regularly consume fruits and vegetables in the following week?"* and *"I want to regularly consume fruits and vegetables?"* on scales from 1(*definitely will not*) to 5(*definitely will*) and 1(*strongly disagree*) to 5(*strongly agree*), respectively.

Subjective/Descriptive Norms. This construct was tested with the reasoned pathway first and then assessed with the social reaction pathway. Subjective norms were operationalized with three items for both behaviors and then averaged: For example, for fruit and vegetable intake they were, 1) "*People close to me (e.g., friends or family) think I regularly consume enough fruits and vegetables*"; "*People who are important to me would disapprove of me regularly consuming fruits and vegetables/approve of me consuming fruits and vegetables.*" Responses to the subjective norm items ranged from 1(*strongly disagree*) to 5(*strongly agree*; α = .70). Included with subjective norms, prevalent behavior descriptions of others used two items to capture other's prevalent behavior as it has previously shown predictive value of individual behavior (Rivis & Sheeran, 2003). Respondents indicated to what extent others (peers and family) regularly consume fruit and vegetables from 1(*none*) to 7(*all*) and the average of these items was also reliable (α =.72). Prevalent descriptive behaviors (norms) were added with subjective norms in each model.

Behavioral Willingness. Willingness to engage in target behaviors was assessed at T1 and T2. Although, T2 willingness scenarios were assessed after dietary behaviors, so an emphasis was placed on T1 willingness scenarios and incorporated into the social reaction pathway. It consisted of four scenario-based questions for fruit and vegetable intake, in which a general scenario (Scenario 1) was tested against three specific scenarios (within-subjects). Willingness ranged on a scale from 1(*definitely not willing*) to 5(*definitely willing*). Like other constructs, reliability varied depending on the scenario but was generally acceptable (α = .67-.82). The study was a within-subjects design, so all participants were presented with the same scenarios as well. Additionally, the scenarios were randomized to control for potential order effects, but the question presentation under each scenario remained in the same order.

Scenario 1. Suppose you planned a meal to consume more fruit and vegetables, but something happened. How willing would you be to…1) Consume the fruit and vegetables as planned? 2) Add some fruit and vegetables, but not as much as you originally planned? 3) Not consume any fruit and vegetables?

Scenario 2. Suppose you were at a restaurant with a few close friends and they all order something "healthy," how willing are you to…. 1) Get and consume fruit and vegetables? 2) Get and try some fruits and vegetables? 3) Not order or consume any fruit and vegetables?

Scenario 3. Suppose you were at a potluck in which everyone had fruit and/or vegetables on their plate and was eating them. How willing are you to …. 1) get and consume fruit and vegetables? 2) Get and try some fruit and vegetables? 3) Not get or consume any fruit and vegetables?

Scenario 4. Suppose you were at a restaurant with a few close friends and they all order something "unhealthy." How willing are you to…. 1) Get and consume something unhealthy? 2) Order and try something unhealthy? 3) Order a fruit and/or vegetable option instead of something "unhealthy?"

Prototype Description. As previous research has suggested, images of individuals could impact the desire to engage in a certain behavior and were tested here with the social reaction pathway. As originally defined by Gibbons & Gerrard (1995), prototypes consisted of average participant ratings on a scale from 1(*not at all*) to 5(*very much*) of how certain adjectives (Appendix) describe a typical person their age who regularly engages in that given behavior. Two scales were created-one with positive attitudes (the first 10 items) and one with negative items (the last 10 items)-and both were shown to be reliable (α = .89-.91).

Prototype Similarity. A later addition to the PWM tested in Aim 1.2 contributed to both the reasoned action and social reaction pathways. This scale was appropriated from Heinze (2019) and Deiters (2019) in which similarity was measured by averaging 4 item stems on a 5-point rating scale. They were set up as, 1) do you resemble the typical person that regularly consumes fruit and vegetables (*agree/disagree*), 2) how similar are you to the type of person your age that regularly consumes fruit and vegetables (*no extent at all/ great exten*t), 3) I am comparable to the typical person my age that regularly consumes fruit and vegetables (*agree/disagree*), and 4) to what extent are you like the typical person that regularly consumes fruit and vegetables (*no extent at all/ great extent*; α = .85).

Nutrition Behavior. Dietary consumption consisted of major dietary food groups, such as drinks (e,g., regular soda, sports drinks), bread products, and fruits and vegetables measured with the NHANES Dietary Screener Questionnaire (DSQ). Consumption of fruit and vegetables was measured at T1 (for intake the week prior) and T2. This measure was chosen because of its effectiveness for measuring dietary behaviors (Thompson et al., 2017). A continuous response from T1 data was used as a moderator for T2 data. Outcome variables for nutrition behavior can be found in Table 1.

Hunger. Individuals completed the survey at various times throughout the day, so as a means of control, two questions assessed hunger from 1(*not at all hungry*) to 5(*very hungry*; Dohnke et al., 2015) and a question that required participants to check the last time they ate. These variables were used as potential additional covariates or moderators in the model.

Stable Personal Descriptors

Eating Schema. A healthy eater is someone who eats in a nutritious manner, and someone who cares about what they eat. To assess eating schema, participants responded on an 11-point scale from 1(*does not describe me*) to 11(*describes me*) to three prototypes: 1) healthy eater, 2) someone who eats in a nutritious manner, and 3) someone who is careful about what they eat. They also rated the importance of these phrases with the stem "to the image you have of yourself regardless of whether or not you are a…." 1) healthy eater, 2) someone who eats in a nutritious manner, and 3) someone who is careful about what I eat on an 11-point scale from 1 (*not at all important*) to 11(*very important*). As shown by Kendzierski and Costello (2004) and Markus (1977), participants have healthy eating schemas if they rated at least two of the three prototypes as very self-descriptive (8-11 on the 11-point scale) and rated at least two of the three phrases as very important to their self-image (8-11 on the 11-point scale). Conversely, participants who rated at least two of the three prototypes as not very self-descriptive (1-4 on the 11-point scale) and rated at least two of the three phrases as very important (8-11 on the 11-point scale) to their self-image were considered non-healthy eaters (Kendzierski et al., 2015). Non-schematics were those individuals that did not fit either category. For feasibility and because it was suggested from prior research (Kendzierski & Costello, 2004; Kendzierski et al., 2002), non-schematics and unhealthy eaters were combined into one category for analyses because it provided a stronger theoretical distinction than examining all three groups against each other. Eating schema was then tested as a dichotomous moderator.

Implementation Intentions. At the end of the T1 survey, individuals were asked to describe an intention plan that asked them specifically, why, how, when, what, and where they planned to consume more fruit and vegetables between time points (T1 and T2). This scale was to encourage positive behavior change amidst this pandemic and give participants action statements for them to maintain and support the management of regular fruit and vegetable consumption. For analyses, implementation intentions were operationalized from 1-3 for specificity (no desire to change, basic/no specific response to increasing fruit and vegetable intake, or specific in time and/or amount to increase fruits or vegetable intake). Two raters independently reviewed and coded reported implementation intentions then discussed and clarified discrepancies to come to a consensus for analyses (see manipulation check).

Perceived Threat/Susceptibility and Fear. Participants were also asked about the magnitude of the health threat from not eating fruit and vegetables and their own risk to the threat. The magnitude of the health threat was conceptualized as how serious the health consequences of not consuming the recommended number of fruit and vegetables each day were measured on a scale from 1(*not at all serious*) to 7(*very serious*; Napper et al., 2014). To measure susceptibility, two questions were used: 1) "*my chances of experiencing some form of chronic disease in the future if I (the participant) do not eat the recommended number of fruit and vegetables would be?"* 1(*very low*) to 7(*very high*), and 2) "*How likely is it that I will experience poor health in the future if I do not eat the recommended number of fruit and vegetables is?"* from 1(*not at all likely*) to 7 (*very likely*; Napper et al., 2014). Total threat/susceptibility was calculated by averaging these three questions (α = .77). Similarly, fear was conceptualized as an aggregate of two questions based on how frightened/scared and anxious individuals felt about the health threat of not eating enough fruits and vegetables on a similar 7-point scale and showed good reliability (α = .87). The two measures (perceived threat/susceptibility and fear) were also not highly correlated (*r* = .43).

BMI. Measures of participant height and weight in pounds and feet and inches were self-reported and converted to calculate BMI (i.e., kg/m^2).

Chronic Health Conditions. Participants indicated (no/yes) if they had any previous health conditions regardless of controlled by medication or not from a list of 10 conditions including diabetes (Type 1 or Type 2), hypertension, history of cancer, osteoporosis, disordered eating behavior, cardiovascular disease, anemia, chronic fatigue syndrome, irritable bowel syndrome or Crohn's disease, or "other" and to describe what other condition they may have (Brookie et al., 2018). Responses were coded as those without a chronic condition and those with one or more.

Social Desirability. To limit the influence of bias in reporting, the short 13-item social desirability scale was used for this research. While this measure has limited influence on self-reported physical activity in young adults (Motl et al., 2005), it did help identify bias in reporting dietary behavior (Hebert et al., 1995; Hebert et al., 1997). There also were sex differences with the latter behavior as well, such that for every increase in social desirability, females tended to underestimate their energy intake more, but no effect in males was observed (Hebert et al., 1995; Hebert et al., 1997). Although this measure is controversial and known to have different reliabilities, research (Loo & Thorpe, 2000) suggested the use of a particular composite scale noted by Ballard (1992) based on proximity to the item balance and reliability compared to the full scale (α = .73-.83). Indeed, the scale in this study was consistent with previous reports (α = .71), so it was used as a covariate.

Demographics. Data collected on demographic variables included age, sex, ethnicity, income, employment, religious status (measured as those religions with more diet restrictions-Judaism, Hinduism, Muslim, and Buddhist-compared to those that do not have restrictions; Chaudry, 1992; Eliasi & Dwyer, 2002; Kieschnick, 2005), and if they followed any special diet. Because of the multiple demographic measures that could be related to healthier behaviors, a modified version of a socioeconomic scale to assess difficulty paying bills (measured dichotomously as very difficult/some difficulty to very little/no difficulty) was used in analyses as a covariate to reduce the number of measures.

COVID-19 Influence. As mentioned throughout, behaviors may have been modified from the pandemic. To assess this, individuals were asked a modified version of the 12-item Coronavirus Impact Scale (Kaufman & Stoddard, 2020) to assess specifically routines, food access, and COVID-19 exposure (α = .71) and tested here as a covariate. However, COVID-19 stress was used as a potential moderator. This latter measure covered stress related to COVID-19 socioeconomic consequences, xenophobia, contamination and danger, checking behaviors, and trauma (Taylor et al., 2020). Each of these subscales of this larger scale was rated on a scale from 0(*Not at all*) to 4(*Extremely*) except traumatic stress and checking behaviors were rated from 0(*Never*) to 4(*Almost always*). The subscales all demonstrated good reliability (α = .84-.93). A third measure for pandemic influence asked individuals *"Have your eating behaviors been influenced by the COVID-19 pandemic?"* from 1(*strongly disagree*) to 5(*strongly agree*) for additional corroboration.

Data Analysis

With these measures, data were analyzed via a series of hierarchical regression analyses to test whether variables of the PWM (and stable personal descriptors-perceived threat/fear from not consuming enough fruits and vegetables, BMI, health conditions, social desirability, difficulty paying bills, religious status, and COVID-19 impact) enhanced predictions of behavior. However, a repeated measures Analysis of Variance (ANOVA) was used to assess the change in fruit and vegetable intake from T1 to T2 to see if the implementation intention helped. Following, for Aim 1.1 (to examine if the PWM model fit with fruit and vegetable intake), the original reasoned pathway variables (i.e., attitudes, subjective norms, descriptive norms) were entered in the first step (with prior dietary behavior entered before), followed by the social reaction variables (i.e., prototype description, willingness) with the assessment of the change in slopes for attitudes, subjective norms, and descriptive norms in the second step to predict both fruit and vegetable intake (separate dependent variables), after including intentions in the final step. Past behavior was not highly related to intentions nor behavior at T2, so it was included in the model. For Aim 1.2., Aim 1.1. was repeated except nutrition knowledge and prototype similarity were added with the reasoned pathway variables. However, both knowledge and prototype similarity were examined in a step before the social reaction variables measured in Aim 1.1 to examine how the slope of the variables changed. Thirdly, Aim 1.3. built on the previous aims and had the covariates and stable personal descriptors entered in the first step, T1 dietary behavior, the reasoned pathway variables entered in the second step (including knowledge and prototype similarity), followed by the social reaction variables in the third step, and intentions in the fourth step. Throughout each of these and subsequent aims, the incremental R^2 was examined to assess the significance of each step in explaining fruit and vegetable intake.

Aim 2 (testing efficacy of different willingness scenarios) like Aim 1 took the full model in Aim 1.3 and interchanged the more general willingness scenario with three additional specific willingness scenarios at a time (see Measures). Each participant was exposed to each willingness scenario. To assess differences in willingness scenarios within the model and the strength of the relationship between willingness and fruit and vegetable intake, dominance analysis by Budescu (1993) was used to assess each scenario's contribution to the outcomes by examining partial R^2s. In this study, each scenario was compared in three tiers: 1) against all others individually, 2) against two other scenarios, and 3) against all other scenarios to assess the total contribution of each scenario on intake behaviors. A scenario's usefulness is its total contribution for its comparison in any one tier (Budescu, 1993). Importance is the sum usefulness across all tiers and "reflects a variable's direct effect (i.e., when considered by itself), total effect (i.e., conditional on all other predictors), and partial effect (i.e., conditional predictor subsets; Budescu, 1993)." Dominance is then attained from examination of the total usefulness and importance of each of the scenarios (Budescu, 1993).

Thirdly, to build on Aim 2, each willingness scenario was used to investigate differences between groups of individuals (i.e., healthy eating schematics versus unhealthy eating/non-schematics, sex, COVID-19 stress, and T1 intake of fruit and vegetables) in Aims 3.1-3.4. In this last aim, eating schema and sex were used as a moderator between willingness and intentions and

T2 behavior. COVID-19 stress was coded continuously and each of the 5 subscales was assessed separately with the model. Similarly, intake of fruit and vegetables each day at T1 was used as a continuous moderator. To assess subgroup differences for each of the pathways (reasoned action and social reaction) in the model, interaction variables between willingness and intentions and each of the moderators were computed and assessed with PROCESS version 3 (Hayes, 2012). The other PWM antecedents were used as covariates.

Chapter 3: Results

Recruitment

For this research, (N = 375) participants consented, and all were students from the Psychology Research Subject Pool at UTA during the Fall Semester 2020. They completed an initial online survey (T1) and completed a follow-up survey a week later (T2). During this week, they were asked to fulfill a goal via an implementation intention for accountability and to promote better health behaviors. While the online implementation and forced entry responses of the surveys allowed for thorough data with few missing data points, some participants completed the T1 and/or the T2 survey twice incidentally. In these cases, only the first completed response was assessed in data analyses and the duplicates were removed. Eight attention checks (to ensure participants were paying attention) in the surveys screened individuals who may not have fully attended to each question. There were 5 checks in the first survey and 3 in the second survey. After screening individuals for attention checks, (N = 345) had passed all T1 checks, and (N = 286) passed all T2 checks. While most attention checks had few misses, the third attention check in the T2 survey had the most misses (N = 59). After screening all duplicates from both time points (N = 261) completed both surveys and passed all attention checks and were used in subsequent analyses.

Data Screening

After assessing viable participant data, data were screened for out-of-range or uninterpretable responses (because some survey items were open-ended) and were coded as missing to be conservative. In total, the missing data ranges for quantitative variables were T1 (0 to 0.4%) and T2 (0%) after screening those who failed attentions checks. One BMI data point was deemed implausible (likely mistyped) and one nutrition knowledge value for one participant was missing, so these two cases were coded as missing. Therefore, the total sample was reduced to 259 participants. Next, data at T1 and T2 were screened for normality with skewness and kurtosis values, boxplots, and histograms. Variables that required a logarithmic transformation were time since last time eaten in hours at T2 and delay in taking the T2 survey. The variables that required a square root transformation were as follows: fruit intake T1 and T2, fruit and fruit juice intake T1 and T2, total vegetable intake T1 and T2, greens and other vegetables T1 and T2, greens T1 and T2, hunger T1 and T2, BMI, COVID-19 impact sum, COVID-19 trauma, COVID-19 socioeconomic consequences, COVID-19 checking behaviors, COVID-19 xenophobia, and COVID-19 danger and contamination, and time since last eaten T1. The variables that required a square transformation were as follows: nutrition subjective norms, all 4 nutrition willingness scenarios (at T1 and T2), negative and positive prototype descriptions, and the 3-item perceived susceptibility scale. Finally, variables that required a cubed transformation were nutrition intentions (at T1 and T2) and nutrition attitudes. The relationships among the PWM antecedents, stable personal descriptors, and outcome variables can be found in Tables 3-7.

Manipulation Check

Before conducting the primary aims, Chi-square tests of independence were conducted on sex, eating schema, religious affiliation, difficulty paying bills, and chronic conditions to assess differences between who completed all time points but failed attention checks and those who completed all time points, but did not fail attention checks. Results showed a significant difference in inclusion based on sex, $\chi^2(1, N = 330) = 4.49$, $p = .03$. From examining column proportions, more males (31.9% to 19.9%) did not pass attention checks and more females (68.1% to 80.1%) passed attention checks. After transformations, those who passed attention checks had significantly higher means on the following predictor and outcome variables: nutrition attitudes, $F(1, 328) = 14.40$, $p < .001$, ($M = 110.18$, $SD = 19.56$) to ($M = 98.99$, $SD = 28.80$), subjective norms, $F(1, 328) = 4.48$, $p = .04$, ($M = 20.17$, $SD = 4.84$) to ($M = 18.74$, $SD = 5.47$), nutrition knowledge, $F(1, 327) = 6.23$, $p = .01$, ($M = 19.25$, $SD = 13.26$) to ($M = 14.75$, $SD = 13.52$), prototype similarity, $F(1, 328) = 5.99$, $p = .02$, ($M = 3.28$, $SD = 0.78$) to ($M = 3.02$, $SD = 0.82$), nutrition willingness scenario 1, $F(1, 328) = 9.69$, $p = .002$, ($M = 15.59$, $SD = 5.37$) to ($M = 13.33$, $SD = 5.26$), nutrition willingness scenario 3, $F(1, 328) = 12.25$, $p = .001$, ($M = 18.82$, $SD = 5.72$) to ($M = 16.10$, $SD = 5.86$), and nutrition intentions, $F(1, 328) = 14.04$, $p < .001$, ($M = 88.62$, $SD = 34.02$) to ($M = 71.41$, $SD = 33.59$). A difference was also observed in T2 total fruit intake, $F(1, 333) = 5.68$, $p = .02$, but participants who did not pass attention checks had higher intake of T2 total fruit ($M = 0.91$, $SD = 0.53$) compared to those that did pass attention checks ($M = 0.78$, $SD = 0.39$).

Once we assessed baseline differences, a manipulation check to assess the efficacy of respondents' implementation intentions to increase fruit and vegetable intake over a week was assessed with Repeated Measures Analyses of Covariance (ANCOVAs). Time since last eaten at both time points and delay in taking the T2 survey (some participants did not complete the second survey exactly a week later) were also included as covariates. While there was a range on how specific implementation intentions were made per individual, there was no change in fruit or vegetable intake over time. This was regardless of total fruit (whole fruit and 100% fruit juice), whole fruit, total vegetables, greens and other (non-starchy) vegetables, and just greens (Table 8). There was also no reported influence of implementation intention based on specificity. However, there were some implementation intention specificity X time interaction effects (Table 9), such that those with no desire to change had a decrease in total vegetables and greens and other vegetables from T1 to T2 ($p < .001$), but they had higher intake at T1 compared to those with specific intentions ($p = .01$, $p = .02$). While the interaction of intention specificity and time was trending in greens intake ($p = .051$), participants who made specific intentions had a higher intake of greens at T2 than at T1 ($p = .01$; Table 9). These findings still held despite adding additional covariates of hunger at both time points, nutrition knowledge, social desirability, and difficulty paying bills. However, these interactions should be interpreted with caution as some relevant covariates had interactions with time last eaten which possibly may have been from an unmeasured variable (e.g., conscientiousness).

Aim 1

While there was no increase in fruit or vegetable intake between T1 and T2 from the manipulation check, multiple hierarchical linear regressions were conducted to assess which factors predicted greater vegetable and fruit intake at T2 with the proposed PWM antecedents and potential covariates that could be influential in intake prediction. Specifically, Aim 1.1 assessed the original PWM antecedents for the reasoned action pathway (attitudes, subjective norms, descriptive norms, and intentions) and social reaction pathway (prototype description and willingness) to examine how both pathways contributed to the model. Aim 1.2. assessed the PWM antecedents adding nutrition knowledge and prototype similarity to test if these two variables enhanced prediction estimates. Lastly, Aim 1.3 added the potentially relevant stable predictors as covariates to examine if they contributed more explained variance in the models. The outcome variables included total vegetables (greens, other vegetables, beans, and unfried potatoes), greens and other vegetables, greens, total fruit (100% fruit juice and whole fruit), and whole fruit. In each of these sub aims, we anticipated the social reaction pathway variables to predict greater intake than the reasoned action pathway variables. All analyses were checked for multiple regression assumptions (i.e., the data were found to be normally distributed, have homogeneity of variance, independent, minimal influential outliers, and no strong evidence of multicollinearity). From the initial examination of models, past behavior was included because it was a significant predictor in all models, accounted for most of the R^2 change (29-53% for vegetable intake outcomes and 11-34% for fruit intake outcomes), and served as a proxy for perceived behavioral control.

Aim 1.1

As mentioned, Aim 1.1 tested the original PWM as assessed by Gibbons and colleagues (1998). This model tested previous dietary behavior (as a proxy for perceived control), attitudes, subjective norms, descriptive norms, prototype description, willingness, and intentions to predict later vegetable and fruit intake (T2). Additionally, this model assessed the change in prediction slopes from the reasoned action pathway to the social reaction pathway as additional variables were entered.

Vegetable Intake. In the original model, both attitudes, subjective norms, descriptive norms, and intentions predicted greater vegetable intake for each dietary outcome variable. The total R^2 for the three variables respectively was 51.7% and 55.3%, and 33.3%. Only previous intake was a significant predictor for all vegetable outcomes, and the reasoned action pathway antecedents together were trending only for total vegetable intake. In this case, attitudes and descriptive norms contributed more to the model but lost significance and experienced decreased slopes once the other predictors were entered into the model. Yet, nutrition willingness significantly contributed to the model for greens and other vegetables such that greater willingness predicted higher intake. Thus, the social reaction pathway contributed significantly to one model, so this was partially supported (Table 10).

Fruit intake. Regarding fruit intake, each step in the model was significant for total fruit intake and whole fruit intake (Table 10). The total R^2 for the two variables respectively was 25.8% and 42.1%. In each case, positive prototype descriptions and intentions were the significant antecedents in the final model after all steps were entered. Here, those that had less positive prototype descriptions and greater intentions consumed more fruit at T2. Additionally, descriptive norms were significant for total fruit intake, but only trending for whole fruit intake such that greater prevalence of friends and family that ate fruit and vegetables contributed to greater fruit intake. Thus, this hypothesis was partially supported in that the social reaction pathway variables contributed more to whole fruit intake than the reasoned action pathway such that positive prototype descriptions were stronger compared to intentions. However, for total fruit intake, the reasoned action pathway variables (descriptive norms and intentions) contributed more than social reaction pathway variables (positive prototype descriptions; Table 10).

Aim 1.2

For Aim 1.2, nutrition knowledge and prototype similarity were included in the model as a separate step after the initial reasoned action pathway antecedents (attitudes, norms, and past behavior). These variables were included before the initial social reaction pathway variables and after the reasoned action pathway variables to assess how these two variables contributed to the regression model.

Vegetable intake. Overall, the total R^2 for the three vegetable variables respectively was 52.9% and 56.5%, and 35.2% (Table 11). Only nutrition prototype similarity contributed to the model in which the more alike participants saw themselves as someone who regularly consumes fruit and vegetables, the greater likelihood they consumed more vegetables later. The slope of nutrition prototype similarity even increased from when it was entered into the social reaction step to the final step for total vegetable intake. Thus, as expected, the social reaction pathway variables contributed more to the vegetable models.

Fruit intake. The total R^2 saw small increases for both outcome variables (27.0% and 42.4%, respectively; Table 11). Like vegetable intake, only nutrition prototype similarity contributed to the model. However, positive nutrition descriptions, and intentions contributed significantly to the model as similarly found in Aim 1.1. Furthermore, both descriptive norms and nutrition attitudes lost significance once intentions were entered into the model, but contributed before that. However, nutrition knowledge was negatively trending for total fruit intake such that less knowledge predicted greater total fruit intake, but nutrition knowledge did not add any significant R^2 change as a step to either fruit intake outcome contrary to what was found in the vegetable models. As in Aim 1.1, both social reaction pathway variables and reasoned action pathway variables contributed to the model partially supporting what was hypothesized. More variables from the reasoned action pathway contributed to greater total fruit intake, but social reaction pathway variables (i.e., positive prototype descriptions) contributed to greater whole fruit intake.

Aim 1.3

The last part of Aim 1 built on the previous aims by adding the proposed stable predictors. These predictors were as follows: perceived threat/susceptibility, fear of not consuming enough fruits and vegetables, social desirability, BMI, any health conditions, difficulty paying bills, religious affiliation, and the impact of the COVID-19 pandemic. They were added as a step before T1 intake of fruit and vegetables (previous behavior).

Vegetable intake. With the additional 8 predictors added on their own step before T1 intake, the total R^2 for total vegetable intake, greens and other vegetables, and greens was 53.7%, 57.5%, and 36.0%, respectively; Table 12). Furthermore, these predictors only aggregately predicted greens and other vegetable intake T2 but were no longer significant after the addition of T1 intake. In this case, fear of not consuming enough fruit and vegetables was negatively related to the intake of greens and other vegetables (such that less fear of not consuming enough was related to greater intake of vegetables), and religious affiliation showed that those with more diet restrictive religions (see measures) had more intake of greens and other vegetables. As in Aim 1.2, only prototype similarity was significant and positively contributed to the model for all vegetable outcomes, but the subsequent steps were no longer significant. There was no significant change in step prediction for the basic reasoned action pathway (attitudes, subjective norms, descriptive norms, or intentions), so the social reaction pathway contributed more by way of similarity as partially hypothesized.

Fruit intake. Like vegetable intake, the 8 additional predictors did not significantly contribute to the model (only about 3-4% above Aim 1.2.) as the total R^2 for total fruit was 30.1% and whole fruit was 46.1% (Table 12). Religious affiliation was found to be positively related in the covariate regression step, but the regression step in the analysis was not significant nor after other predictors were entered into the model for both outcomes. For whole fruit intake, social desirability drove prediction estimates, such that lower social desirability predicted greater intake or vice versa and was still found to be significant in the final step. As in previous aims, the same social reaction pathway variables contributed more than reasoned action pathway variables for whole fruit intake (from examination of slopes), but more reasoned action pathway variables contributed to and were stronger for the prediction of total fruit intake, so this hypothesis was partially supported. Overall, Aim 1 was partially supported.

Aim 2

Aim 2 examined how different willingness scenarios contributed to the predicted intake of fruit and vegetables. The four scenarios with the ending statement "how willing would you be to…" were as follows: 1) suppose you planned a meal to consume more fruits and vegetables, but something happened, 2) suppose you were at a restaurant with a few close friends and they all order something "healthy," 3) suppose you were at a potluck in which everyone had fruit and vegetables on their plate and was eating them, 4) suppose you were at a restaurant with a few close friends and they all order something "unhealthy." In this aim, the general willingness scenario was compared against more specific scenarios (see measures) to identify differences and assess which scenario(s) may be more important to target for increasing fruit and vegetable intake. First, Repeated Measures ANOVA and ANCOVAs were conducted to assess quantitative differences between each of the scenarios controlling for no variables, the PWM antecedents, and then the PWM antecedents and other stable descriptors and covariates. Then, dominance analysis (Budescu, 1993) via hierarchical regressions were used with all PWM antecedents and other stable descriptors and covariates except for intentions (because it is later in the pathway) to assess the importance of each willingness scenario. Briefly, dominance assesses combinations of predictors and their total contribution (partial R^2s) on the outcome after looking at all orders of variables (i.e., willingness scenarios) and only when that variable dominates or is the most important in all other circumstances (Budescu, 1993). As shown in tables 13-17, the order combinations or tiers were set up with no variables in the model, one other scenario in the model, two other scenarios in the model, and all scenarios in the model. Each tier represented a scenario's usefulness to that tier in comparison to other scenarios. Total importance was defined as the average usefulness of a scenario across all tiers.

Before conducting the dominance analysis, the Repeated Measures ANOVA without any other variables showed an effect of scenario, *Mult.* $F(3, 258) = 175.12$, $p < .001$, $\eta_p^2 = .67$. With the proposed PWM antecedents in the model, (i.e., T1 intake of fruit and vegetables, nutrition knowledge, subjective norms, descriptive norms, prototype similarity, and prototype positive and negative descriptions) as covariates in the ANCOVA, there was still a difference between scenarios, *Mult.* $F(3, 249) = 3.76$, $p = .011$, $\eta_p^2 = .04$. From an examination of differences found with the previous PWM antecedents in the model, Scenario 3 had a higher mean than Scenarios 1, 2, and 4 ($p < .001$; see Table 1 for *M*s and *SD*s). Scenario 1 and Scenario 2 had significantly greater means than Scenario 4 ($p < .001$). No difference was observed between Scenarios 1 and 2. Yet, once the stable descriptors were entered into the model (as in Aim 1.3), there was no difference found between scenarios, *Mult.* $F(3, 241) = 1.93$, $p = 0.13$, $\eta_p^2 = .02$.

Vegetable Intake

After conducting the Repeated Measures ANOVAs and ANCOVAs, dominance analysis found Scenario 4 was more important than all other scenarios followed by Scenario 2 regarding T2 total vegetable intake. Scenario 4 also contributed significantly more to T2 total vegetable intake than all other scenarios (Table 13). However, Scenario 2 did contribute more to T2 total vegetable intake when controlling for Scenario 3 and Scenario 4, and when Scenario 1 or Scenario 4 was controlled for. After Scenario 2, partial dominance could be argued in that Scenario 3 contributed more to total vegetable intake over Scenario 1 or Scenario 1 over Scenario 3. Scenario 3 was more useful against each scenario alone (Tier 1) and in combination with all other scenarios, but when assessed alone it contributed the least. Therefore, a final ranking could potentially be Scenario 4, Scenario 2, Scenario 3, and then Scenario 1.

Like T2 total vegetable intake, dominance analysis showed again that Scenario 4 dominated all other combinations of scenarios for greens and other vegetable intake at T2 (Table 14). Scenario 4 also contributed significantly more to T2 greens and other vegetable intake than other scenarios. Scenario 1 did contribute significantly more than Scenario 3 and with all other scenarios in the model, but not as strongly as Scenario 4. Indeed, Scenario 1 followed Scenario 4 as it dominated all other scenarios in all other combinations except Scenario 2 when assessed alone. Following this, Scenario 3 dominated Scenario 2 in all combinations except when assessed alone as well, so like total vegetable intake, only partial dominance could be concluded. However, a final ranking could be argued as follows: Scenario 4, Scenario 1, Scenario 3, and Scenario 2 or Scenario 2 then Scenario 3. Indeed, the importance difference between Scenarios 2 and 3 was very small (2%) with Scenario 3 contributing less total.

Like greens and other vegetables, dominance analysis for T2 greens intake found Scenario 4 dominated across all combinations of scenarios (Table 15). Yet, no scenario contributed significantly more to T2 greens intake over another. Following Scenario 4, Scenario 1 dominated Scenario 3 and dominated Scenario 2 in all usefulness combinations except when assessed alone. However, Scenario 2 dominated Scenario 3 in all combinations. Thus, the final partial dominance order with notation could be as follows: (Scenario 4) dominated (Scenario 1, Scenario 2, and Scenario 3), (Scenario 1) dominated (Scenario 2 and Scenario 3), and (Scenario 2 dominated Scenario 3) or Scenario 4, Scenario 1, Scenario 2, and then Scenario 3 based on usefulness contributions and total importance. Overall, there was partial support that different willingness scenarios contributed more to vegetable intake than others. Specifically, Scenario 4 contributed significantly more and notably for T2 total vegetable intake and T2 greens and other vegetable intake, and less for T2 greens intake.

Fruit Intake

For dominance analysis with total fruit intake, examination of total importance showed that again Scenario 4 dominated all other scenarios (Table 16). However, when assessed alone, it did not dominate Scenario 1 or Scenario 2. Following Scenario 4, Scenario 1 dominated Scenario 3, but only partially dominated Scenario 2 as it had lower usefulness when assessed alone. Furthermore, Scenario 2 dominated Scenario 3. It can be concluded that Scenario 1 and Scenario 4 dominate Scenario 3. Thus, a final partial dominance ranking of Scenarios for total fruit intake could be Scenario 4, Scenario 1, Scenario 2, and then Scenario 3 from total importance rankings. Indeed, Scenario 4 was also the only scenario to significantly contribute more to total fruit intake T2 with all other scenarios and combinations of scenarios included in the model.

Unlike total fruit intake T2, Scenario 2 dominated all other scenarios for whole fruit intake T2 (Table 17). However, no scenario contributed significantly more to whole fruit intake T2 over another. While Scenario 3 was next highest in importance (followed by Scenarios 4 and 1), a true ranking could not be ascertained because no other scenarios dominated amongst all tiers of usefulness. Scenario 3 was not stronger than Scenario 1 with just one other scenario in the model. Scenario 4 had the weakest relationship with no other scenarios in the model but dominated Scenarios 1 and 3 in Tiers 1 and 2. In summary, a partial ranking of scenarios for whole fruit intake could be Scenario 2 dominated Scenario 1, Scenario 3, and Scenario 4. Scenario 3 or 4 could follow second in order, and then finally Scenario 1 based on total importance and usefulness rankings. Overall, there was partial support that different scenarios influence greater fruit and vegetable intake in that there were significant contributions with Scenario 4 for total fruit intake, but no significant ΔR^2 with each scenario on whole fruit intake. In summary, Scenario 4 had stronger contributions to fruit and vegetable intake across all fruit and vegetable outcomes.

Aim 3

Aim 3 examined how different subgroups moderate the influence of fruit and vegetable intake with multiple hierarchical regression. These subgroups operationally consisted of eating schema (whether one has a healthy eating schema or unhealthy eating schema), sex (males or female), COVID-19 stress (i.e., five individual scales: COVID-19 trauma, COVID-19 socioeconomic consequences, COVID-19 checking behaviors, COVID-19 xenophobia, and COVID-19 danger and contamination), and fruit and vegetable intake from T1. Each subgroup variable was assessed as a moderator and individually with the predictors, willingness and intentions. The interaction terms representing the moderators and willingness or intentions separately were added in their own step following the inclusion of covariates and predictors. However, because intentions follow willingness in the PWM pathway, it was added after the willingness-moderator interaction variable for those respective analyses.

Vegetable Intake

Categorical Moderators. After examination of models with willingness and intentions as predictors, there was no moderating influence of sex or eating schema on vegetable intake. This occurred for all vegetable outcomes (total vegetables, greens and other vegetables, and greens at T2) and across willingness scenarios. Thus, moderation was not supported for vegetable intake, contrary to predictions.

Continuous Moderators. After controlling for stable personality descriptors (including social desirability) effects of moderators on vegetable outcomes can be found in Table 18. In contrast to the categorical moderators, COVID-19 trauma significantly moderated intentions such that at mid-to-high levels of COVID-19 trauma, intentions predicted decreases in T2 total vegetable intake (Figures 4-7). There was also a significant moderation effect of Scenario 1 willingness and checking behaviors, such that at low values of the COVID-19 checking behaviors there was a trend for less T2 total vegetable intake. However, at higher levels of COVID-19 checking behaviors, willingness predicted a greater intake of T2 total vegetables (Figure 8). Finally, total vegetable intake at T1 interacted with willingness Scenario 1 to predict intake at T2 (Figure 9). Specifically, at low total vegetable intake at T1, willingness predicted less vegetable intake at T2, and at higher levels of total vegetable intake at T1, willingness positively predicted greater intake. COVID-19 xenophobia also exhibited a positive main effect on T2 intake.

For greens and other vegetables, intentions had a trending interaction with COVID-19 trauma, such that at greater levels of COVID-19 trauma, greater intentions predicted fewer greens and other vegetable intake at T2 like total vegetable intake. Furthermore, greens and other vegetables at T1 interacted with Scenario 1 willingness to predict greater intake at T2 similar to total vegetables (Figure 10). Finally, COVID-19 checking behaviors and COVID-19 xenophobia exhibited main effects on greens and other vegetable intake behaviors.

For T2 greens intake, no significant moderation was observed with willingness or intentions. COVID-19 trauma did not exhibit as strong an effect as in the previous two vegetable outcomes and was trending to predict greater intake. Furthermore, COVID-19 checking behaviors exhibited a main effect, and COVID-19 xenophobia was trending to predict greater T2 greens intake (notably with willingness).

From an examination of different willingness Scenarios (2-4) and their interactions with moderators for vegetable intake, there was very little difference between each. Indeed, most moderators with the other scenarios had a resembling influence on vegetable consumption as Scenario 1. However, to delineate some of the differences between Scenario 1 and Scenario 2, there was no moderation or main effect with intentions or willingness for COVID-19 checking behaviors on T2 total vegetable intake. Similar to Scenario 1, but total vegetable intake at T1 was only trending to interact with willingness in Scenario 2 to predict greater intake at T2. Greens intake at T1 and other vegetable intake moderated the influence of willingness on T2 intake but only contributed to a decrease in intake (Figure 11). Lastly, with greens intake, COVID-19 xenophobia did not exhibit a main effect on T2 intake of greens and other vegetables or just greens at T2.

For those outcomes with Scenario 3, changes in influence on vegetable outcomes were almost identical to those with Scenario 2 with few differences. Total vegetable intake at T1 did interact with willingness Scenario 3 to predict less intake at T2 (Figure 12). Furthermore, COVID-19 checking behaviors and COVID-19 xenophobia exhibited a main effect on T2 greens and other vegetable intake as in Scenario 1. Like Scenario 2, T1 intake of greens and other vegetable intake moderated the influence of willingness on T2 intake, but only contributed to a decrease in intake (Figure 13). There was also no influence of COVID-19 xenophobia on greens intake compared to the trend found for Scenario 1.

Like the other scenarios, Scenario 4's influence on vegetable outcomes was similar to both Scenarios 2 and 3, except total vegetable intake at T1 did not have any moderating influence with Scenario 4. COVID-19 checking behaviors had a main effect on greens and other vegetables. Furthermore, with greens and other vegetable intake, a significant main effect was observed with COVID-19 xenophobia to predict increases in T2 intake. There was also no significant interaction of willingness with Scenario 4 for greens and other vegetable intake at T1, just a trend. Regarding greens intake T2, COVID-19 trauma was associated with increased intake when interacted with willingness, but no main effect when COVID-19 trauma interacted with intentions. COVID-19 xenophobia also had a trending positive effect on greens intake when interacted with willingness, but not intentions like Scenario 1.

Fruit Intake

Categorical Moderators. Comparable to vegetable intake, there was no influence of eating schema or sex as a moderator on the influence of willingness or intentions on T2 fruit intake. This occurred for all fruit outcomes (total fruit-100% fruit juice and whole fruit) and was not different across willingness scenarios. Thus, categorical moderation for fruit intake was not supported contrary to predictions.

Continuous Moderators. Unlike vegetable intake, there was no significant moderation for total fruit intake. COVID-19 trauma and checking behaviors exhibited main effects on total fruit intake, and COVID-19 xenophobia only exhibited trending main effects. Effects of notable moderators on fruit outcomes can be found in Table 18.

Like total fruit intake, COVID-19 trauma and checking behaviors still had a significant main effect with both willingness and intentions in that both positively predicted T2 whole fruit intake. Interestingly, COVID-19 xenophobia had a trending interaction with nutrition intentions such that at very low levels of xenophobia, there was no effect on behavior but with greater COVID-19 xenophobia, intentions predicted greater T2 whole fruit intake. Moreover, T1 whole fruit intake showed a trending interaction with both willingness and intentions. Here, as T1 whole fruit intake increased the effect of both willingness and intentions increased and predicted greater T2 whole fruit intake with intentions showing a stronger influence.

For fruit outcomes with Scenario 2, the outcomes were like Scenario 1 for total fruit intake. Regarding whole fruit intake, there was no longer any interaction with T1 whole fruit intake and Scenario 2. Scenario 3 had trending effects with COVID-19 checking behaviors for total fruit intake and the main effects of COVID-19 xenophobia were not observed for both fruit outcomes. COVID-19 checking behaviors only exhibited a trending effect for whole fruit intake at T2 when interacted with intentions like Scenario 1. Lastly, there was no interaction with whole fruit intake at T1 and willingness Scenario 3, only a trending interaction with intentions. As with vegetable and total fruit intake, Scenario 4 was similar to Scenario 3 when included in the model with respective moderators.

To summarize Aim 3 after examination of all scenarios, moderation was not observed for eating schema or sex. However, some continuous moderators (notably COVID-19 trauma, COVID-19 checking behaviors, total vegetables at T1, greens and other vegetables at T1, and whole fruit at T1) had stronger influences on T2 behavior. Therefore, Aim 3 was partially supported as moderation was observed for some subgroups but not all.

Chapter 4: Discussion

This study was designed to test what other factors may contribute to fruit and vegetable intake over time beyond those that have been developed and added to the PWM from previous research (attitudes, subjective norms, descriptive norms, nutrition knowledge, prototype perceptions, prototype similarity, willingness, and intentions; e.g., Gibbons & Gerrard, 1995; Gibbons et al., 1998; Ruhl et al., 2016; Todd et al., 2016). Of particular interest is how the COVID-19 pandemic influenced those consumption behaviors over time. To summarize the results from this research, the prototype willingness model in Aim 1.2 was the most parsimonious, Scenario 4 contributed most strongly on average to the intake of fruit and vegetables for Aim 2, and moderation was observed with some COVID-19 stress factors (notably trauma and checking behaviors) and T1 intake for Aim 3.

As part of Aim 1, we identified potential factors that have been shown to enhance the prediction of fruit and vegetable intake. We did this by first examining the originally proposed PWM variables (attitudes, subjective norms, prototype perceptions, willingness, and intentions) with fruit and vegetable intake (Gibbons et al., 1998), although intentions were considered behavioral expectations (Gibbons et al., 1998). With Aim 1.2, we added variables (nutrition knowledge and prototype similarity) researchers have identified as contributions to the model to assess change in variance explained (Deiters, 2019; Heinze, 2019; Ruhl et al., 2016; Todd et al., 2016). Nutrition knowledge may also be conceptualized as nutrition awareness or general education (Parmenter & Wardle, 1999). Prototype similarity is how close one believes they are to someone who engages in the behavior, in which both nutrition knowledge and prototype similarity may resemble an extension of nutrition attitudes and association with the desired behavior. Finally, we added additional covariates to better understand and explain what factors motivate one to consume more fruit and vegetables over what was previously identified to examine how these additions explained fruit and vegetable intake in Aim 1.3.

While the covariates explained some additional variance, nutrition knowledge and prototype similarity (Aim 1.2) added significantly more variance (about 1-2% more in terms of

R^2) and was more parsimonious than when the eight additional variables (added about 1% more in R^2) were added in Aim 1.3. All variables added into the model up until Aim 1.2 were related to the outcome as well. Overwhelmingly, T1 intake of fruit and vegetables contributed the most and was a significant predictor in every model in all aims. These findings highlight and reinforce the adage that previous behavior or habit begets future behavior, especially in a short time (Kvaavik et al., 2005; Ouellette & Wood, 1998). From an examination of the other PWM antecedents, the prominent variables of the reasoned action pathway were attitudes and descriptive norms. This corroborates with previous research in that attitudes were found to predict intentions for healthy food (whole grains and fruit and vegetables combined; Dohnke et al., 2015) and unhealthy food (Mazloomy Mahmoodabad et al., 2019; Ruhl et al., 2016). However, in this study, it was confirmed that attitudes were related to total vegetable intake, non-starchy vegetables, greens, and predicted total fruit and whole fruit individually. Descriptive norms were also shown to be more predictive of behavior than subjective norms, particularly with fruit intake over vegetable intake in the present study like what others have found with physical activity (Rivis & Sheeran, 2003). Unfortunately, much of the previous research combined subjective norms and descriptive norms (Gibbons et al., 1998) or did not assess descriptive norms (e.g., Dohnke et al., 2015). However, one study on adolescent Turkish migrants and non-migrants did find that descriptive norms were influential in eating behavior (Steinhilber & Dohnke, 2016). However, subjective norms did not strongly predict fruit and vegetable intake as past studies have found with energy drink consumption (Deiters, 2019) or general healthy food consumption (Ruhl et al., 2016). There may not have been as strong of an association of subjective norms with healthier eating because those with a healthy diet may not need to rely on others to support them in healthy eating or (being a sample of college students) may view themselves as more independent (Kvaavik et al., 2005). Furthermore, intentions were a much stronger predictor for fruit intake than vegetable intake. This may be that fruit is more palatable (being sweeter) and more portable compared to vegetables. Yet, the social reaction pathway variables had stronger effects on fruit and vegetable intake over and above the reasoned pathway variables as predicted.

Indeed, the social reaction pathway predictors contributed more to the prediction of intake via willingness in Aim 1.1 for greens and other vegetables. With the addition of nutrition knowledge and prototype similarity in Aim 1.2 and 1.3 for all vegetable outcomes, prototype similarity was more predictive than other antecedents (including willingness) in the model. Finally, with fruit outcomes, positive prototype descriptions were stronger compared to intentions for solid/whole fruit but not total fruit, and in the opposite direction than anticipated. Specifically, individuals who rated those who eat fruit and 100% fruit juice more positively consumed less fruit and 100% fruit juice. This suggests the ideal person who regularly eats fruit in the mind of a college student has more average descriptions of common traits or status qualifiers (e.g., popular, intelligent, independent, athletic, hardworking). Therefore, the prototypes are seen as not being better in other traits on average which may have important psychological implications. The finding that prototype similarity was a strong predictor in this study corroborates with conclusions from a meta-analytic review of the PWM on negative health behaviors-alcohol use, cigarette use, substance use, and risky sex (Todd et al., 2016). It follows that one is more likely to perform a target behavior when they imagine that someone who regularly engages in that behavior is similar to them (similar mindsets and motivations). Finally, even with stable descriptors entered in Aim 1.3, religious status had some predictive influence but did not contribute to the model when other variables were entered and, indeed, the model was not strongly influenced by additional stable descriptors. This finding could have been from the nature of the sample-younger with less chronic conditions, more likely to have income from parents, and still exhibiting an optimistic bias (feeling of invulnerability) in terms of health-so they lack strong compulsions to be healthier. The one exception was that more socially desirable behaviors were associated with less whole fruit intake. However, typically this association is positive (Hebert et al., 1997; Pollard et al., 2002), so this result may have been an artifact of the data as social desirability had no relationship with the other outcomes. However, no other PWM research with dietary behaviors has controlled for social desirability to our knowledge, so this research does add to the existing literature that social desirability did not strongly influence dietary behaviors except for whole fruit intake. While it is not as clear if social desirability for dietary behaviors changed with the pandemic occurring, social desirability to comply with pandemic regulations was not observed (Larsen et al., 2020), so there is some suggestion that this construct stayed consistent. Additionally, social desirability describes many behaviors that encompass integrity (i.e., I am always willing to admit when I make a mistake, I sometimes try to get even rather than forgive and forget), which may also lend support to its construct stability. However, with larger effects in the social reaction pathway, a desire to engage in healthier behaviors may be more context-dependent and not a pervasive concern for this population.

In Aim 2, we assessed the influence of different willingness scenarios (and how they differed) on fruit and vegetable intake. Dominance analysis showed that Scenario 4 was more important than all other scenarios in most outcomes except whole fruit intake, so the hypothesis that there would be differences amongst scenarios in terms of their predictive value on the outcome was partially supported. It was expected that scenarios in which behaviors were reinforced by others (i.e., Scenario 2) would have more predictive value. While Scenario 2 was on average more important than Scenario 3, Scenario 4 contributed the most to fruit and vegetable intake on average and showed more significant differences in predictive value compared to the other scenarios. No significant difference was observed between Scenarios 1 and 2. However, Scenario 2 was more important than Scenario 1 for total vegetable intake and whole fruit intake, but Scenario 1 was more important than Scenario 2 for the other outcomes. Furthermore, Scenario 1 showed partial dominance over Scenario 3 in that it was more important for all outcomes except whole fruit intake. Interestingly, as the outcomes focused on more specific intake behaviors, there was less of a discrepancy between each of the scenarios in terms of importance, most notably for greens intake and whole fruit intake.

As an explanation for these findings, Scenario 1 was kept general, so the construct of willingness with Scenario 1 may not have been as adequately assessed and more of an extension of intentions. Scenario 4 was also reverse coded and was the opposite of Scenario 2. Scenario 4 asked specifically if participants would behave in a way counter to social norms, which would take more effort to resist and require self-regulation (De Witt Huberts et al., 2014). Therefore, individuals who had higher reported willingness for Scenario 4 would be more likely to engage in healthier behaviors. This is particularly true when with friends (Hetherington et al., 2006) as Scenarios 2 and 4 posed. In contrast, Scenario 2 put participants in the context of a restaurant setting to see how they would respond around other healthy eating individuals. The presence of others engaging in eating healthier incentivizes an individual tendency to want to be like others to avoid rejection (Herman, 2015; Klesges, 1984; Loewenstein, et al., 2007; Zajonc, 1965). This incentive also applies to social norm messages about eating healthier not only in laboratory settings but at restaurants, schools, and different populations (Higgs et al., 2019). While there is the expectation for greater motivation to eat healthier with Scenario 2 as shown with some of the zero-order correlations, it may not adequately assess self-discipline and the willingness to overcome certain norms as Scenario 4 posed. As described, an individual may not plan to engage in the behavior but may do so when convenient or may plan to do a behavior but lack the readiness to do so in a specific situation (Deiters, 2019; Todd et al., 2016). In that matter, Scenario 3 put participants in the context of a party or potluck which may be rarer (particularly with COVID-19), so behavior assessing actions may have been harder to conceptualize for participants. Parties or potlucks are also more celebratory or fun occasions often paired with rich energy-dense food. Thus, it is understandable the influence of Scenario 3 would be lower for fruit and vegetable consumption.

After assessing scenario contribution on fruit and vegetable intakes, Aim 3 assessed moderators of the PWM (i.e., eating schema, sex, COVID-19 stress, and T1 intake). Here, only moderation with continuous variables was observed, so this hypothesis was partially supported. There was no influence of eating schema or sex regardless of outcome or scenario used. Although Ruhl and colleagues (2016) found differences in dieters and non-dieters in antecedents and consumption preferences, no difference was observed between those with healthier eating schemas and unhealthy eating schemas in this study. These categorical differences may not have been observed because the sample was largely female (80%), and there were few individuals with healthy eating schemas (Table 1). However, some continuous moderation effects with COVID-19 stress (i.e., checking, and trauma behaviors), and T1 intake of total vegetables and greens and other vegetables were significant. Despite more stable descriptors having less of an influence on consumption habits, the pandemic stress did impact fruit and vegetable intake. This was evidenced by the number of main effects observed with COVID-19 trauma, checking behaviors, and xenophobia. The trauma subscale assessed awareness and intrusive to ruminative thoughts about the virus (Taylor et al., 2020), so this scale may have indirectly assessed obsessive thoughts. Trauma was negatively related to total vegetable intake and greens and other vegetable intake, yet was positively related to greens, total fruit, and whole fruit intake. Previous research has found a correlation between trauma exposure and eating disorders in college students (Meyer & Stanik, 2017), which is concerning. Individuals more prone to stress are also more likely to develop disordered eating patterns (Brewerton, 2019). Additionally, the COVID-19 checking behavior subscale and to some degree the xenophobia subscale were more personal health-oriented and consequently could have indirectly assessed compulsions toward personal health (e.g., checked body for signs and worried about encountering foreign food or an individual; Taylor et al., 2020). Individuals who check on their health often may exhibit greater conscientiousness of their health. However, there has been some research on orthorexia (a pathologic obsession with organic foods; Brytek-Matera, 2012) that could be underlying this association. Indeed, individuals with this condition may be more attentive to food which may explain why consumption of healthier foods was related to trauma and checking behaviors. With past behavior as a moderator for future behavior as proposed by Connor and Armitage (1998), there was some influence that past behavior moderated the relationship between willingness and total vegetable intake and greens and other vegetable intake. Indeed, this is no surprise given the predictive power of past behavior (Ouellette & Wood, 1998). The frequency of past behavior has been associated with habit strength and future behavior (Triandis, 1977), and habit is difficult to change because it becomes automatic (Ouellette & Wood, 1998). Established behavior patterns also provide evidence about the control of and anticipation of future behavior patterns (Ouellette & Wood, 1998). Interestingly, there were no significant past behavior interactions with willingness or intentions on fruit intake which may be from the likeability and portability of fruits as discussed previously. Interactions between T1 intake and willingness were also more frequent in the data than interactions between T1 intake and intentions. From the situational nature of willingness which assesses a greater self-regulatory component, it follows that T1 intake would have stronger influences on willingness.

Strengths & Limitations

To add further support to these findings, this study did have many strengths. First, we assessed all PWM antecedents, additional covariates, and how fruit and vegetable intake was influenced by the COVID-19 pandemic. While more objective data are always desirable instead of through self-report surveys as used here, limited researcher-participant interactions were mandated with the current pandemic occurring at the study location. Therefore, the research necessitated online survey forms. The first survey was also long with attention checks and some reverse-coded items, so it would have been easy for participants to miss items unintentionally. This was most evident in the second survey form as close to 60 missed one of the attention check items despite it being shorter in length compared to the longer first survey. However, participants that did not pass all attention checks were screened. so the data were more complete (less missing data) and less biased from survey boredom or passivity. Also, the follow-up time was kept short to reduce attrition. While this did help keep participants enrolled, it limited the amount of time for them to change. However, less research has been conducted with all PWM antecedents with a longitudinal design, so this study adds to the literature more explanatory value of the PWM over time particularly for fruit and vegetable intake and specific types of vegetables. Finally, all measures were tested to assess if one regularly consumes fruit and vegetables to assess more accurately someone who consumes fruit and vegetables often. Although, what was defined as regular consumption was not explicitly stated in the survey and may have influenced participants' perceptions of what is required or recommended to consume. Indeed, very few individuals in the sample correctly estimated the number of fruit and vegetables to consume each day according to USDA guidelines (i.e., 5-9 servings; only %15 reported knowing the correct amount or desired range of fruit and vegetables to consume each day), yet the impetus to increase fruit and vegetables was made clear to participants. The homogeneity in sample makeup may even have contributed to similar perceptions of fruit and vegetable intake, so this may not have been a large concern. Despite these limitations, the study findings and strengths offer practical implications for future research.

Conclusions & Future Directions

This research showed the Prototype Willingness Model was not heavily influenced by more stable or trait-like descriptors as one may assume. Implementation intentions may not have large effects on change and depend more on willingness to engage in such behavior and when participants last ate or impulsivity. More descriptive intentions were more common amongst individuals with more regular intake of fruit and vegetables as well. These findings are no less indicative of a college-aged population with strong peer influences, lack of chronic health conditions, and a more optimistic bias. Indeed, eating schema, sex, fear of not eating healthy enough, weight, religious status, chronic conditions, social desirability, and difficulty paying bills did not contribute strongly to greater fruit and vegetable intake. Even subjective norms did not strongly influence intake when assessed with descriptive norms, suggesting that examination of just descriptive norms may make for more parsimonious models. Furthermore, willingness to eat fruit and vegetables when others typically do not may lead to greater intake of fruit and vegetables over time and better regulation of health behaviors. Adding to that, the COVID-19 pandemic positively influenced healthy eating but at the expense of potentially contributing to obsessive-compulsive tendencies and increased trauma. Although, health conscientiousness could have contributed to this association.

For some important recommendations for theory and future research, this study did show that associating oneself (through social interactions or behaviors) with healthier individuals helps contribute to better health outcomes, especially if one sees themselves as more similar or relatable. By further associating oneself with healthier behaviors, one is more likely to follow healthier guidelines so healthy eating feels less laborious and more like a lifestyle. Indeed, to change behavior, practitioners need to focus on those factors (as measured here) that influence behavior (Ouellette & Wood, 1998). Furthermore, to focus on improving health behaviors in scenarios in which individuals must act against unhealthy influences is important to learn and acquire better health behaviors and could be incorporated into interventions focused on eating healthier. There is a particular need for more randomized controlled trials in which more objective food consumption is measured (Higgs et al., 2019). Rather than having messages or vignettes of scenarios, more research in which participants must choose healthier options or the type of or amount of food consumed by others is manipulated in the presence of others could be beneficial as well. Practically, starting these associations earlier in life could help foster later behavioral discipline and liking. Additionally, it has been shown that using descriptive social norm messages for healthy foods (how much individuals liked certain foods-popularity or likeability rating) could be beneficial to increase healthy food intake when individuals are primed with such messages at eateries (Higgs, 2015) or when they may be tempted to order something less healthy. Additionally, providing concrete recommendations of fruit and vegetable servings at restaurants or eating areas would increase individual nutrition education to benefit health. Therefore, more public health policy could use these messages to prime and influence individuals to choose healthier foods by creating a sense of belonging with norms and acceptable social behaviors to follow (Higgs, 2015). Further, testing more stable traits in other sub-populations (e.g., older adults, lower-income) may prove to be useful in identifying other relationships that could have a strong influence on healthy eating. As always, studies focused on long-term change or that implement adherence to a special diet or regime with regular stress checks could be beneficial for practitioners, so individuals progress positively without negative effects to mental health. These future research suggestions in consideration of established PWM antecedents would help individuals be more open to adopting healthier behaviors and better elucidate the importance of known PWM factors for health targeting.

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Table 1

Demographic Characteristics

Categorical Variables	***Valid Percent***	***Frequency***
Sex		
Female	80.08	209
Male	19.92	52
Employment		
No	68.97	180
Yes, part-time	26.05	68
Yes, full-time	4.98	13
Education		
Some High School	3.07	8
GED/High School Diploma	60.54	158
Some College	24.14	63
Technical/Trade School	0.38	1
Associate's Degree	9.58	25
Bachelor's Degree	1.92	5
Some Graduate Work	0.38	1
Difficulty Paying Bills		
Very Difficult	4.21	11
Somewhat Difficult	29.89	78
Not Very Difficult	43.69	114
Not at all Difficult	22.22	58
Ethnicity		
White	29.89	78
Asian	22.22	58
Native Hawaiian or Pacific Islander	22.22	58
Black	11.11	29
Other/Mix	10.73	28
Hispanic, Latino, Spanish Origin	3.45	9
American Indian/Alaska Native	0.38	1
Religious Status		
Christian (e.g., Catholic, Protestant, Baptist)	61.69	161
Not Religious	21.07	55
Muslim	6.90	18
Buddhist	5.36	14
Hindu	3.45	9
Other	1.15	3
Jewish	0.38	1
Chronic Condition/Disease		
None	76.25	199
Yes	23.75	62
Food Restriction/Currently Dieting		
No	81.23	212
Yes	18.77	49

Categorical Variables	***Valid Percent***	***Frequency***
Eating Schema		
Healthy Eating Schema	16.09	42
Unhealthy Eating Schema	83.91	219
Implementation Intention Specificity		
No Desire to Change	17.24	45
Basic Response to Change	18.01	47
Specific Response to Change	64.75	169

Table 2

Sample Description of Continuous Variables

Continuous Variables	*N*	*M*	*SD*
Age (years)	260	19.20	2.99
Average family income[a]	261	65,000-74,999	5,000-9,999
T1 intake of total vegetables[bc]	261	1.11	0.83
T2 intake of total vegetables[bc]	261	1.06	0.74
T1 intake of greens and other vegetables[bd]	261	0.80	0.74
T2 intake of greens and other vegetables[bd]	261	0.74	0.67
T1 intake of greens[be]	261	0.31	0.39
T2 intake of greens[be]	261	0.33	0.36
T1 intake of total fruit[bf]	261	1.03	1.03
T2 intake of total fruit[bf]	261	0.76	0.76
T1 intake of whole fruit[b]	261	0.55	0.64
T2 intake of whole fruit[b]	261	0.55	0.59
BMI	260	24.96	5.89
Nutrition Attitudes	261	4.77	0.34
Nutrition Intentions	261	4.36	0.67
Nutrition Subjective Norms	261	4.45	0.58
Nutrition Descriptive Norms	261	4.73	1.19
Nutrition Knowledge	260	19.25	13.26
Nutrition Willingness Scenario 1	261	3.89	0.70
Nutrition Willingness Scenario 2	261	3.98	0.83
Nutrition Willingness Scenario 3	261	4.19	0.71
Nutrition Willingness Scenario 4	261	2.92	0.74
Nutrition Positive Prototype Descriptions	261	3.87	0.68
Nutrition Negative Prototype Descriptions	261	3.64	0.64
Nutrition Prototype Similarity	261	3.28	0.78
Perceived Susceptibility (3-item)	261	4.97	1.23
Fear of Not Consuming Enough Fruits & Vegetables	261	7.92	3.15
Social Desirability	261	6.94	2.84
COVID-19 Contact & Danger Sum	261	11.56	6.45
COVID-19 Socioeconomic Status Sum	261	6.56	6.10
COVID-19 Xenophobia Sum	261	2.47	3.92
COVID-19 Trauma Sum	261	3.14	4.18
COVID-19 Checking Sum	261	6.53	4.96
COVID-19 Impact Sum	261	9.98	4.63
Hunger T1	261	2.01	1.08
Hunger T2	261	2.07	1.11
Time since last ate T1[g]	261	7.19	5.82
Time since last ate T2[g]	261	5.34	5.67
Delay in taking T2 Survey[h]	261	0.66	1.47

Note. The use of the word nutrition in the table refers to thoughts about regular consumption of fruits and vegetables. [a]Expressed as a range in dollars. [b]Expressed in average daily intake and raw values. [c]Included greens, unfried potatoes, other vegetables, and beans. [d]Included no beans or potatoes. [e]Included lettuce, salad, or other greens. [f]Included whole fruit and 100% fruit juice. [g]Duration expressed in hours. [h]Expressed in days following.

Table 3

Correlation Matrix of PWM Antecedents

	Total Vegetables T1	Greens and Other Vegetables T1	Greens T1	Total Fruit T1	Whole Fruit T1	Intentions	Subjective Norms	Descriptive Norms	Attitudes	Willingness Scenario 1	Willingness Scenario 2	Willingness Scenario 3	Willingness Scenario 4	Positive Prototype Descriptions	Negative Prototype Descriptions	Prototype Similarity	Nutrition Knowledge
Total Vegetables T1	-																
Greens and Other Vegetables T1	.916**	-															
Greens T1	.689**	.753**	-														
Total Fruit T1	.292**	.314**	.205**	-													
Whole Fruit T1	.349**	.362**	.301**	.713**	-												
Nutrition Intentions	.350**	.412**	.311**	.309**	.456**	-											
Subjective Norms	.101	.100	.029	.076	.186**	.292**	-										
Descriptive Norms	.280**	.329**	.247**	.221**	.352**	.379**	.262**	-									
Attitudes	.136*	.151*	.143*	.133*	.227**	.367**	.177**	.258**	-								

	Total Vegetables T1	Greens and Other Vegetables T1	Greens T1	Total Fruit T1	Whole Fruit T1	Intentions	Subjective Norms	Descriptive Norms	Attitudes	Willingness Scenario 1	Willingness Scenario 2	Willingness Scenario 3	Willingness Scenario 4	Positive Prototype Descriptions	Negative Prototype Descriptions	Prototype Similarity	Nutrition Knowledge
Willingness Scenario 1	.206**	.169**	.149*	.067	.211**	.336**	.322**	.166**	.303**	-							
Willingness Scenario 2	.279**	.299**	.240**	.126*	.271**	.413**	.352**	.261**	.312**	.520**	-						
Willingness Scenario 3	.219**	.222**	.129*	.111	.241**	.444**	.408**	.261**	.377**	.535**	.680**	-					
Willingness Scenario 4	.210**	.262**	.219**	.170**	.245**	.251**	-.041	.042	.080	.146*	.259**	.137*	-				
Positive Prototype Descriptions	.048	.025	.063	.130*	.105	.200**	.214**	.128*	.219**	.156*	.204**	.195**	.001	-			
Negative Prototype Descriptions	.072	.068	.025	.053	.049	.134*	.126*	.046	.050	.147*	.149*	.132*	.037	.161**	-		
Prototype Similarity	.335**	.340**	.258**	.152*	.242**	.343**	.246**	.350**	.231**	.341**	.332**	.324**	.212**	.150*	.029	-	
Nutrition Knowledge	.125*	.166**	.060	.112	.189**	.216**	.313**	.041	.152*	.197**	.238**	.220**	.052	-.013	.037	.089	-

Note. N = 261, except Nutrition Knowledge and BMI had (N = 260). The names of variables were shortened to allow for adequate space, but these are the same nutrition variables as listed in Table 1.$^{**}p < .01$. $^{*}p < .05$.

Table 4

Correlation Matrix of PWM Antecedents with Stable Personal Descriptors

	Total Vegetables T1	Greens and Other Vegetables T1	Greens T1	Total Fruit T1	Whole Fruit T1	Intentions	Subjective Norms	Descriptive Norms	Attitudes	Willingness Scenario 1	Willingness Scenario 2	Willingness Scenario 3	Willingness Scenario 4	Positive Prototype Descriptions	Negative Prototype Descriptions	Prototype Similarity	Nutrition Knowledge
BMI	.056	.006	-.072	-.094	-.089	-.004	.006	-.074	-.017	-.041	.026	-.050	.010	<.001	.101	-.176**	.037[a]
Difficulty Paying Bills	.022	.056	.104	.093	.072	.051	.084	.119	.011	.048	.051	.026	.137*	.026	.036	.164**	.027
Religious Status	.129*	.164**	.095	.094	.141*	.175**	.024	.249**	-.033	-.122	-.040	.050	.018	-.062	-.136*	.057	-.085
Perceived Susceptibility	-.016	-.035	-.076	.012	.039	.055	.228**	-.015	.110	.123*	.097	.142*	-.029	.194**	.102	.035	.161**
Social Desirability	.078	.055	.022	.094	.096	.043	-.067	.071	-.009	.033	.097	<.001	.176**	.068	.057	.093	-.110
Chronic Conditions	-.008	.025	<.001	.072	-.036	.033	-.096	-.069	.022	-.036	-.032	-.053	.065	-.016	-.054	-.122*	-.052

	Total Vegetables T1	Greens and Other Vegetables T1	Greens T1	Total Fruit T1	Whole Fruit T1	Intentions	Subjective Norms	Descriptive Norms	Attitudes	Willingness Scenario 1	Willingness Scenario 2	Willingness Scenario 3	Willingness Scenario 4	Positive Prototype Descriptions	Negative Prototype Descriptions	Prototype Similarity	Nutrition Knowledge
COVID-19 Impact	-.085	-.095	-.096	.020	-.130*	-.011	-.120	-.002	-.013	-.075	-.103	.063	-.085	.050	.111	-.066	-.051
Fear of Not Consuming Enough Fruit & Vegetables	-.128*	-.125*	-.074	-.042	-.026	-.024	.092	-.076	.054	-.026	.017	-.014	.006	.108	.030	-.099	.038

Note. N = 261, except Nutrition Knowledge and BMI had (N = 260). The names of variables were shortened to allow for adequate space, but these are the same nutrition variables as listed in Table 1.$^{**}p < .01$. $^{*}p < .05$.

[a] N = 259

Table 5

Correlation Matrix of Stable Personal Descriptors

	BMI	Difficulty Paying Bills	Religious Status	Perceived Susceptibility	Social Desirability	Chronic Conditions	COVID-19 Impact	Fear of Not Consuming Enough Fruit & Vegetables
BMI	-							
Difficulty Paying Bills	-.085	-						
Religious Status	$.163^{**}$	-.037	-					
Perceived Susceptibility	.062	$-.159^{*}$	-.092	-				
Social Desirability	.034	$.153^{*}$	.072	$-.147^{*}$	-			
Chronic Conditions	.027	.047	-.028	-.067	$-.161^{**}$	-		
COVID-19 Impact	.071	$-.223^{**}$	.048	$.155^{*}$	-.070	.081	-	
Fear of Not Consuming Enough Fruit & Vegetables	.018	-.069	.027	$.426^{**}$	-.039	.028	$.213^{**}$	-

Note. N = 261, except BMI had (N = 260). $p < .01$. $^{*}p < .05$.

Table 6

Correlation Matrix of PWM Antecedents with Outcome Variables

	Total Vegetables T1	Greens and Other Vegetables T1	Greens T1	Total Fruit T1	Whole Fruit T1	Intentions	Subjective Norms	Descriptive Norms	Attitudes	Willingness Scenario 1	Willingness Scenario 2	Willingness Scenario 3	Willingness Scenario 4	Positive Prototype Descriptions	Negative Prototype Descriptions	Prototype Similarity	Nutrition Knowledge
Total Vegetables T2	.707**	.670**	.467**	.217**	.313**	.304**	.131*	.280**	.182**	.205**	.180**	.155**	.242**	.013	.077	.365**	.134*
Greens and Other Vegetables T2	.675**	.730**	.527**	.232**	.322**	.351**	.142*	.317**	.174**	.234**	.248**	.190**	.301**	.004	.071	.364**	.179**
Greens T2	.513**	.560**	.548**	.166**	.270**	.298**	.094	.248**	.133*	.201**	.218**	.165**	.234**	.039	.059	.336**	.105*
Total Fruit T2	.254**	.258**	.197**	.341**	.490**	.388**	.143*	.286**	.223**	.215**	.227**	.205**	.206**	-.042	.036	.239**	.027
Whole Fruit T2	.295**	.332**	.260**	.401**	.583**	.445**	.180**	.332**	.252**	.221**	.271**	.229**	.190**	-.047	.072	.268**	.104

Note. N = 261, except Nutrition Knowledge and BMI had (N = 260). The names of variables were shortened to allow for adequate space, but these are the same nutrition variables as listed in Table 1. $^{**}p < .01$. $^{*}p < .05$.

Table 7

Correlation Matrix of Personal Stable Predictors with Outcome Variables

	BMI	Difficulty Paying Bills	Religious Status	Perceived Susceptibility	Social Desirability	Chronic Conditions	COVID-19 impact Sum	Fear of Not Consuming Enough Fruit & Vegetables
Total Vegetables T2	-.032	.044	.142*	.046	.011	-.051	-.068	-.090
Greens and Other Vegetables T2	-.029	.028	.171*	.103	-.004	-.026	-.091	-.122*
Greens T2	-.049	.079	.143*	-.050	-.041	-.012	-.040	-.040
Total Fruit T2	-.071	-.038	.134*	-.008	-.004	-.061	-.001	.042
Whole Fruit T2	-.118	-.035	.159*	.002	-.085	-.014	-.017	.009

Note. N = 261, except BMI had (N = 260). ** p < .01. * p < .05.

Table 8

Implementation Intention Manipulation Check on Food Intake Over Time

Variable	**T1**		**T2**					
	M	***SE***	***M***	***SE***	df_1	df_2	**Multi.** F	η_p^2
Total vegetable intake T1-T2	1.02	0.03	0.96	0.03	1	255	1.06	0.004
Greens and other vegetables T1-T2[a]	0.83	0.03	0.77	0.03	1	255	0.30	0.001
Greens T1-T2	0.46	0.03	0.46	0.02	1	255	0.28	0.001
Total fruit intake T1-T2	0.91	0.03	0.77	0.03	1	255	0.36	0.001
Whole fruit intake T1-T2	0.65	0.03	0.64	0.03	1	255	1.32	0.01

Note. Fruit and vegetable intake were square rooted to be more normally distributed.

[a]Included all vegetables except potatoes and beans

Table 9

Interaction of Implementation Intention and Fruit and Vegetable Intake Over Time

Variable	**No Desire to Change**				**Basic Answer**				**Specific Answer**							
	M* *T1	***SE* *T1***	***M* *T2***	***SE* *T2***	***M* *T1***	***SE* *T1***	***M* *T2***	***SE* *T2***	***M* *T1***	***SE* *T1***	***M* *T2***	***SE* *T2***	df_1	df_2	**Multi. *F***	η_p^2
Total Vegetable intake T1-T2	1.14	0.06	0.98	0.05	0.97	0.06	0.95	0.05	0.94	0.03	0.96	0.03	2	255	**6.73	0.05
Total greens and other vegetables T1-T2[a]	0.95	0.06	0.80	0.06	0.79	0.06	0.73	0.05	0.77	0.03	0.78	0.03	2	255	*6.42	0.05
Total greens T1-T2	0.52	0.05	0.47	0.05	0.45	0.05	0.42	0.05	0.43	0.03	0.49	0.03	2	255	$^{+}$3.01	0.02
Total fruit intake T1-T2	1.00	0.07	0.77	0.06	0.83	0.07	0.75	0.06	0.91	0.03	0.79	0.03	2	255	1.29	0.01
Whole fruit intake T1-T2	0.72	0.06	0.67	0.05	0.60	0.06	0.59	0.05	0.62	0.03	0.65	0.03	2	255	1.16	0.01

Note. Fruit and vegetable intake was square rooted to be more normally distributed. ** $p < .01$. * $p < .05$. $^{+}p < .10$.

[a]Included all vegetables except potatoes and beans

Table 10

Aim 1.1 Regression Analyses

Outcome Variable		***b***	***SE***	***Beta***	***F***	***p***	***partial coefficient***	***sr***
T2 Total Vegetable Intake								
Step 1	**$\Delta F(1, 259) = 259.21$, $p < .001$, $\Delta R^2 = .50$**							
	T1 Total Vegetable Intake***	0.663	0.041	0.707	259.21	<.001	.707	.707
Step 2	**$\Delta F(3, 256) = 2.29$, $p = .08$, $\Delta R^2 = .01$**							
	T1 Total Vegetable Intake***	0.634	0.043	0.677	220.844	<.001	.681	.648
	Nutrition Attitudes	0.001	0.001	0.068	2.205	.139	.092	.065
	Descriptive Norms	0.020	0.014	0.064	1.818	.179	.084	.059
	Subjective Norms	0.002	0.003	0.033	0.535	.465	.046	.032
Step 3	**$\Delta F(3, 253) = 0.71$, $p = .55$, $\Delta R^2 = .004$**							
	T1 Total Vegetable Intake***	0.628	0.043	0.671	210.522	<.001	.674	.634
	Nutrition Attitudes	0.001	0.001	0.071	2.200	.139	.093	.065
	Descriptive Norms	0.020	0.015	0.067	1.960	.163	.088	.061
	Subjective Norms	0.002	0.004	0.033	0.468	.495	.043	.030
	Nutrition Willingness Scenario 1 T1	0.002	0.003	0.029	0.364	.547	.038	.026
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.059	1.641	.201	-.080	-.056
	Nutrition Negative Prototype Description Traits	0.002	0.003	0.023	0.271	.603	.033	.023
Step 4	**$\Delta F(1, 252) = 0.04$, $p = .84$, $\Delta R^2 < .001$**							
	T1 Total Vegetable Intake***	0.626	0.045	0.668	195.799	<.001	.661	.612
	Nutrition Attitudes	0.001	0.001	0.068	1.952	.164	.088	.061
	Descriptive Norms	0.020	0.015	0.065	1.742	.188	.083	.058
	Subjective Norms	0.002	0.004	0.032	0.425	.515	.041	.029
	Nutrition Willingness Scenario 1 T1	0.002	0.003	0.028	0.319	.573	.036	.025
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.060	1.663	.198	-.081	-.056
	Nutrition Negative Prototype Description Traits	0.002	0.003	0.023	0.256	.614	.032	.022
	Nutrition Intentions T1	<0.001	0.001	0.011	0.040	.841	.013	.009

Outcome Variable		*b*	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
T2 Greens and Other Vegetable Intake								
Step 1	**$\Delta F(1, 259) = 294.68, p < .001, \Delta R^2 = .53$**							
	T1 Greens and Other Vegetable Intake***	0.687	0.040	0.730	294.683	<.001	.730	.730
Step 2	**$\Delta F(3, 256) = 2.06, p = .11, \Delta R^2 = .01$**							
	T1 Greens and Other Vegetable Intake***	0.656	0.042	0.697	241.495	<.001	.697	.656
	Nutrition Attitudes	0.001	0.001	0.044	0.982	.323	.062	.042
	Descriptive Norms	0.020	0.015	0.065	1.888	.171	.086	.058
	Subjective Norms	0.004	0.003	0.047	1.137	.287	.067	.045
Step 3	**$\Delta F(3, 253) = 1.81, p = .15, \Delta R^2 = .01$**							
	T1 Greens and Other Vegetable Intake***	0.644	0.042	0.684	231.397	<.001	.691	.640
	Nutrition Attitudes	0.001	0.001	0.030	0.432	0.512	.041	.028
	Descriptive Norms	0.021	0.015	0.067	2.066	0.152	.090	.060
	Subjective Norms	0.002	0.004	0.029	0.397	0.529	.040	.026
	Nutrition Willingness Scenario 1 T1*	0.007	0.003	0.095	4.141	0.043	.127	.086
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.052	1.371	0.243	-.073	-.049
	Nutrition Negative Prototype Description Traits	0.001	0.003	0.011	0.062	0.804	.016	.010
Step 4	**$\Delta F(1, 252) = 0.002, p = .97, \Delta R^2 < .001$**							
	T1 Greens and Other Vegetable Intake***	0.644	0.045	0.684	207.203	<.001	.672	.606
	Nutrition Attitudes	0.001	0.001	0.030	0.397	.529	.040	.027
	Descriptive Norms	0.021	0.015	0.067	1.966	.162	.088	.059
	Subjective Norms	0.002	0.004	0.029	0.382	.537	.039	.026
	Nutrition Willingness Scenario 1 T1*	0.007	0.003	0.095	3.993	.047	.125	.084
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.052	1.364	.244	-.073	-.049
	Nutrition Negative Prototype Description Traits	0.001	0.003	0.011	0.060	.807	.015	.010
	Nutrition Intentions T1	<0.001	0.001	0.002	0.002	.967	.003	.002

Outcome Variable		*b*	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
T2 Greens Intake								
Step 1	**Δ*F*(1, 259) = 111.28, *p* < .001, Δ*R*^{2} = .30**							
	T1 Greens Intake***	0.525	0.050	0.548	111.28	<.001	.548	.548
Step 2	**Δ*F*(3, 256) = 2.07, *p* = .11, Δ*R*^{2} = .02**							
	T1 Greens Intake***	0.496	0.051	0.518	93.654	<.001	.518	.500
	Nutrition Attitudes	<0.001	0.001	0.024	0.203	.653	.028	.023
	Descriptive Norms+	0.028	0.015	0.102	3.251	.073	.112	.093
	Subjective Norms	0.003	0.004	0.048	0.782	.377	.055	.046
Step 3	**Δ*F*(3, 253) = 1.27, *p* = .28, Δ*R*^{2} = .01**							
	T1 Greens Intake***	0.486	0.051	0.508	89.132	<.001	.510	.487
	Nutrition Attitudes	<0.001	0.001	0.006	0.010	.922	.006	.005
	Descriptive Norms+	0.028	0.015	0.102	3.274	.072	.113	.093
	Subjective Norms	0.001	0.004	0.022	0.153	.696	.025	.020
	Nutrition Willingness Scenario 1 T1+	0.006	0.003	0.100	3.068	.081	.109	.090
	Nutrition Positive Prototype Description Traits	-0.002	0.003	-0.032	0.357	.551	-.038	-.031
	Nutrition Negative Prototype Description Traits	0.002	0.004	0.029	0.306	.581	.035	.029
Step 4	**Δ*F*(1, 252) = 2.13, *p* = .15, Δ*R*^{2} = .006**							
	T1 Greens Intake***	0.469	0.053	0.490	78.974	<.001	.488	.457
	Nutrition Attitudes	<0.001	0.001	-0.013	0.050	.824	-.014	-.011
	Descriptive Norms	0.022	0.016	0.083	2.056	.153	.090	.074
	Subjective Norms	0.001	0.004	0.011	0.035	.852	.012	.010
	Nutrition Willingness Scenario 1 T1	0.005	0.004	0.086	2.226	.137	.094	.077
	Nutrition Positive Prototype Description Traits	-0.002	0.003	-0.037	0.476	.491	-.043	-.035
	Nutrition Negative Prototype Description Traits	0.002	0.004	0.024	0.199	.656	.028	.023
	Nutrition Intentions T1	0.001	0.001	0.091	2.131	.146	.092	.075

Outcome Variable		*b*	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
T2 Total Fruit Intake								
Step 1	**Δ*F*(1, 259) = 34.10, *p* < .001, Δ*R*² = .12**							
	T1 Total Fruit Intake***	0.297	0.051	0.341	34.095	<.001	.341	.341
Step 2	**Δ*F*(3, 256) = 6.96, *p* < .001, Δ*R*² = .07**							
	T1 Total Fruit Intake***	0.244	0.051	0.281	23.332	<.001	.289	.273
	Nutrition Attitudes*	0.003	0.001	0.131	4.914	.028	.137	.125
	Descriptive Norms**	0.057	0.020	0.177	8.344	.004	.178	.163
	Subjective Norms	0.004	0.005	0.052	0.793	.374	.056	.050
Step 3	**Δ*F*(3, 253) = 4.12, *p* = .01, Δ*R*² = .04**							
	T1 Total Fruit Intake***	0.256	0.050	0.294	26.289	<.001	.307	.284
	Nutrition Attitudes*	0.002	0.001	0.124	4.200	.041	.128	.114
	Descriptive Norms**	0.057	0.019	0.176	8.537	.004	.181	.162
	Subjective Norms	0.003	0.005	0.042	0.472	.493	.043	.038
	Nutrition Willingness Scenario 1 T1*	0.010	0.004	0.139	5.163	.024	.141	.126
	Nutrition Positive Prototype Description Traits**	-0.012	0.004	-0.162	7.591	.006	-.171	-.153
	Nutrition Negative Prototype Description Traits	<0.001	0.005	0.006	0.012	.913	.007	.006
Step 4	**Δ*F*(1, 252) = 12.41, *p* = .001, Δ*R*² = .04**							
	T1 Total Fruit Intake***	0.214	0.050	0.246	18.160	<.001	.259	.231
	Nutrition Attitudes	0.002	0.001	0.078	1.639	.202	.080	.069
	Descriptive Norms*	0.041	0.020	0.125	4.288	.039	.129	.112
	Subjective Norms	0.001	0.005	0.016	0.070	.792	.017	.014
	Nutrition Willingness Scenario 1 T1	0.007	0.004	0.098	2.597	.108	.101	.087
	Nutrition Positive Prototype Description Traits**	-0.013	0.004	-0.171	8.876	.003	-.184	-.162
	Nutrition Negative Prototype Description Traits	-0.001	0.004	-0.007	0.016	.900	-.008	-.007
	Nutrition Intentions T1**	0.003	0.001	0.233	12.410	.001	.217	.191

Outcome Variable		*b*	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
T2 Whole Fruit Intake								
Step 1	**$\Delta F(1, 259) = 133.52, p < .001, \Delta R^2 = .34$**							
	T1 Whole Fruit Intake***	0.571	0.049	0.583	133.523	<.001	.583	.583
Step 2	**$\Delta F(3, 256) = 3.95, p = .01, \Delta R^2 = .03$**							
	T1 Whole Fruit Intake***	0.502	0.053	0.513	90.846	<.001	.512	.473
	Nutrition Attitudes+	0.002	0.001	0.099	3.611	.059	.118	.094
	Descriptive Norms**	0.036	0.017	0.116	4.428	.036	.130	.104
	Subjective Norms	0.003	0.004	0.036	0.493	.483	.044	.035
Step 3	**$\Delta F(3, 253) = 4.13, p = .01, \Delta R^2 = .03$**							
	T1 Whole Fruit Intake***	0.498	0.052	0.509	91.443	<.001	.515	.466
	Nutrition Attitudes*	0.002	0.001	0.113	4.450	.036	.131	.103
	Descriptive Norms*	0.038	0.017	0.121	4.998	.026	.139	.109
	Subjective Norms	0.003	0.004	0.043	0.633	.427	.050	.039
	Nutrition Willingness Scenario 1 T1*	0.004	0.004	0.064	1.417	.235	.075	.058
	Nutrition Positive Prototype Description Traits**	-0.012	0.004	-0.168	10.754	.001	-.202	-.160
	Nutrition Negative Prototype Description Traits	0.004	0.004	0.048	0.944	.332	.061	.047
Step 4	**$\Delta F(1, 252) = 9.54, p = .002, \Delta R^2 = .02$**							
	T1 Whole Fruit Intake***	0.444	0.054	0.453	67.141	<.001	.459	.393
	Nutrition Attitudes	0.002	0.001	0.079	2.177	.141	.093	.071
	Descriptive Norms+	0.028	0.017	0.090	2.738	.099	.104	.079
	Subjective Norms	0.002	0.004	0.025	0.224	.636	.030	.023
	Nutrition Willingness Scenario 1 T1	0.003	0.004	0.038	0.500	.480	.045	.034
	Nutrition Positive Prototype Description Traits**	-0.013	0.004	-0.178	12.435	.001	-.217	-.169
	Nutrition Negative Prototype Description Traits	0.003	0.004	0.037	0.571	.451	.048	.036
	Nutrition Intentions T1**	0.002	0.001	0.185	9.543	.002	.191	.148

Note. *b* = unstandardized coefficients, *SE* = standard error, *F* = *F*-value, *sr* = part correlation. Transformed variables were used and centered prior to analyses for easier interpretability. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 11

Aim 1.2 Regression Analyses

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Outcome Variable: T2 Total Vegetable Intake								
Step 1	**ΔF(1, 258) = 257.873, p < .001, ΔR^2 = .50**							
	T1 Total Vegetable Intake***	0.663	0.041	0.707	257.873	<.001	.707	.707
Step 2	**ΔF(3, 255) = 2.28, p = .08, ΔR^2 = .01**							
	T1 Total Vegetable Intake***	0.634	0.043	0.677	219.937	<.001	.681	.648
	Nutrition Attitudes	0.001	0.001	0.068	2.205	.140	.092	.065
	Descriptive Norms	0.020	0.014	0.064	1.818	.180	.084	.059
	Subjective Norms	0.002	0.003	0.033	0.535	.466	.046	.032
Step 3	**ΔF(2, 253) = 3.13, p = .05, ΔR^2 = .01**							
	T1 Total Vegetable Intake***	0.604	0.044	0.644	187.140	<.001	.652	.593
	Nutrition Attitudes	0.001	0.001	0.050	1.197	0.275	.069	.047
	Descriptive Norms	0.013	0.015	0.042	0.747	0.388	.054	.037
	Subjective Norms	<0.001	0.004	0.006	0.018	0.894	.008	.006
	Nutrition Knowledge	0.001	0.001	0.031	0.461	0.498	.043	.029
	Nutrition Prototype Similarity*	0.055	0.023	0.119	5.844	0.016	.150	.105
Step 4	**ΔF(3, 250) = 0.72, p = .54, ΔR^2 = .004**							
	T1 Total Vegetable Intake***	0.601	0.044	0.641	182.750	<.001	.650	.587
	Nutrition Attitudes	0.001	0.001	0.061	1.617	.205	.080	.055
	Descriptive Norms	0.013	0.015	0.043	0.773	.380	.056	.038
	Subjective Norms	0.001	0.004	0.015	0.085	.770	.018	.013
	Nutrition Knowledge	0.001	0.001	0.025	0.288	.592	.034	.023
	Nutrition Prototype Similarity*	0.057	0.023	0.124	6.003	.015	.153	.106
	Nutrition Willingness Scenario 1 T1	<0.001	0.003	0.000	0.000	.995	.000	.000
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.064	1.906	.169	-.087	-.060
	Nutrition Negative Prototype Description Traits	0.002	0.003	0.030	0.463	.497	.043	.030
Step 5	**ΔF(1, 249) = 0.01, p = .93, ΔR^2 < .001**							

	b	***SE***	***Beta***	***F***	***p***	***partial coefficient***	***sr***
T1 Total Vegetable Intake***	0.602	0.046	0.642	174.530	<.001	.642	.575
Nutrition Attitudes	0.001	0.001	0.062	1.585	.209	.080	.055
Descriptive Norms	0.013	0.015	0.044	0.768	.382	.055	.038
Subjective Norms	0.001	0.004	0.015	0.088	.766	.019	.013
Nutrition Knowledge	0.001	0.001	0.026	0.293	.589	.034	.024
Nutrition Prototype Similarity**	0.057	0.023	0.124	5.964	.015	.153	.106
Nutrition Willingness Scenario 1 T1	<0.001	0.003	0.001	<0.001	.987	.001	.001
Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.063	1.869	.173	-.086	-.059
Nutrition Negative Prototype Description Traits	0.002	0.003	0.031	0.467	.495	.043	.030
Nutrition Intentions T1	<0.001	0.001	-0.005	0.007	.933	-.005	-.004
Outcome Variable: T2 Greens and Other Vegetable Intake							
Step 1 **$\Delta F(1, 258) = 293.477$, $p < .001$, $\Delta R^2 = .53$**							
T1 Greens and Other Vegetable Intake***	0.687	0.040	0.729	293.477	<.001	.729	.729
Step 2 **$\Delta F(3, 255) = 2.06$, $p = .11$, $\Delta R^2 = .01$**							
T1 Greens and Other Vegetable Intake***	0.656	0.042	0.697	240.569	<.001	.697	.656
Nutrition Attitudes	0.001	0.001	0.044	0.991	.320	.062	.042
Descriptive Norms	0.020	0.015	0.065	1.887	.171	.086	.058
Subjective Norms	0.004	0.003	0.047	1.145	.286	.067	.045
Step 3 **$\Delta F(2, 253) = 4.42$, $p = .01$, $\Delta R^2 = .02$**							
T1 Greens and Other Vegetable Intake***	0.619	0.044	0.657	200.859	<.001	.665	.592
Nutrition Attitudes	<0.001	0.001	0.023	0.282	0.596	.033	.022
Descriptive Norms	0.014	0.015	0.044	0.849	0.358	.058	.038
Subjective Norms	0.001	0.004	0.012	0.071	0.791	.017	.011
Nutrition Knowledge	0.001	0.001	0.050	1.215	0.271	.069	.046
Nutrition Prototype Similarity **	0.063	0.023	0.132	7.796	0.006	.173	.117
Step 4 **$\Delta F(3, 250) = 1.15$, $p = .33$, $\Delta R^2 = .01$**							
T1 Greens and Other Vegetable Intake***	0.614	0.044	0.652	196.514	.001	.663	.585
Nutrition Attitudes	<0.001	0.001	0.020	0.187	0.665	.027	.018

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Descriptive Norms	0.015	0.015	0.048	1.004	.317	.063	.042
	Subjective Norms	0.001	0.004	0.007	0.022	.883	.009	.006
	Nutrition Knowledge	0.001	0.001	0.039	0.755	.386	.055	.036
	Nutrition Prototype Similarity*	0.058	0.023	0.121	6.194	.013	.155	.104
	Nutrition Willingness Scenario 1 T1	0.005	0.003	0.065	1.841	.176	.086	.057
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.055	1.550	.214	-.078	-.052
	Nutrition Negative Prototype Description Traits	0.001	0.003	0.017	0.151	.698	.025	.016
Step 5	**$\Delta F(1, 249) = 0.05$, $p = .82$, $\Delta R^2 < .001$**							
	T1 Greens and Other Vegetable Intake***	0.616	0.046	0.655	182.303	<.001	.650	.565
	Nutrition Attitudes	<0.001	0.001	0.022	0.220	.639	.030	.020
	Descriptive Norms	0.016	0.015	0.050	1.049	.307	.065	.043
	Subjective Norms	0.001	0.004	0.008	0.028	.868	.011	.007
	Nutrition Knowledge	0.001	0.001	0.040	0.782	.377	.056	.037
	Nutrition Prototype Similarity*	0.058	0.023	0.122	6.219	.013	.156	.104
	Nutrition Willingness Scenario 1 T1	0.005	0.003	0.066	1.882	.171	.087	.057
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.054	1.483	.224	-.077	-.051
	Nutrition Negative Prototype Description Traits	0.001	0.003	0.017	0.161	.688	.025	.017
	Nutrition Intentions T1	<0.001	0.001	-0.012	0.050	.823	-.014	-.009
Outcome Variable: T2 Greens Intake								
Step 1	**$\Delta F(1, 258) = 108.938$, $p < .001$, $\Delta R^2 = .30$**							
	T1 Greens Intake***	0.521	0.050	0.545	108.938	<.001	.545	.545
Step 2	**$\Delta F(3, 255) = 2.00$, $p = .11$, $\Delta R^2 = .02$**							
	T1 Greens Intake***	0.493	0.051	0.516	91.927	<.001	.515	.498
	Nutrition Attitudes	<0.001	0.001	0.023	0.174	.677	.026	.022
	Descriptive Norms+	0.028	0.015	0.102	3.255	.072	.112	.094
	Subjective Norms	0.003	0.004	0.046	0.721	.396	.053	.044
Step 3	**$\Delta F(2, 253) = 6.02$, $p = .003$, $\Delta R^2 = .03$**							
	T1 Greens Intake***	0.458	0.051	0.479	79.106	<.001	.488	0.453

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Nutrition Attitudes	-9.782E-5	0.001	-0.006	0.012	.913	-.007	-.006
	Descriptive Norms	0.017	0.016	0.063	1.225	.269	.069	.056
	Subjective Norms	<0.001	0.004	-0.002	0.002	.967	-.003	-.002
	Nutrition Knowledge	0.001	0.001	0.059	1.195	.275	.069	.056
	Nutrition Prototype Similarity **	0.077	0.023	0.187	10.845	.001	.203	.168
Step 4	**Δ*F*(3, 250) = 0.66, *p* = .58, ΔR^2 = .005**							
	T1 Greens Intake***	0.454	0.052	0.475	77.336	<.001	.486	.449
	Nutrition Attitudes	<0.001	0.001	-0.011	0.037	.848	-.012	-.010
	Descriptive Norms	0.018	0.016	0.066	1.303	.255	.072	.058
	Subjective Norms	-0.001	0.004	-0.011	0.038	.847	-.012	-.010
	Nutrition Knowledge	0.001	0.001	0.051	0.880	.349	.059	.048
	Nutrition Prototype Similarity**	0.073	0.024	0.178	9.199	.003	.188	.155
	Nutrition Willingness Scenario 1 T1	0.003	0.004	0.052	0.792	.374	.056	.045
	Nutrition Positive Prototype Description Traits	-0.002	0.003	-0.039	0.508	.477	-.045	-.036
	Nutrition Negative Prototype Description Traits	0.003	0.004	0.043	0.661	.417	.051	.041
Step 5	**Δ*F*(1, 249) = 1.11, *p* = .29, ΔR^2 = .003**							
	T1 Greens Intake***	0.443	0.053	0.463	70.595	<.001	.470	.429
	Nutrition Attitudes	<0.001	0.001	-0.023	0.160	.690	-.025	-.020
	Descriptive Norms	0.014	0.016	0.053	0.807	.370	.057	.046
	Subjective Norms	-0.001	0.004	-0.017	0.082	.775	-.018	-.015
	Nutrition Knowledge	0.001	0.001	0.044	0.641	.424	.051	.041
	Nutrition Prototype Similarity**	0.071	0.024	0.171	8.388	.004	.181	.148
	Nutrition Willingness Scenario 1 T1	0.003	0.004	0.044	0.563	.454	.048	.038
	Nutrition Positive Prototype Description Traits	-0.003	0.003	-0.043	0.618	.432	-.050	-.040
	Nutrition Negative Prototype Description Traits	0.003	0.004	0.038	0.529	.468	.046	.037
	Nutrition Intentions T1	0.001	0.001	0.066	1.108	.293	.067	.054

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Outcome Variable: T2 Total Fruit Intake								
Step 1	**Δ*F*(1, 258) = 33.995, *p* < .001, Δ*R*² = .12**							
	T1 Total Fruit Intake***	0.297	0.051	0.341	33.995	<.001	.341	.341
Step 2	**Δ*F*(3, 255) = 6.83, *p* < .001, Δ*R*² = .07**							
	T1 Total Fruit Intake***	0.244	0.051	0.281	23.286	<.001	.289	.273
	Nutrition Attitudes*	0.003	0.001	0.130	4.807	.029	.136	.124
	Descriptive Norms**	0.057	0.020	0.176	8.281	.004	.177	.163
	Subjective Norms	0.004	0.005	0.052	0.763	.383	.055	.049
Step 3	**Δ*F*(2, 253) = 2.00, *p* = .14, Δ*R*² = .01**							
	T1 Total Fruit Intake***	0.242	0.051	0.279	22.787	<.001	.287	.269
	Nutrition Attitudes*	0.002	0.001	0.121	4.124	.043	.127	.115
	Descriptive Norms*	0.046	0.021	0.142	5.045	.026	.140	.127
	Subjective Norms	0.004	0.005	0.052	0.695	.405	.052	.047
	Nutrition Knowledge	-0.002	0.002	-0.055	0.829	.363	-.057	-.051
	Nutrition Prototype Similarity+	0.055	0.031	0.111	3.198	.075	.112	.101
Step 4	**Δ*F*(3, 250) = 4.16, *p* = .01, Δ*R*² = .04**							
	T1 Total Fruit Intake***	0.259	0.050	0.298	26.631	<.001	.310	.286
	Nutrition Attitudes*	0.003	0.001	0.127	4.357	.038	.131	.116
	Descriptive Norms*	0.047	0.020	0.145	5.392	.021	.145	.129
	Subjective Norms	0.005	0.005	0.060	0.891	.346	.060	.052
	Nutrition Knowledge	-0.002	0.002	-0.086	2.053	.153	-.090	-.079
	Nutrition Prototype Similarity	0.045	0.031	0.091	2.088	.150	.091	.080
	Nutrition Willingness Scenario 1 T1+	0.009	0.005	0.123	3.751	.054	.122	.107
	Nutrition Positive Prototype Description Traits**	-0.013	0.004	-0.177	9.009	.003	-.187	-.166
	Nutrition Negative Prototype Description Traits	0.001	0.005	0.013	0.049	.825	.014	.012
Step 5	**Δ*F*(1, 249) = 12.58, *p* < .001, Δ*R*² = .04**							
	T1 Total Fruit Intake***	0.220	0.050	0.253	19.156	<.001	.267	.237
	Nutrition Attitudes	0.002	0.001	0.084	1.914	.168	0.087	.075

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Descriptive Norms	0.032	0.020	0.099	2.521	.114	.100	.086
	Subjective Norms	0.003	0.005	0.043	0.476	.491	.044	.037
	Nutrition Knowledge[+]	-0.003	0.002	-0.109	3.422	.066	-.116	-.100
	Nutrition Prototype Similarity	0.030	0.031	0.061	0.978	.324	.063	.054
	Nutrition Willingness Scenario 1 T1	0.007	0.005	0.091	2.108	.148	.092	.079
	Nutrition Positive Prototype Description Traits**	-0.014	0.004	-0.188	10.584	.001	-.202	-.176
	Nutrition Negative Prototype Description Traits	<0.001	0.004	-0.003	0.002	.964	-.003	-.002
	Nutrition Intentions T1***	0.003	0.001	0.237	12.581	<.001	.219	.192
Outcome Variable: T2 Whole Fruit Intake								
Step 1	**$\Delta F(1, 258) = 129.776$, $p < .001$, $\Delta R^2 = .34$**							
	T1 Whole Fruit Intake***	0.566	0.050	0.579	129.776	<.001	.579	.579
Step 2	**$\Delta F(3, 255) = 3.88$, $p = .01$, $\Delta R^2 = .03$**							
	T1 Whole Fruit Intake***	0.498	0.053	0.509	88.648	<.001	.508	.470
	Nutrition Attitudes[+]	0.002	0.001	0.098	3.489	.063	.116	.093
	Descriptive Norms*	0.036	0.017	0.117	4.468	.036	.131	.106
	Subjective Norms	0.003	0.004	0.035	0.454	.501	.042	.034
Step 3	**$\Delta F(2, 253) = 1.37$, $p = .26$, $\Delta R^2 = .01$**							
	T1 Whole Fruit Intake***	0.493	0.054	0.504	84.288	<.001	.500	.458
	Nutrition Attitudes[+]	0.002	0.001	0.090	2.883	.091	.106	.085
	Descriptive Norms	0.029	0.018	0.093	2.624	.106	.101	.081
	Subjective Norms	0.002	0.004	0.031	0.308	.579	.035	.028
	Nutrition Knowledge	-0.001	0.001	-0.026	0.234	.629	-.030	-.024
	Nutrition Prototype Similarity	0.041	0.026	0.087	2.509	.114	.099	.079
Step 4	**$\Delta F(3, 250) = 4.48$, $p = .004$, $\Delta R^2 = .03$**							
	T1 Whole Fruit Intake***	0.494	0.053	0.505	87.319	<.001	.509	.457
	Nutrition Attitudes**	0.002	0.001	0.112	4.333	.038	.131	.102
	Descriptive Norms[+]	0.030	0.017	0.095	2.878	.091	.107	.083
	Subjective Norms	0.004	0.004	0.049	0.774	.380	.056	.043

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Nutrition Knowledge	-0.001	0.001	-0.049	0.844	.359	-.058	-.045
	Nutrition Prototype Similarity	0.042	0.026	0.089	2.552	.111	.101	.078
	Nutrition Willingness Scenario 1 T1	0.003	0.004	0.044	0.615	.434	.050	.038
	Nutrition Positive Prototype Description Traits**	-0.013	0.004	-0.182	12.332	.001	-.217	-.172
	Nutrition Negative Prototype Description Traits	0.005	0.004	0.059	1.371	.243	.074	.057
Step 5	**$\Delta F(1, 249) = 9.23, p = .003, \Delta R^2 = .02$**							
	T1 Whole Fruit Intake***	0.443	0.055	0.453	65.955	<.001	.458	.391
	Nutrition Attitudes	0.002	0.001	0.081	2.262	.134	.095	.072
	Descriptive Norms	0.021	0.017	0.068	1.459	.228	.076	.058
	Subjective Norms	0.003	0.004	0.038	0.464	.496	.043	.033
	Nutrition Knowledge	-0.002	0.001	-0.063	1.456	.229	-.076	-.058
	Nutrition Prototype Similarity	0.032	0.026	0.067	1.501	.222	.077	.059
	Nutrition Willingness Scenario 1 T1	0.002	0.004	0.024	0.184	.668	.027	.021
	Nutrition Positive Prototype Description Traits***	-0.014	0.004	-0.193	14.206	<.001	-.232	-.181
	Nutrition Negative Prototype Description Traits	0.004	0.004	0.047	0.896	.345	.060	.046
	Nutrition Intentions T1**	0.002	0.001	0.185	9.230	.003	.189	.146

Note. *b* = unstandardized coefficients, *SE* = standard error, *F* = *F*-value, *sr* = part correlation. Transformed variables were used and centered prior to analyses for easier interpretability. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$

Table 12

Aim 1.3 Regression Analyses

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Outcome Variable: T2 Total Vegetable Intake							
Step 1 **$\Delta F(8, 250) = 1.32$, $p = .23$, $\Delta R^2 = .04$**							
BMI	0.002	0.042	0.003	0.002	.968	.003	.002
Difficulty Paying Bills	0.038	0.050	0.050	0.577	.448	.048	.047
Religious Status*	0.153	0.062	0.156	5.998	.015	.153	.152
Perceived Susceptibility	0.003	0.002	0.081	1.304	.255	.072	.071
Social Desirability	-0.001	0.008	-0.011	0.029	.864	-.011	-.011
Any Chronic Conditions	-0.033	0.054	-0.039	0.374	.541	-.039	-.038
COVID-19 Impact	-0.023	0.030	-0.050	0.591	.443	-.049	-.048
Fear of Not Consuming Enough Fruits and Vegetables+	-0.013	0.008	-0.116	2.754	.098	-.104	-.103
Step 2 **$\Delta F(1, 249) = 241.55$, $p < .001$, $\Delta R^2 = .47$**							
BMI	-0.038	0.030	-0.058	1.616	.205	-.080	-.056
Difficulty Paying Bills	0.031	0.036	0.041	0.758	.385	.055	.039
Religious Status	0.046	0.045	0.047	1.055	.305	.065	.045
Perceived Susceptibility	0.001	0.002	0.018	0.132	.717	.023	.016
Social Desirability	-0.008	0.006	-0.059	1.625	.204	-.081	-.056
Any Chronic Conditions	-0.044	0.039	-0.051	1.284	.258	-.072	-.050
COVID-19 Impact	<0.001	0.021	0.001	0.001	.982	.001	.001
Fear of Not Consuming Enough Fruits and Vegetables	-0.001	0.006	-0.006	0.013	.909	-.007	-.005
T1 Total Vegetable Intake***	0.663	0.043	0.707	241.547	<.001	.702	.687
Step 3 **$\Delta F(3, 246) = 1.73$, $p = .16$, $\Delta R^2 = .01$**							
BMI	-0.035	0.030	-0.054	1.418	.235	-.076	-.052
Difficulty Paying Bills	0.022	0.036	0.029	0.393	.531	.040	.028
Religious Status	0.039	0.046	0.039	0.698	.404	.053	.037
Perceived Susceptibility	<0.001	0.002	0.001	0.001	.981	.001	.001

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Social Desirability	-0.007	0.006	-0.057	1.543	.215	-.079	-.055
	Any Chronic Conditions	-0.041	0.039	-0.049	1.153	.284	-.068	-.047
	COVID-19 Impact	0.001	0.021	0.003	0.004	.947	.004	.003
	Fear of Not Consuming Enough Fruits and Vegetables	-0.001	0.006	-0.005	0.009	.924	-.006	-.004
	T1 Total Vegetable Intake***	0.640	0.044	0.683	211.619	<.001	.680	.641
	Subjective Norms	0.002	0.004	0.025	0.271	.603	.033	.023
	Descriptive Norms	0.014	0.015	0.046	0.836	.362	.058	.040
	Nutrition Attitudes	0.001	0.001	0.073	2.461	.118	.100	.069
Step 4	**$\Delta F(2, 244) = 2.50, p = .08, \Delta R^2 = .01$**							
	BMI	-0.023	0.030	-0.035	0.569	.452	-.048	-.033
	Difficulty Paying Bills	0.012	0.036	0.016	0.116	.734	.022	.015
	Religious Status	0.046	0.046	0.046	0.973	.325	.063	.043
	Perceived Susceptibility	<0.001	0.002	-0.007	0.018	.892	-.009	-.006
	Social Desirability	-0.008	0.006	-0.061	1.750	.187	-.084	-.058
	Any Chronic Conditions	-0.032	0.039	-0.038	0.686	.408	-.053	-.036
	COVID-19 Impact	<0.001	0.021	<0.001	<0.001	.992	-.001	<.001
	Fear of Not Consuming Enough Fruits and Vegetables	0.001	0.006	0.005	0.010	.921	.006	.004
	T1 Total Vegetable Intake***	0.610	0.046	0.651	177.857	<.001	.649	.584
	Subjective Norms	<0.001	0.004	0.002	0.001	.973	.002	.001
	Descriptive Norms	0.009	0.016	0.028	0.303	.582	.035	.024
	Nutrition Attitudes	0.001	0.001	0.057	1.452	.229	.077	.053
	Nutrition Prototype Similarity**	0.052	0.024	0.112	4.670	.032	.137	.095
	Nutrition Knowledge	0.001	0.001	0.029	0.372	.542	.039	.027
Step 5	**$\Delta F(3, 241) = 0.69, p = .56, \Delta R^2 = .004$**							
	BMI	-0.024	0.030	-0.037	0.628	.429	-.051	-.035
	Difficulty Paying Bills	0.012	0.036	0.015	0.105	.746	.021	.014
	Religious Status	0.049	0.047	0.050	1.061	.304	.066	.045
	Perceived Susceptibility	<0.001	0.002	-0.001	<0.001	.985	-.001	-.001
	Social Desirability	-0.008	0.006	-0.059	1.617	.205	-.082	-.056
	Any Chronic Conditions	-0.030	0.039	-0.035	0.590	.443	-.049	-.034

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	COVID-19 Impact	-0.001	0.022	-0.003	0.005	.946	-.004	-.003
	Fear of Not Consuming Enough Fruits and Vegetables	0.001	0.006	0.007	0.021	.886	.009	.006
	T1 Total Vegetable Intake***	0.606	0.046	0.647	172.113	<.001	.645	.575
	Subjective Norms	<0.001	0.004	0.003	0.004	.949	.004	.003
	Descriptive Norms	0.009	0.016	0.030	0.330	.566	.037	.025
	Nutrition Attitudes	0.001	0.001	0.063	1.654	.200	.083	.056
	Nutrition Prototype Similarity*	0.053	0.024	0.114	4.659	.032	.138	.095
	Nutrition Knowledge	0.001	0.001	0.023	0.225	.636	.031	.021
	Nutrition Willingness Scenario 1 T1	0.001	0.003	0.012	0.051	.821	.015	.010
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.057	1.421	.234	-.077	-.052
	Nutrition Negative Prototype Description Traits	0.003	0.003	0.040	0.759	.385	.056	.038
Step 6	**$\Delta F(1, 240) = 0.03$, $p = .86$, $\Delta R^2 < .001$**							
	BMI	-0.024	0.030	-0.036	0.612	.435	-.050	-.034
	Difficulty Paying Bills	0.012	0.036	0.015	0.104	.748	.021	.014
	Religious Status	0.050	0.048	0.051	1.086	.298	.067	.046
	Perceived Susceptibility	<0.001	0.002	-0.001	0.001	.982	-.001	-.001
	Social Desirability	-0.008	0.006	-0.059	1.603	.207	-.081	-.056
	Any Chronic Conditions	-0.029	0.039	-0.034	0.555	.457	-.048	-.033
	COVID-19 Impact	-0.001	0.022	-0.003	0.004	.949	-.004	-.003
	Fear of Not Consuming Enough Fruits and Vegetables	0.001	0.006	0.007	0.020	.888	.009	.006
	T1 Total Vegetable Intake***	0.607	0.047	0.648	166.798	<.001	.640	.567
	Subjective Norms	0.000	0.004	0.004	0.006	.938	.005	.003
	Descriptive Norms	0.009	0.016	0.031	0.352	.553	.038	.026
	Nutrition Attitudes	0.001	0.001	0.064	1.667	.198	.083	.057
	Nutrition Prototype Similarity*	0.053	0.025	0.115	4.665	.032	.138	.095
	Nutrition Knowledge	0.001	0.001	0.024	0.242	.623	.032	.022
	Nutrition Willingness Scenario 1 T1	0.001	0.004	0.013	0.062	.803	.016	.011
	Nutrition Positive Prototype Description Traits	-0.004	0.003	-0.056	1.365	.244	-.075	-.051
	Nutrition Negative Prototype Description Traits	0.003	0.004	0.041	0.777	.379	.057	.039

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Nutrition Intentions T1	<0.001	0.001	-0.010	0.030	.863	-.011	-.008
Outcome Variable: T2 Greens and Other Vegetable Intake							
Step 1 **$\Delta F(8, 250) = 1.99$, p =.05, $\Delta R^2 = .06$**							
BMI	0.006	0.043	0.008	0.018	.894	.008	.008
Difficulty Paying Bills	0.017	0.051	0.022	0.116	.734	.022	.021
Religious Status**	0.195	0.064	0.192	9.288	.003	.189	.187
Perceived Susceptibility	0.003	0.002	0.093	1.736	.189	.083	.081
Social Desirability	-0.001	0.008	-0.011	0.031	.860	-.011	-.011
Any Chronic Conditions	0.037	0.055	0.042	0.446	.505	.042	.041
COVID-19 Impact	-0.039	0.030	-0.083	1.637	.202	-.081	-.078
Fear of Not Consuming Enough Fruits and Vegetables*	-0.018	0.008	-0.151	4.720	.031	-.136	-.133
Step 2 **$\Delta F(1, 249) = 260.742$, $p < .001$, $\Delta R^2 = .48$**							
BMI	-0.015	0.030	-0.023	0.266	.607	-.033	-.022
Difficulty Paying Bills	-0.006	0.036	-0.008	0.031	.860	-.011	-.008
Religious Status	0.060	0.046	0.059	1.744	.188	.083	.057
Perceived Susceptibility	0.001	0.002	0.042	0.722	.396	.054	.036
Social Desirability	-0.006	0.006	-0.042	0.873	.351	-.059	-.040
Any Chronic Conditions	0.009	0.039	0.011	0.059	.809	.015	.010
COVID-19 Impact	-0.012	0.021	-0.027	0.340	.561	-.037	-.025
Fear of Not Consuming Enough Fruits and Vegetables	-0.006	0.006	-0.049	0.992	.320	-.063	-.043
T1 Greens and Other Vegetable Intake***	0.674	0.042	0.715	260.742	<.001	.715	.694
Step 3 **$\Delta F(3, 246) = 1.76$, $p = .16$, $\Delta R^2 = .01$**							
BMI	-0.014	0.030	-0.021	0.223	.638	-.030	-.020
Difficulty Paying Bills	-0.017	0.036	-0.022	0.223	.637	-.030	-.020
Religious Status	0.049	0.047	0.048	1.110	.293	.067	.045
Perceived Susceptibility	0.001	0.002	0.021	0.181	.671	.027	.018
Social Desirability	-0.005	0.006	-0.039	0.770	.381	-.056	-.038
Any Chronic Conditions	0.015	0.039	0.017	0.155	.694	.025	.017

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
COVID-19 Impact	-0.011	0.021	-0.023	0.254	.615	-.032	-.022
Fear of Not Consuming Enough Fruits and Vegetables	-0.006	0.006	-0.047	0.923	.338	-.061	-.041
T1 Greens and Other Vegetable Intake***	0.647	0.044	0.687	219.815	<.001	.687	.634
Subjective Norms	0.004	0.004	0.046	0.956	.329	.062	.042
Descriptive Norms	0.018	0.016	0.057	1.308	.254	.073	.049
Nutrition Attitudes	0.001	0.001	0.048	1.135	.288	.068	.046
Step 4 **$\Delta F(2, 244) = 4.85$, $p = .01$, $\Delta R^2 = .02$**							
BMI	0.002	0.030	0.003	0.003	.955	.004	.002
Difficulty Paying Bills	-0.030	0.036	-0.038	0.722	.396	-.054	-.036
Religious Status	0.061	0.046	0.060	1.725	.190	.084	.055
Perceived Susceptibility	<0.001	0.002	0.009	0.031	.859	.011	.007
Social Desirability	-0.006	0.006	-0.044	0.977	.324	-.063	-.042
Any Chronic Conditions	0.030	0.039	0.034	0.594	.441	.049	.032
COVID-19 Impact	-0.013	0.021	-0.028	0.388	.534	-.040	-.026
Fear of Not Consuming Enough Fruits and Vegetables	-0.004	0.006	-0.033	0.476	.491	-.044	-.029
T1 Greens and Other Vegetable Intake***	0.604	0.045	0.642	179.122	<.001	.651	.563
Subjective Norms	0.001	0.004	0.011	0.050	.824	.014	.009
Descriptive Norms	0.012	0.016	0.037	0.548	.460	.047	.031
Nutrition Attitudes	<0.001	0.001	0.026	0.329	.567	.037	.024
Nutrition Prototype Similarity**	0.069	0.024	0.145	8.587	.004	.184	.123
Nutrition Knowledge	0.001	0.001	0.052	1.308	.254	.073	.048
Step 5 **$\Delta F(3, 241) = 1.31$, $p = .27$, $\Delta R^2 = .01$**							
BMI	0.002	0.030	0.003	0.003	.953	.004	.003
Difficulty Paying Bills	-0.029	0.036	-0.037	0.675	.412	-.053	-.034
Religious Status	0.072	0.047	0.071	2.366	.125	.099	.065
Perceived Susceptibility	<0.001	0.002	0.009	0.035	.851	.012	.008
Social Desirability	-0.006	0.006	-0.047	1.095	.296	-.067	-.044
Any Chronic Conditions	0.031	0.038	0.036	0.659	.418	.052	.034

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
COVID-19 Impact	-0.014	0.021	-0.029	0.414	.520	-.041	-.027
Fear of Not Consuming Enough Fruits and Vegetables	-0.003	0.006	-0.028	0.337	.562	-.037	-.024
T1 Greens and Other Vegetable Intake***	0.597	0.045	0.634	173.725	<.001	.647	.554
Subjective Norms	<0.001	0.004	-0.002	0.001	.975	-.002	-.001
Descriptive Norms	0.012	0.016	0.039	0.601	.439	.050	.033
Nutrition Attitudes	<0.001	0.001	0.018	0.151	.698	.025	.016
Nutrition Prototype Similarity**	0.064	0.024	0.134	6.937	.009	.167	.111
Nutrition Knowledge	0.001	0.001	0.043	0.885	.348	.060	.040
Nutrition Willingness Scenario 1 T1	0.005	0.003	0.073	2.254	.135	.096	.063
Nutrition Positive Prototype Description Traits	-0.003	0.003	-0.046	1.015	.315	-.065	-.042
Nutrition Negative Prototype Description Traits	0.003	0.003	0.034	0.583	.446	.049	.032
Step 6 **$\Delta F(1, 240) = 0.30, p = .59, \Delta R^2 = .001$**							
BMI	0.003	0.030	0.004	0.007	.932	.006	.004
Difficulty Paying Bills	-0.030	0.036	-0.037	0.682	.410	-.053	-.035
Religious Status	0.077	0.048	0.076	2.581	.109	.103	.068
Perceived Susceptibility	<0.001	0.002	0.009	0.031	.860	.011	.007
Social Desirability	-0.006	0.006	-0.046	1.073	.301	-.067	-.044
Any Chronic Conditions	0.033	0.039	0.038	0.735	.392	.055	.036
COVID-19 Impact	-0.013	0.021	-0.029	0.395	.531	-.041	-.026
Fear of Not Consuming Enough Fruits and Vegetables	-0.003	0.006	-0.028	0.343	.559	-.038	-.025
T1 Greens and Other Vegetable Intake***	0.604	0.047	0.641	166.056	<.001	.639	.542
Subjective Norms	<0.001	0.004	0.001	<0.001	.985	.001	.001
Descriptive Norms	0.013	0.016	0.042	0.709	.401	.054	.035
Nutrition Attitudes	<0.001	0.001	0.024	0.243	.622	.032	.021
Nutrition Prototype Similarity**	0.065	0.024	0.136	7.133	.008	.170	.112
Nutrition Knowledge	0.001	0.001	0.046	0.990	.321	.064	.042
Nutrition Willingness Scenario 1 T1	0.005	0.003	0.078	2.457	.118	.101	.066
Nutrition Positive Prototype Description Traits	-0.003	0.003	-0.043	0.898	.344	-.061	-.040

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Nutrition Negative Prototype Description Traits	0.003	0.003	0.036	0.647	.422	.052	.034
Nutrition Intentions T1	<0.001	0.001	-0.029	0.297	.586	-.035	-.023
Outcome Variable: T2 Greens Intake							
Step 1 **$\Delta F(8, 250) = 1.00$, $p = .44$, $\Delta R^2 = .03$**							
BMI	-0.006	0.037	-0.010	0.027	.870	-.010	-.010
Difficulty Paying Bills	0.053	0.045	0.077	1.386	.240	.074	.073
Religious Status*	0.127	0.056	0.145	5.138	.024	.142	.141
Perceived Susceptibility	<0.001	0.002	0.009	0.014	.905	.008	.007
Social Desirability	0.002	0.007	0.019	0.081	.776	.018	.018
Any Chronic Conditions	-0.010	0.048	-0.013	0.042	.838	-.013	-.013
COVID-19 Impact	-0.008	0.027	-0.020	0.096	.757	-.020	-.019
Fear of Not Consuming Enough Fruits and Vegetables	-0.004	0.007	-0.042	0.358	.550	-.038	-.037
Step 2 **$\Delta F(1, 249) = 98.71$, $p < .001$, $\Delta R^2 = .28$**							
BMI	0.005	0.032	0.009	0.028	.867	.011	.009
Difficulty Paying Bills	0.021	0.038	0.031	0.311	.578	.035	.029
Religious Status+	0.083	0.048	0.094	2.978	.086	.109	.091
Perceived Susceptibility	<0.001	0.002	0.014	0.050	.823	.014	.012
Social Desirability	0.002	0.006	0.020	0.127	.722	.023	.019
Any Chronic Conditions	-0.009	0.041	-0.012	0.047	.829	-.014	-.011
COVID-19 Impact	0.006	0.023	0.015	0.070	.792	.017	.014
Fear of Not Consuming Enough Fruits and Vegetables	-0.001	0.006	-0.012	0.039	.844	-.013	-.010
T1 Greens Intake***	0.510	0.051	0.533	98.714	<.001	.533	.525
Step 3 **$\Delta F(3, 246) = 1.51$, $p = .21$, $\Delta R^2 = .01$**							
BMI	0.005	0.032	0.009	0.027	.870	.010	.009
Difficulty Paying Bills	0.010	0.038	0.015	0.069	.792	.017	.014
Religious Status	0.065	0.049	0.074	1.735	.189	.084	.069
Perceived Susceptibility	<0.001	0.002	-0.011	0.033	.857	-.012	-.010
Social Desirability	0.002	0.006	0.021	0.146	.703	.024	.020

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Any Chronic Conditions	-0.003	0.041	-0.004	0.005	.943	-.005	-.004
	COVID-19 Impact	0.008	0.023	0.019	0.114	.736	.022	.018
	Fear of Not Consuming Enough Fruits and Vegetables	-0.001	0.006	-0.005	0.007	.933	-.005	-.004
	T1 Greens Intake***	0.489	0.053	0.511	85.848	<.001	.509	.488
	Subjective Norms	0.004	0.004	0.055	0.892	.346	.060	.050
	Descriptive Norms	0.021	0.016	0.077	1.607	.206	.081	.067
	Nutrition Attitudes	0.001	0.001	0.035	0.384	.536	.039	.033
Step 4	**$\Delta F(2, 244) = 6.38$, $p = .002$, $\Delta R^2 = .03$**							
	BMI	0.021	0.031	0.037	0.464	.496	.044	.035
	Difficulty Paying Bills	-0.004	0.038	-0.006	0.012	.913	-.007	-.006
	Religious Status	0.074	0.048	0.084	2.314	.129	.097	.078
	Perceived Susceptibility	-0.001	0.002	-0.031	0.264	.608	-.033	-.027
	Social Desirability	0.001	0.006	0.012	0.048	.826	.014	.011
	Any Chronic Conditions	0.011	0.041	0.015	0.079	.779	.018	.014
	COVID-19 Impact	0.006	0.022	0.014	0.068	.795	.017	.013
	Fear of Not Consuming Enough Fruits and Vegetables	0.002	0.006	0.019	0.106	.745	.021	.017
	T1 Greens Intake***	0.453	0.053	0.474	74.363	<.001	.483	.444
	Subjective Norms	<0.001	0.004	0.005	0.006	.939	.005	.004
	Descriptive Norms	0.011	0.016	0.040	0.442	.507	.043	.034
	Nutrition Attitudes	<0.001	0.001	0.003	0.002	.961	.003	.002
	Nutrition Prototype Similarity**	0.082	0.025	0.199	11.157	.001	.209	.172
	Nutrition Knowledge	0.002	0.001	0.070	1.584	.209	.080	.065
Step 5	**$\Delta F(3, 241) = 0.85$, $p = .47$, $\Delta R^2 = .01$**							
	BMI	0.020	0.032	0.035	0.416	.520	.041	.033
	Difficulty Paying Bills	-0.004	0.038	-0.006	0.011	.917	-.007	-.005
	Religious Status+	0.086	0.049	0.098	3.007	.084	.111	.089
	Perceived Susceptibility	-0.001	0.002	-0.034	0.297	.586	-.035	-.028
	Social Desirability	0.001	0.006	0.007	0.015	.904	.008	.006

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Any Chronic Conditions	0.013	0.041	0.017	0.098	.754	.020	.016
COVID-19 Impact	0.004	0.023	0.010	0.030	.863	.011	.009
Fear of Not Consuming Enough Fruits and Vegetables	0.003	0.006	0.025	0.171	.679	.027	.021
T1 Greens Intake***	0.448	0.053	0.468	71.952	<.001	.479	.437
Subjective Norms	-0.001	0.004	-0.011	0.033	.856	-.012	-.009
Descriptive Norms	0.011	0.016	0.040	0.434	.511	.042	.034
Nutrition Attitudes	<0.001	0.001	-0.006	0.011	.916	-.007	-.005
Nutrition Prototype Similarity**	0.077	0.025	0.187	9.412	.002	.194	.158
Nutrition Knowledge	0.002	0.001	0.063	1.247	.265	.072	.058
Nutrition Willingness Scenario 1 T1	0.004	0.004	0.065	1.180	.278	.070	.056
Nutrition Positive Prototype Description Traits	-0.002	0.003	-0.031	0.304	.582	-.035	-.028
Nutrition Negative Prototype Description Traits	0.004	0.004	0.052	0.927	.337	.062	.050
Step 6 **$\Delta F(1, 240) = 0.43$, $p = .51$, $\Delta R^2 = .001$**							
BMI	0.019	0.032	0.032	0.355	.552	.038	.031
Difficulty Paying Bills	-0.003	0.038	-0.005	0.007	.932	-.006	-.004
Religious Status	0.079	0.050	0.090	2.472	.117	.101	.081
Perceived Susceptibility	-0.001	0.002	-0.033	0.290	.591	-.035	-.028
Social Desirability	0.001	0.006	0.006	0.010	.919	.007	.005
Any Chronic Conditions	0.010	0.041	0.013	0.057	.812	.015	.012
COVID-19 Impact	0.004	0.023	0.009	0.026	.872	.010	.008
Fear of Not Consuming Enough Fruits and Vegetables	0.003	0.006	0.026	0.186	.667	.028	.022
T1 Greens Intake***	0.441	0.054	0.461	66.883	<.001	.467	.422
Subjective Norms	-0.001	0.004	-0.015	0.058	.810	-.016	-.012
Descriptive Norms	0.009	0.017	0.033	0.298	.586	.035	.028
Nutrition Attitudes	0.000	0.001	-0.014	0.056	.814	-.015	-.012
Nutrition Prototype Similarity**	0.075	0.025	0.182	8.718	.003	.187	.152
Nutrition Knowledge	0.001	0.001	0.057	1.019	.314	.065	.052
Nutrition Willingness Scenario 1 T1	0.004	0.004	0.059	0.938	.334	.062	.050

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Nutrition Positive Prototype Description Traits	-0.002	0.004	-0.034	0.365	.546	-.039	-.031
Nutrition Negative Prototype Description Traits	0.003	0.004	0.049	0.801	.372	.058	.046
Nutrition Intentions T1	0.000	0.001	0.043	0.428	.514	.042	.034
Outcome Variable: T2 Total Fruit Intake							
Step 1 **$\Delta F(8, 250) = 1.23, p = .28, \Delta R^2 = .04$**							
BMI	-0.036	0.045	-0.052	0.668	.415	-.052	-.051
Difficulty Paying Bills	-0.016	0.053	-0.019	0.087	.768	-.019	-.018
Religious Status*	0.142	0.067	0.135	4.500	.035	.133	.132
Perceived Susceptibility+	0.004	0.002	0.124	3.052	.082	.110	.108
Social Desirability	<-0.001	0.009	<0.001	<0.001	.999	<.001	<.001
Any Chronic Conditions	-0.042	0.058	-0.046	0.524	.470	-.046	-.045
COVID-19 Impact	-0.010	0.032	-0.021	0.101	.751	-.020	-.020
Fear of Not Consuming Enough Fruits and Vegetables	-0.001	0.009	-0.012	0.029	.865	-.011	-.011
Step 2 **$\Delta F(1, 249) = 32.90, p < .001, \Delta R^2 = .11$**							
BMI	-0.016	0.042	-0.023	0.143	.705	-.024	-.022
Difficulty Paying Bills	-0.040	0.050	-0.049	0.634	.426	-.050	-.047
Religious Status+	0.111	0.063	0.105	3.067	.081	.110	.102
Perceived Susceptibility	0.003	0.002	0.093	1.917	.167	.087	.081
Social Desirability	-0.005	0.008	-0.036	0.353	.553	-.038	-.035
Any Chronic Conditions	-0.071	0.055	-0.078	1.678	.196	-.082	-.076
COVID-19 Impact	-0.018	0.030	-0.036	0.344	.558	-.037	-.034
Fear of Not Consuming Enough Fruits and Vegetables	0.002	0.008	0.017	0.067	.796	.016	.015
T1 Total Fruit Intake***	0.298	0.052	0.343	32.901	<.001	.342	.335
Step 3 **$\Delta F(3, 246) = 5.79, p = .001, \Delta R^2 = .06$**							
BMI	-0.015	0.041	-0.022	0.137	.711	-.024	-.021
Difficulty Paying Bills	-0.061	0.050	-0.075	1.542	.215	-.079	-.071
Religious Status	0.071	0.064	0.068	1.243	.266	.071	.063
Perceived Susceptibility	0.002	0.002	0.061	0.815	.368	.057	.051

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Social Desirability	-0.005	0.008	-0.035	0.352	.554	-.038	-.034
Any Chronic Conditions	-0.059	0.053	-0.066	1.235	.268	-.071	-.063
COVID-19 Impact	-0.016	0.029	-0.033	0.293	.589	-.035	-.031
Fear of Not Consuming Enough Fruits and Vegetables	0.004	0.008	0.032	0.240	.625	.031	.028
T1 Total Fruit Intake***	0.254	0.052	0.292	24.079	<.001	.299	.279
Subjective Norms	0.002	0.005	0.027	0.193	.661	.028	.025
Descriptive Norms**	0.056	0.021	0.172	7.099	.008	.167	.151
Nutrition Attitudes*	0.003	0.001	0.129	4.581	.033	.135	.122
Step 4 **$\Delta F(2, 244) = 2.40$, $p = .09$, $\Delta R^2 = .02$**							
BMI	<0.001	0.041	<0.001	<0.001	.994	-.001	-.001
Difficulty Paying Bills	-0.071	0.050	-0.087	2.041	.154	-.091	-.081
Religious Status	0.070	0.063	0.066	1.209	.273	.070	.062
Perceived Susceptibility	0.002	0.002	0.057	0.720	.397	.054	.048
Social Desirability	-0.007	0.008	-0.050	0.704	.402	-.054	-.047
Any Chronic Conditions	-0.052	0.053	-0.058	0.963	.327	-.063	-.055
COVID-19 Impact	-0.017	0.029	-0.036	0.357	.551	-.038	-.034
Fear of Not Consuming Enough Fruits and Vegetables	0.006	0.008	0.045	0.486	.487	.045	.039
T1 Total Fruit Intake***	0.255	0.052	0.293	24.230	<.001	.301	.278
Subjective Norms	0.002	0.005	0.026	0.163	.686	.026	.023
Descriptive Norms*	0.045	0.021	0.140	4.467	.036	.134	.119
Nutrition Attitudes+	0.002	0.001	0.117	3.714	.055	.122	.109
Nutrition Prototype Similarity+	0.062	0.032	0.125	3.810	.052	.124	.110
Nutrition Knowledge	-0.002	0.002	-0.062	1.038	.309	-.065	-.058
Step 5 **$\Delta F(3, 241) = 4.71$, $p = .003$, $\Delta R^2 = .04$**							
BMI	0.001	0.041	0.002	0.001	.974	.002	.002
Difficulty Paying Bills	-0.066	0.049	-0.081	1.836	.177	-.087	-.075
Religious Status	0.074	0.063	0.070	1.367	.244	.075	.065
Perceived Susceptibility	0.003	0.002	0.075	1.270	.261	.072	.062

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Social Desirability	-0.006	0.008	-0.046	0.598	.440	-.050	-.043
	Any Chronic Conditions	-0.052	0.052	-0.058	0.997	.319	-.064	-.055
	COVID-19 Impact	-0.013	0.029	-0.026	0.194	.660	-.028	-.024
	Fear of Not Consuming Enough Fruits and Vegetables	0.007	0.008	0.059	0.859	.355	.060	.051
	T1 Total Fruit Intake***	0.272	0.051	0.313	28.460	<.001	.325	.295
	Subjective Norms	0.002	0.005	0.028	0.178	.674	.027	.023
	Descriptive Norms*	0.046	0.021	0.143	4.873	.028	.141	.122
	Nutrition Attitudes^{+}	0.002	0.001	0.118	3.693	.056	.123	.106
	Nutrition Prototype Similarity	0.052	0.032	0.105	2.641	.105	.104	.090
	Nutrition Knowledge	-0.003	0.002	-0.096	2.541	.112	-.102	-.088
	Nutrition Willingness Scenario 1 T1*	0.010	0.005	0.136	4.477	.035	.135	.117
	Nutrition Positive Prototype Description Traits**	-0.014	0.004	-0.187	9.749	.002	-.197	-.172
	Nutrition Negative Prototype Description Traits	0.002	0.005	0.020	0.122	.727	.023	.019
Step 6	**$\Delta F(1, 240) = 12.42$, $p = .001$, $\Delta R^2 = .04$**							
	BMI	-0.011	0.040	-0.016	0.075	.784	-.018	-.015
	Difficulty Paying Bills	-0.061	0.047	-0.075	1.645	.201	-.083	-.069
	Religious Status	0.030	0.063	0.029	0.233	.629	.031	.026
	Perceived Susceptibility	0.003	0.002	0.081	1.547	.215	.080	.067
	Social Desirability	-0.006	0.008	-0.046	0.633	.427	-.051	-.043
	Any Chronic Conditions	-0.069	0.051	-0.076	1.799	.181	-.086	-.072
	COVID-19 Impact	-0.012	0.028	-0.025	0.183	.669	-.028	-.023
	Fear of Not Consuming Enough Fruits and Vegetables	0.008	0.008	0.063	1.015	.315	.065	.054
	T1 Total Fruit Intake***	0.235	0.051	0.270	21.265	<.001	.285	.249
	Subjective Norms	0.001	0.005	0.011	0.028	.867	.011	.009
	Descriptive Norms	0.034	0.021	0.107	2.767	.098	.107	.090
	Nutrition Attitudes	0.001	0.001	0.074	1.473	.226	.078	.066
	Nutrition Prototype Similarity	0.035	0.032	0.070	1.210	.272	.071	.059
	Nutrition Knowledge*	-0.004	0.002	-0.123	4.305	.039	-.133	-.112

	b	SE	$Beta$	F	p	*partial coefficient*	sr
Nutrition Willingness Scenario 1 T1	0.007	0.005	0.097	2.298	.131	.097	.082
Nutrition Positive Prototype Description Traits**	-0.015	0.004	-0.202	11.836	.001	-.217	-.186
Nutrition Negative Prototype Description Traits	<0.001	0.005	0.001	<0.001	.986	.001	.001
Nutrition Intentions T1**	0.003	0.001	0.242	12.418	.001	.222	.190
Outcome Variable: T2 Whole Fruit Intake							
Step 1 **$\Delta F(8, 250) = 1.54, p = .14, \Delta R^2 = .05$**							
BMI	-0.056	0.042	-0.084	1.763	.185	-.084	-.082
Difficulty Paying Bills	-0.012	0.051	-0.015	0.055	.815	-.015	-.014
Religious Status*	0.159	0.064	0.158	6.240	.013	.156	.154
Perceived Susceptibility	0.003	0.002	0.078	1.224	.270	.070	.068
Social Desirability	-0.011	0.008	-0.085	1.735	.189	-.083	-.081
Any Chronic Conditions	-0.014	0.055	-0.017	0.068	.794	-.016	-.016
COVID-19 Impact	-0.015	0.030	-0.033	0.251	.617	-.032	-.031
Fear of Not Consuming Enough Fruits and Vegetables	-0.004	0.008	-0.030	0.187	.666	-.027	-.027
Step 2 **$\Delta F(1, 249) = 129.78, p < .001, \Delta R^2 = .33$**							
BMI	-0.035	0.034	-0.053	1.055	.305	-.065	-.052
Difficulty Paying Bills	-0.039	0.041	-0.050	0.907	.342	-.060	-.048
Religious Status	0.074	0.052	0.073	1.996	.159	.089	.071
Perceived Susceptibility	<-.001	0.002	<.001	<.001	.999	<.001	<.001
Social Desirability*	-0.017	0.007	-0.134	6.492	.011	-.159	-.128
Any Chronic Conditions	-0.018	0.045	-0.021	0.162	.688	-.026	-.020
COVID-19 Impact	0.019	0.025	0.041	0.576	.449	.048	.038
Fear of Not Consuming Enough Fruits and Vegetables	0.001	0.007	0.005	0.007	.932	.005	.004
T1 Whole Fruit Intake***	0.580	0.051	0.590	129.777	<.001	.585	.571
Step 3 **$\Delta F(3, 246) = 3.79, p = .01, \Delta R^2 = .03$**							
BMI	-0.035	0.034	-0.053	1.091	.297	-.066	-.052
Difficulty Paying Bills	-0.054	0.041	-0.069	1.720	.191	-.083	-.065
Religious Status	0.055	0.053	0.055	1.091	.297	.066	.052

		b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
	Perceived Susceptibility	-0.001	0.002	-0.023	0.157	.692	-.025	-.020
	Social Desirability*	-0.017	0.007	-0.130	6.279	.013	-.158	-.124
	Any Chronic Conditions	-0.013	0.044	-0.014	0.081	.776	-.018	-.014
	COVID-19 Impact	0.017	0.025	0.037	0.480	.489	.044	.034
	Fear of Not Consuming Enough Fruits and Vegetables	0.001	0.007	0.013	0.051	.821	.014	.011
	T1 Whole Fruit Intake***	0.518	0.053	0.527	93.932	<.001	.526	.478
	Subjective Norms	0.003	0.004	0.038	0.487	.486	.044	.034
	Descriptive Norms+	0.034	0.018	0.109	3.575	.060	.120	.093
	Nutrition Attitudes*	0.002	0.001	0.103	3.865	.050	.124	.097
Step 4	**$\Delta F(2, 244) = 1.93$, $p = .15$, $\Delta R^2 = .01$**							
	BMI	-0.024	0.034	-0.036	0.493	.483	-.045	-.035
	Difficulty Paying Bills	-0.062	0.041	-0.079	2.245	.135	-.096	-.074
	Religious Status	0.056	0.053	0.056	1.114	.292	.067	.052
	Perceived Susceptibility	-0.001	0.002	-0.028	0.222	.638	-.030	-.023
	Social Desirability**	-0.018	0.007	-0.140	7.253	.008	-.170	-.132
	Any Chronic Conditions	-0.006	0.044	-0.007	0.019	.890	-.009	-.007
	COVID-19 Impact	0.016	0.025	0.034	0.415	.520	.041	.032
	Fear of Not Consuming Enough Fruits and Vegetables	0.003	0.007	0.024	0.186	.666	.028	.021
	T1 Whole Fruit Intake***	0.515	0.054	0.523	90.158	<.001	.519	.467
	Subjective Norms	0.002	0.004	0.032	0.316	.575	.036	.027
	Descriptive Norms	0.026	0.018	0.083	2.019	.157	.091	.070
	Nutrition Attitudes+	0.002	0.001	0.092	3.012	.084	.110	.085
	Nutrition Prototype Similarity+	0.050	0.026	0.105	3.519	.062	.119	.092
	Nutrition Knowledge	-0.001	0.001	-0.032	0.366	.546	-.039	-.030
Step 5	**$\Delta F(3, 241) = 4.50$, $p = .004$, $\Delta R^2 = .03$**							
	BMI	-0.027	0.034	-0.041	0.654	.419	-.052	-.039
	Difficulty Paying Bills	-0.061	0.040	-0.078	2.258	.134	-.096	-.072
	Religious Status	0.059	0.053	0.059	1.256	.263	.072	.054

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Perceived Susceptibility	<.001	0.002	-0.008	0.018	.895	-.009	-.006
Social Desirability**	-0.017	0.007	-0.133	6.670	.010	-.164	-.124
Any Chronic Conditions	-0.001	0.043	-0.002	0.001	.975	-.002	-.002
COVID-19 Impact	0.015	0.024	0.033	0.403	.526	.041	.031
Fear of Not Consuming Enough Fruits and Vegetables	0.004	0.006	0.032	0.344	.558	.038	.028
T1 Whole Fruit Intake***	0.512	0.053	0.520	91.915	<.001	.525	.461
Subjective Norms	0.003	0.004	0.041	0.519	.472	.046	.035
Descriptive Norms	0.027	0.018	0.088	2.327	.128	.098	.073
Nutrition Attitudes*	0.002	0.001	0.109	4.129	.043	.130	.098
Nutrition Prototype Similarity+	0.050	0.027	0.106	3.543	.061	.120	.091
Nutrition Knowledge	-0.002	0.001	-0.054	1.056	.305	-.066	-.049
Nutrition Willingness Scenario 1 T1	0.003	0.004	0.048	0.722	.396	.055	.041
Nutrition Positive Prototype Description Traits**	-0.012	0.004	-0.174	11.174	.001	-.211	-.161
Nutrition Negative Prototype Description Traits	0.006	0.004	0.078	2.352	.126	.098	.074
Step 6 **$\Delta F(1, 240) = 8.66$, $p = .004$, $\Delta R^2 = .02$**							
BMI	-0.036	0.033	-0.053	1.143	.286	-.069	-.051
Difficulty Paying Bills	-0.058	0.040	-0.075	2.158	.143	-.094	-.070
Religious Status	0.031	0.053	0.031	0.345	.557	.038	.028
Perceived Susceptibility	<-0.001	0.002	-0.002	0.001	.972	-.002	-.002
Social Desirability**	-0.017	0.007	-0.132	6.861	.009	-.167	-.124
Any Chronic Conditions	-0.015	0.043	-0.017	0.119	.730	-.022	-.016
COVID-19 Impact	0.013	0.024	0.027	0.275	.600	.034	.025
Fear of Not Consuming Enough Fruits and Vegetables	0.004	0.006	0.037	0.454	.501	.043	.032
T1 Whole Fruit Intake***	0.464	0.055	0.472	71.224	<.001	.478	.400
Subjective Norms	0.002	0.004	0.028	0.250	.617	.032	.024
Descriptive Norms	0.021	0.018	0.068	1.423	.234	.077	.057
Nutrition Attitudes	0.001	0.001	0.078	2.114	.147	.093	.069
Nutrition Prototype Similarity	0.039	0.027	0.082	2.119	.147	.094	.069

	b	*SE*	*Beta*	*F*	*p*	*partial coefficient*	*sr*
Nutrition Knowledge	-0.002	0.001	-0.071	1.865	.173	-.088	-.065
Nutrition Willingness Scenario 1 T1	0.002	0.004	0.024	0.178	.674	.027	.020
Nutrition Positive Prototype Description Traits***	-0.013	0.004	-0.187	13.214	<.001	-.228	-.172
Nutrition Negative Prototype Description Traits	0.005	0.004	0.064	1.623	.204	.082	.060
Nutrition Intentions T1**	0.002	0.001	0.181	8.673	.004	.187	.139

Note. *b* = unstandardized coefficients, *SE* = standard error, *F* = *F*-value, *sr* = part correlation. Transformed variables were used and centered prior to analyses for easier interpretability. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 13

Scenario Dominance for Total Vegetable Intake

			Additional Scenario Contribution (partial R^2)			
Total Vegetable Intake T2	Scenarios in Model	ΔR^2	1	2	3	4
	-		**.042**			
	-			**.033**		
	-				**.024**	
	-					**.060**
Tier 1a	2	.001	.003			
	3	.002	.004			
	4	<.001	<.001			
	***M*(Cx$_{1a}$)**	**.001**	**.003**			
Tier 1b	1	.007		.015		
	3	.001		.003		
	4	.009*		.020		
	***M*(Cx$_{1b}$)**	**.006**		**.0125**		
Tier 1c	1	.008*			.017	
	2	.002			.004	
	4	.008*			.017	
	***M*(Cx$_{1c}$)**	**.006**			**.0126**	
Tier 1d	1	.008*	.			.017
	2	.011*				.025
	3	.009*				.020
	***M*(Cx$_{1d}$)**	**.009**				**.021**
Tier 2	1, 2	.003/.011*			.006	.024
	1, 3	.002/ .009*		.005		.020
	1, 4	.010*/.009*		.023	.020	
	2, 3	.002/.011*	.005			.024
	2, 4	.001/.002	.003		.004	
	3, 4	.001/.003	.003	.007		
	***M*(Cx$_2$)**		**.004**	**.012**	**.010**	**.023**
Tier 3	2, 3, 4	.002	**.005**			
	1, 3, 4	.004		**.009**		
	1, 2, 4	.003			**.006**	
	1, 2, 3	.011*				**.024**
Importance Total	***M*(Cx$_T$)**		**.0135**	**.0165**	**.0132**	**.0319**

Note. Some values were kept to 4 decimal places to show differences between scenarios. $^+p < .10$. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 14

Scenario Dominance for Greens and Other Vegetable Intake

			Additional Scenario Contribution (partial R^2)			
Greens and Other Vegetable Intake T2	Scenarios in Model	ΔR^2	1	2	3	4
	-		**.054**			
	-			**.061**		
	-				**.036**	
	-					**.091**
Tier 1a	2	$.006^{+}$	.014			
	3	$.008^{*}$	.018			
	4	.003	.007			
	***M*(Cx1a)**	**.006**	**.013**			
Tier 1b	1	.002		.006		
	3	<.001		<.001		
	4	.002		.005		
	***M*(Cx1b)**	**.002**		**.0039**		
Tier 1c	1	$.006^{+}$			.014	
	2	.002			.004	
	4	.003			.008	
	***M*(Cx1c)**	**.004**			**.0087**	
Tier 1d	1	$.011^{*}$	.			.026
	2	$.014^{**}$				.032
	3	$.013^{**}$				.031
	***M*(Cx1d)**	**.013**				**.030**
Tier 2	1, 2	$.004/.013^{**}$			.009	.032
	1, 3	$<.001/ .012^{**}$		.0004		.030
	1, 4	$.005^{+}/007^{*}$		.011	.017	
	2, 3	$.008^{*}/.014^{**}$	.018			.032
	2, 4	$.006^{+}/.002$	.013		.004	
	3, 4	$.007^{*}/<.001$	.016	<.001		
	***M*(Cx2)**		**.016**	**.004**	**.010**	**.031**
Tier 3	2, 3, 4	$.007^{*}$	**.018**			
	1, 3, 4	.001		**.002**		
	1, 2, 4	.003			**.008**	
	1, 2, 3	$.013^{**}$				**.031**
Importance Total	***M*(CxT)**		**.0252**	**.0180**	**.0157**	**.0455**

Note. Some values were kept to 4 decimal places to show differences between scenarios. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 15

Scenario Dominance for Greens Intake

			Additional Scenario Contribution (partial R^2)			
Greens Intake T2	Scenarios in Model	ΔR^2	1	2	3	4
	-		**.037**			
	-			**.047**		
	-				**.026**	
	-					**.055**
Tier 1a	2	.003	.005			
	3	.003	.005			
	4	.002	.004			
	***M*(Cx$_{1a}$)**	**.003**	**.005**			
Tier 1b	1	<.001		<.0001		
	3	<.001		.0001		
	4	<.001		<.0001		
	***M*(Cx$_{1b}$)**	**<.001**		**<.001**		
Tier 1c	1	<.001			.0002	
	2	<.001			<.0001	
	4	<.001			<.0001	.
	***M*(Cx$_{1c}$)**	**<.001**			**<.001**	
Tier 1d	1	.006	.			.009
	2	.007				.010
	3	.007				.010
	***M*(Cx$_{1d}$)**	**.006**				**.010**
Tier 2	1, 2	<.001/.006			<.001	.010
	1, 3	<.001/ .006		<.001		.010
	1, 4	<.001 /<.001		.001	<.001	
	2, 3	.003/.007	.005			.010
	2, 4	.003/<.001	.005		<.001	
	3, 4	.003/<.001	.004	<.001		
	***M*(Cx$_2$)**		**.004**	**.0006**	**.0001**	**.010**
Tier 3	2, 3, 4	.003	**.005**			
	1, 3, 4	<.001		**.0004**		
	1, 2, 4	<.001			**.0001**	
	1, 2, 3	.006				**.010**
Importance Total	***M*(Cx$_T$)**		**.0127**	**.0121**	**.0066**	**.021**

Note. Some values were kept to 4 decimal places to show differences between scenarios. In tier 1, Scenario 2 contributed slightly more than scenario 3. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 16

Scenario Dominance for Total Fruit Intake

			Additional Scenario Contribution (partial R^2)			
Total Fruit Intake T2	Scenarios in Model	ΔR^2	1	2	3	4
	-		**.046**			
	-			**.052**		
	-				**.042**	
	-					**.044**
Tier 1a	2	.007	.009			
	3	.011^{+}	.014			
	4	.011^{+}	.015			
	M(Cx$_{1a}$)	**.010**	**.013**			
Tier 1b	1	.005		.007		
	3	.009^{+}		.012		
	4	.006		.009		
	M(Cx$_{1b}$)	**.007**		**.009**		
Tier 1c	1	<.001			<.001	
	2	<.001			<.001	
	4	.002			.0022	
	M(Cx$_{1c}$)	**.001**			**<.001**	
Tier 1d	1	.018*	.			.024
	2	.015*				.021
	3	.019*				.026
	M(Cx$_{1d}$)	**.017**				**.024**
Tier 2	1, 2	.001/.015*			.001	.020
	1, 3	.006/.018*		.008		.024
	1, 4	.002/<.001		.003	<.001	
	2, 3	.008/.015*	.010			.021
	2, 4	.007/<.001	.009		<.001	
	3, 4	.009^{+}/.005	.013	.007		
	M(Cx$_{2}$)		**.011**	**.0057**	**<.001**	**.022**
Tier 3	2, 3, 4	.007	**.010**			
	1, 3, 4	.003		**.004**		
	1, 2, 4	.001			**<.001**	
	1, 2, 3	.015*				**.020**
Importance Total	**M(Cx$_{T}$)**		**.020**	**.018**	**.011**	**.027**

Note. Some values were kept to 4 decimal places to show differences between scenarios. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 17

Scenario Dominance for Whole Fruit Intake

			Additional Scenario Contribution (partial R^2)			
Whole Fruit Intake T2	Scenarios in Model	ΔR^2	1	2	3	4
	-		**.046**			
	-			**.074**		
	-				**.052**	
	-					**.038**
Tier 1a	2	<.001	<.001			
	3	.002	.003			
	4	.001	.002			
	***M*(Cx$_{1a}$)**	**.001**	**.002**			
Tier 1b	1	.005	.	.008		
	3	.008$^+$		.015		
	4	.005		.008		
	***M*(Cx$_{1b}$)**	**.006**		**.010**		
Tier 1c	1	<.001			<.001	
	2	.002			.004	
	4	<.001			<.001	.
	***M*(Cx$_{1c}$)**	**.001**			**.001**	
Tier 1d	1	.004	.			.007
	2	.002				.004
	3	.004				.007
	***M*(Cx$_{1d}$)**	**.003**				**.006**
Tier 2	1, 2	.003/.002			.005	.0044
	1, 3	.007$^+$/ .004		.013		.0069
	1, 4	.003/<.001		.006	.004	
	2, 3	.001/.002	.001			.0042
	2, 4	<.001/.002	<.001		.004	
	3, 4	.002/.007$^+$	.003	.012		
	***M*(Cx$_2$)**		**.001**	**.010**	**.004**	**.005**
Tier 3	2, 3, 4	.001	**.001**			
	1, 3, 4	.006		**.010**		
	1, 2, 4	.002			**.005**	
	1, 2, 3	.002				**.004**
Importance Total	***M*(Cx$_T$)**		**.0126**	**.0260**	**.0154**	**.0131**

Note. Some values were kept to 4 decimal places to show differences between scenarios. $^+p < .10$. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 18

Moderator Effects on Fruit and Vegetable Consumption

	Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
Total Vegetables	COVID-19 Trauma Willingness	-	-	-	-	-	-	-	-
	COVID-19 Trauma Intentions	*Yes*, $b = -0.001$, $SE = <0.001$, $F(1, 238) = 7.63$, $p = .006$	-	*Yes*, $b = -0.001$, $SE = <0.001$, $F(1, 238) = 7.77$, $p = .006$	-	*Yes*, $b = -0.001$, $SE = <0.001$, $F(1, 238) = 7.06$, $p = .01$	-	*Yes*, $b = -0.001$, $SE = <0.001$, $F(1, 238) = 7.74$, $p = .006$	-
	COVID-19 Checking Willingness	*Yes*, $b = 0.007$, $SE = 0.003$, $F(1, 238) = 5.22$, $p = .02$ (last step not sig)	-	-	*Trend*, $b = 0.030$, $SE = 0.016$, $F(1, 238) = 3.47$, $p = .06$ (last step not sig)	-	*Trend*, $b = 0.030$, $SE = 0.016$, $F(1, 238) = 3.44$, $p = .07$ (last step not sig)	-	*Trend*, $b = 0.029$, $SE = 0.016$, $F(1, 238) = 3.19$, $p = .08$ (last step not sig)
	COVID-19 Checking Intentions	-	-	-	*Trend*, $b = 0.030$, $SE = 0.016$, $F(1, 238) = 3.41$, $p = .07$ (last step not significant)	-	*Trend*, $b = 0.029$, $SE = 0.016$, $F(1, 238) = 3.24$, $p = .07$ (last step not sig)	-	*Trend*, $b = 0.027$, $SE = 0.016$, $F(1, 238) = 2.78$, $p = .10$ (last step not sig)
	COVID-19 Xenophobia Willingness	-	-	-	*Yes*, $b = 0.029$, $SE = 0.014$, $F(1, 238) = 3.97$, $p = .05$ (last step not significant)	-	*Yes*, $b = 0.029$, $SE = 0.014$, $F(1, 238) = 4.20$, $p = .04$ (last step not significant)	-	*Yes*, $b = 0.030$, $SE = 0.014$, $F(1, 238) = 4.63$, $p = .03$ (last step not significant)

	Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
	COVID-19 Xenophobia Intentions	-	-	-	*Trend*, *b* = 0.027, *SE* = 0.014, *F*(1, 238) = 3.60, *p* = .06 (last step not significant)	-	*Trend*, *b* = 0.028, *SE* = 0.014, *F*(1, 238) = 3.90, *p* = .05 (last step not significant)	-	*Trend*, *b* = 0.030, *SE* = 0.014, *F*(1, 238) = 4.62, *p* = .03 (last step not significant)
	T1 Intake Willingness	*Yes*, *b* = 0.020, *SE* = .008, *F*(1, 239) = 6.18, *p* = .01 (last step not sig)	Yes (see Aim 1)	*Trend*, *b* = 0.013, *SE* = .007, *F*(1, 239) = 3.76, *p* = .05 (last step not sig)	Yes (see Aim 1)	*Yes*, *b* = 0.019, *SE* = 0.008, *F*(1, 239) = 6.23, *p* = .01 (last step not sig)	Yes (see Aim 1)	-	Yes (see Aim 1)
	T1 Intake Intentions	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
Greens and Other Vegetables	COVID-19 Trauma Willingness	-	-	-	-	-	-	-	-
	COVID-19 Trauma Intentions	*Trend*, *b* = -0.001, *SE* = <0.001, *F*(1, 238) = 3.56, *p* = .06	-	*Trend*, *b* = -0.001, *SE* = <0.001, *F*(1, 238) = 3.27, *p* = .07	-	*Trend*, *b* = -0.001, *SE* = <0.001, *F*(1, 238) = 3.04, *p* = .08	-	*Trend*, *b* = -0.001, *SE* = <0.001, *F*(1, 238) = 3.51, *p* = .06	-
	COVID-19 Checking Willingness	-	*Yes*, *b* = 0.036, *SE* = 0.016, *F*(1, 238) = 5.26, *p* = .023 (last step not sig)	-	*Trend*, *b* = 0.037, *SE* = 0.016, *F*(1, 238) = 5.42, *p* = .02 (last step not sig)	-	*Yes*, *b* = 0.036, *SE* = 0.016, *F*(1, 238) = 4.99, *p* = .026 (last step not sig)	-	*Yes*, *b* = 0.032, *SE* = 0.016, *F*(1, 238) = 4.05, *p* = .045 (last step not sig)
	COVID-19 Checking Intentions	-	*Trend*, *b* = 0.037, *SE* = 0.016, *F*(1, 238) = 5.44,	-	*Trend*, *b* = 0.037, *SE* = 0.016, *F*(1, 238) = 5.25, *p* = .02	-	*Trend*, *b* = 0.036, *SE* = 0.016, *F*(1, 238) = 5.05, *p* = .03	-	*Yes*, *b* = 0.032, *SE* = 0.016, *F*(1, 238) = 4.07,

	Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
			$p = .02$ (last step not sig)						$p = .045$ (last step not sig)
	COVID-19 Xenophobia Willingness	-	*Yes*, $b = 0.032$, $SE = 0.014$, $F(1, 238) = 5.35$, $p = .022$ (last step not sig)	-	-	-	*Yes*, $b = 0.032$, $SE = 0.014$, $F(1, 238) = 5.03$, $p = .026$ (last step not sig		*Yes*, $b = 0.030$, $SE = 0.014$, $F(1, 238) = 4.84$, $p = .029$ (last step not sig)
	COVID-19 Xenophobia Intentions	-	*Trend*, $b = 0.031$, $SE = 0.014$, $F(1, 238) = 4.81$, $p = .03$ (last step not sig)	-	-	-	-		*Trend*, $b = 0.030$, $SE = 0.014$, $F(1, 238) = 4.75$, $p = .030$ (last step not sig)
	T1 Intake Willingness	*Yes*, $b = 0.021$, $SE = 0.008$, $F(1, 239) = 7.81$, $p = .006$ (last step not sig)	Yes (see Aim 1)	*Yes*, $b = 0.014$, $SE = 0.006$, $F(1, 239) = 5.23$, $p = .023$ (last step not sig)	Yes (see Aim 1)	*Yes*, $b = 0.016$, $SE = 0.007$, $F(1, 239) = 4.62$, $p = .03$ (last step not sig)	Yes (see Aim 1)	*Trend*, $b = -0.019$, $SE = 0.007$, $F(1, 239) = 3.87$, $p = .05$ (last step not sig)	Yes (see Aim 1)
	T1 Intake Intentions	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
Greens	COVID-19 Trauma Willingness	-	*Trend*, $b = 0.034$, $SE = 0.016$, $F(1, 238) = 4.55$, $p = .03$ (last step not sig)	-	*Trend*, $b = 0.034$, $SE = 0.016$, $F(1, 238) = 4.46$, $p = .04$ (last step not sig)	-	*Trend*, $b = 0.032$, $SE = 0.016$, $F(1, 238) = 4.04$, $p = .05$ (last step not sig)	-	*Yes*, $b = 0.032$, $SE = 0.016$, $F(1, 238) = 3.96$, $p = .05$ (last step not sig)
	COVID-19 Trauma Intentions	-	*Trend*, $b = 0.034$, $SE = 0.016$, $F(1, 238) = 4.64$, $p = .03$	-	*Trend*, $b = 0.034$, $SE = 0.016$, $F(1, 238) = 4.46$, $p = .03$	-	*Trend*, $b = 0.034$, $SE = 0.016$, $F(1, 238) = 4.63$, $p = .03$	-	-

	Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
	COVID-19 Checking Willingness	-	*Yes*, b = 0.045, SE = 0.017, F(1, 238) = 7.19, p = .008 (last step not sig)	-	*Yes*, b = 0.045, SE = 0.017, F(1, 238) = 7.26, p = .008 (last step not sig)	-	*Yes*, b = 0.045, SE = 0.017, F(1, 238) = 7.34, p = .007 (last step not sig)	-	*Yes*, b = 0.042, SE = 0.017, F(1, 238) = 6.21, p = .01 (last step not sig)
	COVID-19 Checking Intentions	-	*Yes*, b = 0.046, SE = 0.017, F(1, 238) = 7.65, p = .006	-	*Yes*, b = 0.046, SE = 0.017, F(1, 238) = 7.59, p = .006	-	*Yes*, b = 0.046, SE = 0.017, F(1, 238) = 7.58, p = .006	-	*Yes*, b = 0.044, SE = 0.017, F(1, 238) = 6.73, p = .01 (last step not sig)
	COVID-19 Xenophobia Willingness	-	*Trend*, b = 0.028, SE = 0.015, F(1, 238) = 3.58, p = .06 (last step not sig)	-	-	-	-	-	*Trend*, b = 0.028, SE = 0.015, F(1, 238) = 3.58, p = .06 (last step not sig)
	COVID-19 Xenophobia Intentions	-	-	-	-	-	-	-	-
	T1 Intake Willingness	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
	T1 Intake Intentions	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
Total Fruit	COVID-19 Trauma Willingness	-	*Yes*, b = 0.043, SE = 0.020, F(1, 238) = 4.61, p = .033	-	*Yes*, b = 0.045, SE = 0.020, F(1, 238) = 4.90, p = .03	-	*Yes*, b = 0.046, SE = 0.020, F(1, 238) = 4.98, p = .03	-	*Yes*, b = 0.041, SE = 0.020, F(1, 238) = 4.08, p = .05
	COVID-19 Trauma Intentions	-	*Yes*, b = 0.043, SE = 0.020, F(1, 238) = 4.66, p = .032	-	*Yes*, b = 0.045, SE = 0.020, F(1, 238) = 4.94, p	-	*Yes*, b = 0.044, SE = 0.020, F(1, 238) = 4.70, p	-	*Yes*, b = 0.040, SE = 0.020, F(1, 238) = 3.97,

	Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
			(last step not sig)		= .03 (last step not sig)		= .03 (last step not sig)		*p* = .05 (last step not sig)
	COVID-19 Checking Willingness	-	*Yes*, *b* = 0.043, *SE* = 0.021, *F*(1, 238) = 4.17, *p* = .042	-	*Yes*, *b* = 0.044, *SE* = 0.021, *F*(1, 238) = 4.41, *p* = .04	-	*Trend*, *b* = 0.044, *SE* = 0.021, *F*(1, 238) = 4.22, *p* = .04		*Trend*, *b* = 0.037, *SE* = 0.021, *F*(1, 238) = 3.15, *p* = .08 (last step not sig)
	COVID-19 Checking Intentions	-	*Yes*, *b* = 0.043, *SE* = 0.021, *F*(1, 238) = 4.10, *p* = .044 (last step not sig)	-	*Trend*, *b* = 0.043, *SE* = 0.021, *F*(1, 238) = 4.20, *p* = .041 (last step not sig)	-	*Trend*, *b* = 0.043, *SE* = 0.021, *F*(1, 238) = 4.10, *p* = .044 (last step not sig)	-	*Trend*, *b* = 0.038, *SE* = 0.021, *F*(1, 238) = 3.19, *p* = .08
	COVID-19 Xenophobia Willingness	-	*Trend*, *b* = 0.032, *SE* = 0.019, *F*(1, 238) = 2.94, *p* = .088	-	*Trend*, *b* = 0.034, *SE* = 0.019, *F*(1, 238) = 3.17, *p* = .08	-	-	-	-
	COVID-19 Xenophobia Intentions	-	*Trend*, *b* = 0.031, *SE* = 0.019, *F*(1, 238) = 2.77, *p* = .098 (last step not sig)	-	*Trend*, *b* = 0.033, *SE* = 0.019, *F*(1, 238) = 3.06, *p* = .08 (last step not sig)	-	-	-	-
	T1 Intake Willingness	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
	T1 Intake Intentions	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
Whole fruit	COVID-19 Trauma Willingness	-	*Yes*, *b* = 0.040, *SE* = 0.017, *F*(1, 238) = 5.77, *p* = .017	-	*Yes*, *b* = 0.042, *SE* = 0.017, *F*(1, 238) = 6.38, *p* = .012	-	*Yes*, *b* = 0.041, *SE* = 0.017, *F*(1, 238) = 5.86, *p* = .016	-	*Yes*, *b* = 0.040, *SE* = 0.017, *F*(1, 238) = 5.57, *p* = .019
	COVID-19 Trauma Intentions	-	*Yes*, *b* = 0.041, *SE* = 0.017, *F*(1,	-	*Yes*, *b* = 0.042, *SE* = 0.017, *F*(1,		*Yes*, *b* = 0.040, *SE* = .017, *F*(1,	-	*Yes*, *b* = 0.040, *SE* = 0.017, *F*(1,

Moderator	Scenario 1 Interaction	Scenario 1 Main Effect of Moderator	Scenario 2 Interaction	Scenario 2 Main effect of Moderator	Scenario 3 Interaction	Scenario 3 Main effect of Moderator	Scenario 4 Interaction	Scenario 4 Main effect of Moderator
		238) = 5.91, *p* = .016 (last step not sig)		238) = 6.83, *p* = .013 (last step not sig)		238) = 5.71, *p* = .018 (last step not sig)		238) = 5.57, *p* = .019 (last step not sig)
COVID-19 Checking Willingness	-	*Trend*, *b* = 0.037, *SE* = 0.018, *F*(1, 238) = 4.43, *p* = .04	-	*Yes*, *b* = 0.038, *SE* = 0.018, *F*(1, 238) = 4.58, *p* = .033	-	*Yes*, *b* = 0.037, *SE* = 0.018, *F*(1, 238) = 4.41, *p* = .037	-	*Yes*, *b* = 0.035, *SE* = 0.018, *F*(1, 238) = 3.99, *p* = .05
COVID-19 Checking Intentions	-	*Yes*, *b* = 0.035, *SE* = 0.018, *F*(1, 238) = 3.93, *p* = .05 (last step not sig)	-	*Yes*, *b* = 0.036, *SE* = 0.018, *F*(1, 238) = 4.09, *p* = .04 (last step not sig)	-	*Trend*, *b* = 0.035, *SE* = 0.018, *F*(1, 238) = 3.82, *p* = .05 (last step not sig.)	-	*Trend*, *b* = 0.033, *SE* = 0.018, *F*(1, 238) = 3.55, *p* = .06 (last step not sig.)
COVID-19 Xenophobia Willingness	-	-	-	-	-	-	-	-
COVID-19 Xenophobia Intentions	*Trend*, *b* = 0.001, *SE* = <0.001, *F*(1, 238) = 2.80, *p* = .095	-	*Trend*, *b* = 0.001, *SE* = <0.001, *F*(1, 238) = 2.90, *p* = .09	-	-	-	-	-
T1 Intake Willingness	*Trend*, *b* = 0.017, *SE* = 0.010, *F*(1, 239) = 3.07, *p* = .081	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)	-	Yes (see Aim 1)
T1 Intake Intentions	*Trend*, *b* = 0.003, *SE* = 0.001, *F*(1, 239) = 3.58, *p* = .060	Yes (see Aim 1)	-	Yes (see Aim 1)	*Trend*, *b* = 0.003, *SE* = 0.001, *F*(1, 239) = 3.48, *p* = .063	Yes (see Aim 1)	*Trend*, *b* = 0.003, *SE* = 0.001, *F*(1, 239) = 3.47, *p* = .064	Yes (see Aim 1)

Note. While some effects may be $p \leq .05$, they were labeled as a trend because the change in R^2 after the inclusion of intentions never reached significance. For cells with (last step not significant), the regression step in which the moderator was entered was significant and remained significant with other variables entered, but the final step overall was not significant. For cells labeled with “-“, there was no significant effect.

Figure 1

PWM for fruit and vegetable intake

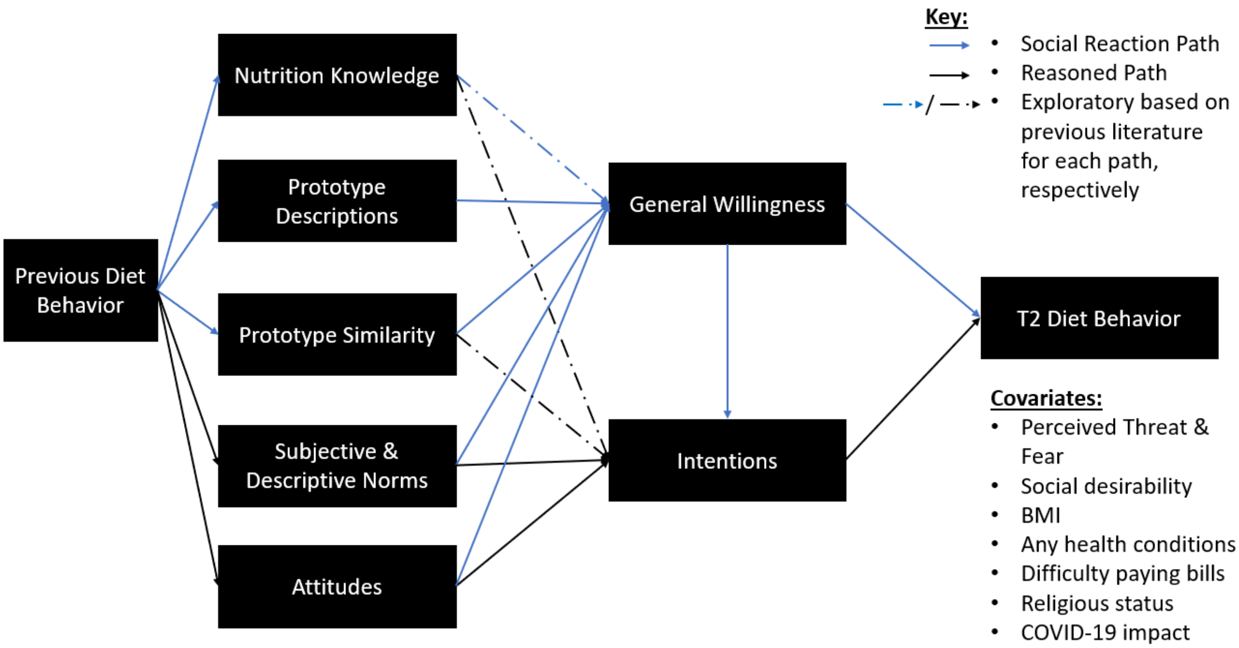


Figure 2

Interchanging various willingness scenarios for dietary behavior

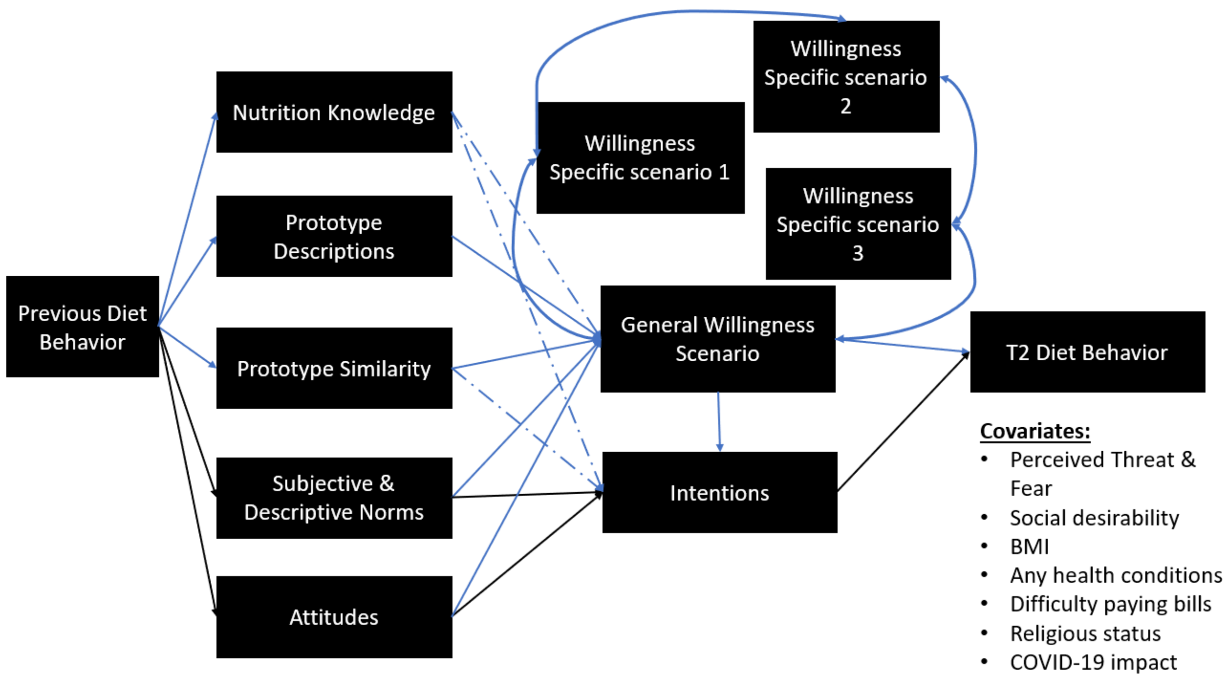


Figure 3

Testing moderator groups with each willingness scenario

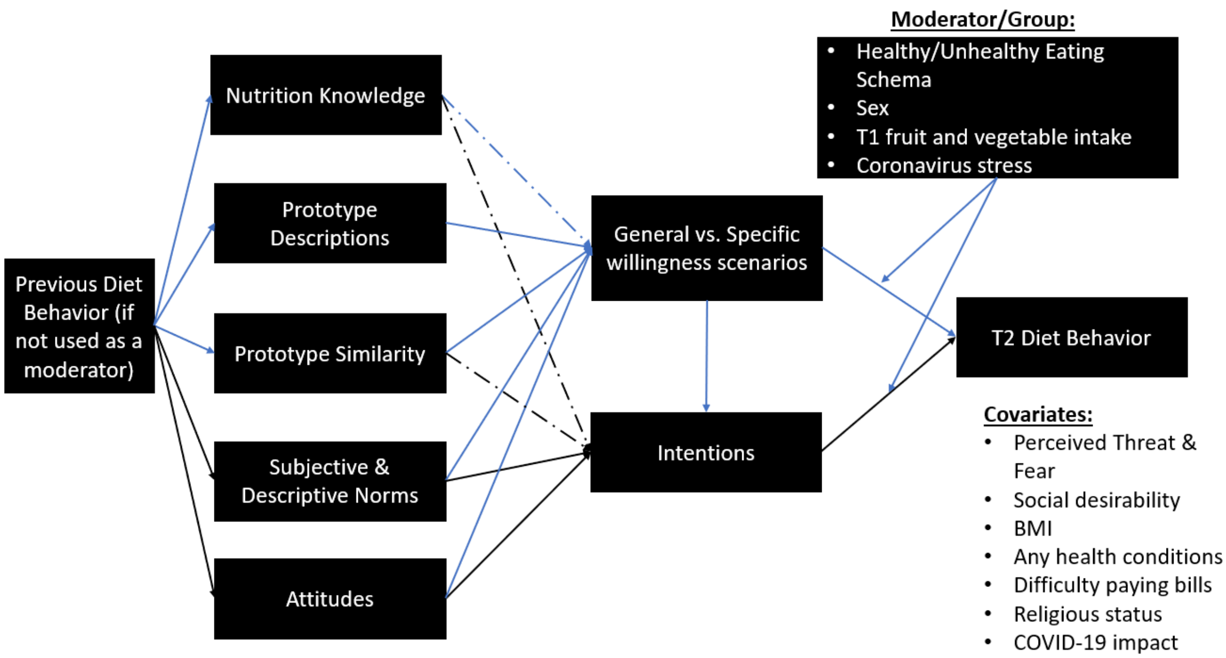
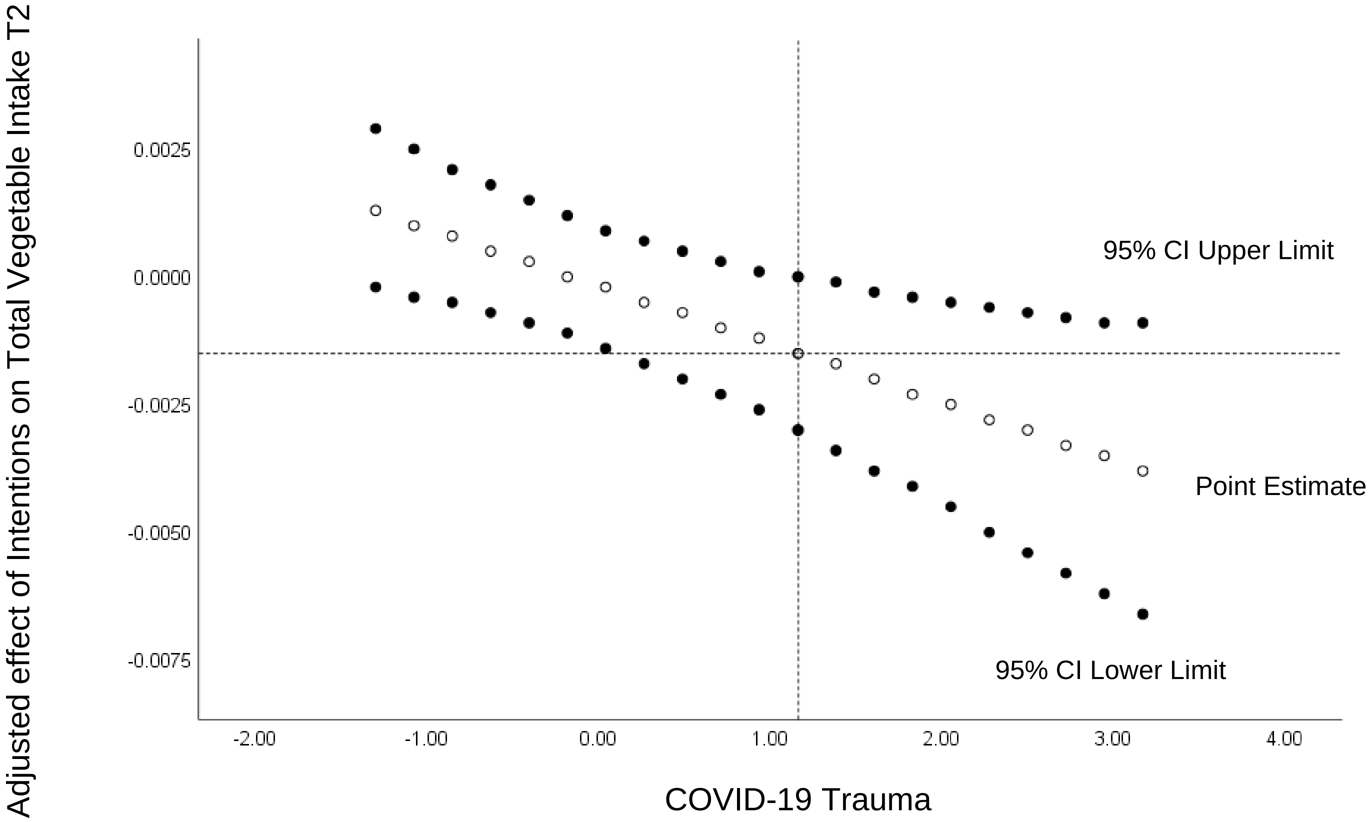
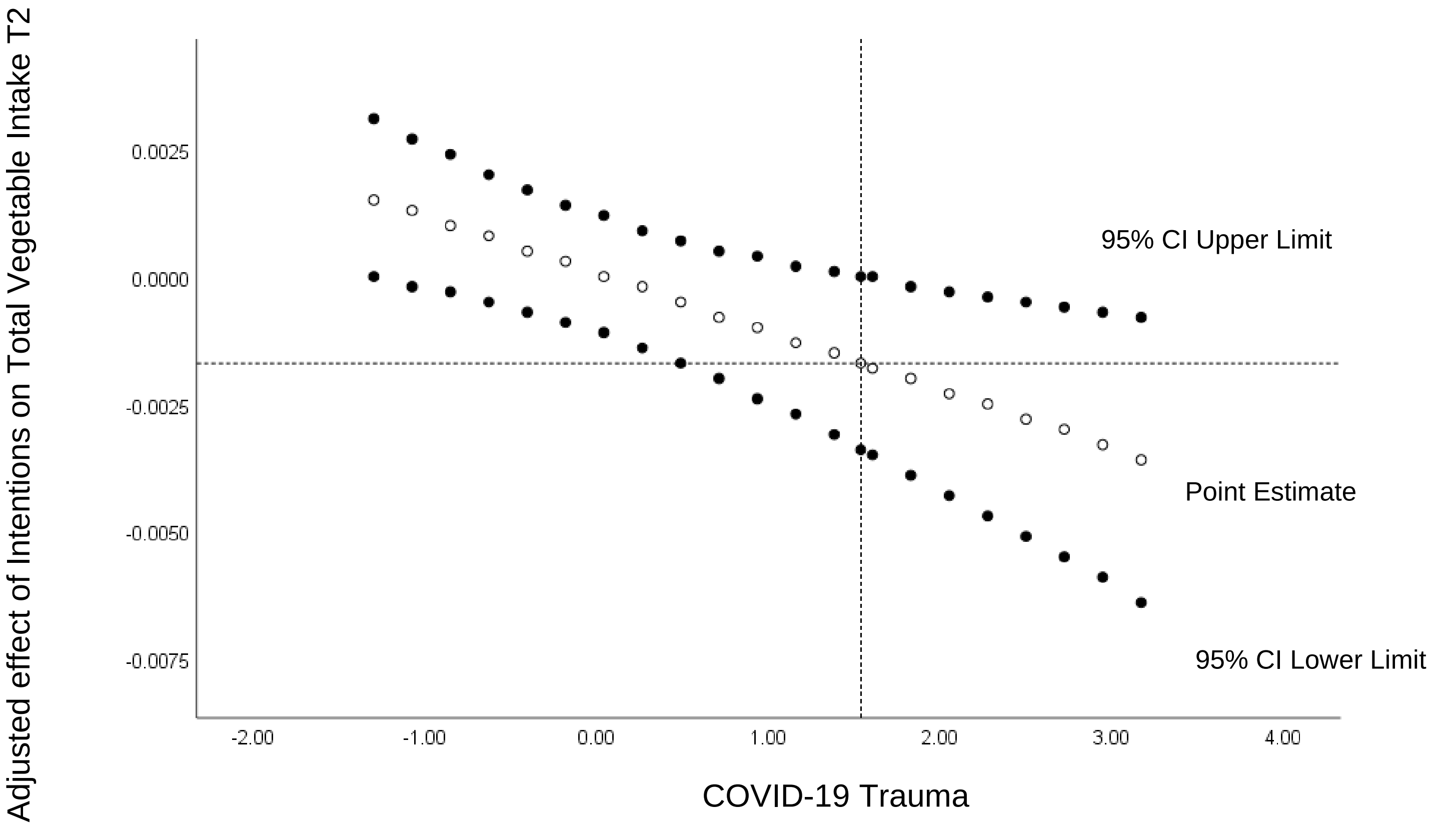


Figure 4



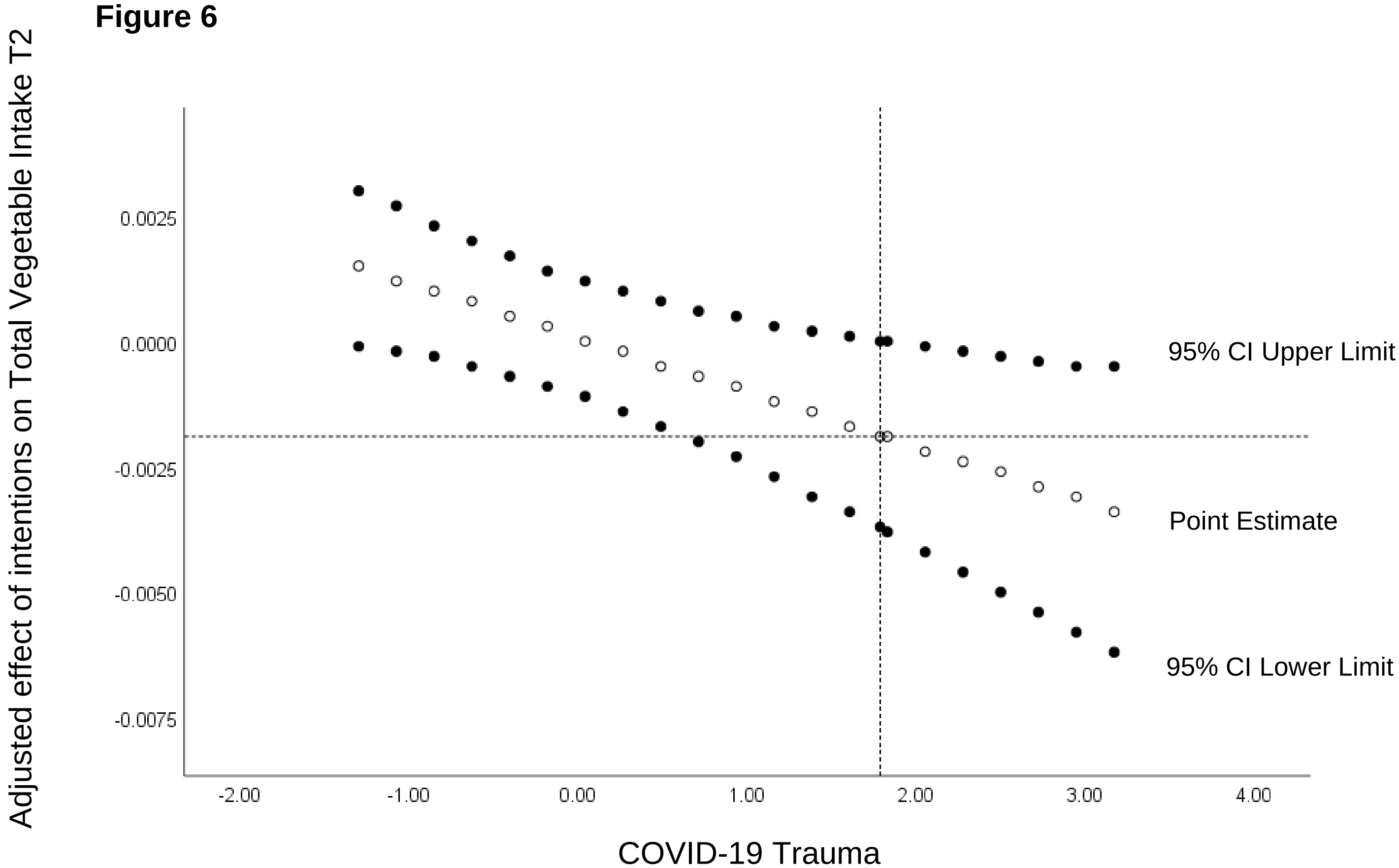
Note. Johnson-Neyman values and confidence intervals (CIs). At the COVID-19 trauma value of 1.164 and above (16.99% of the sample), the adjusted effect of intentions on T2 total vegetable Intake with willingness scenario 1 in the model became significant and more negative as COVID-19 trauma increased.

Figure 5



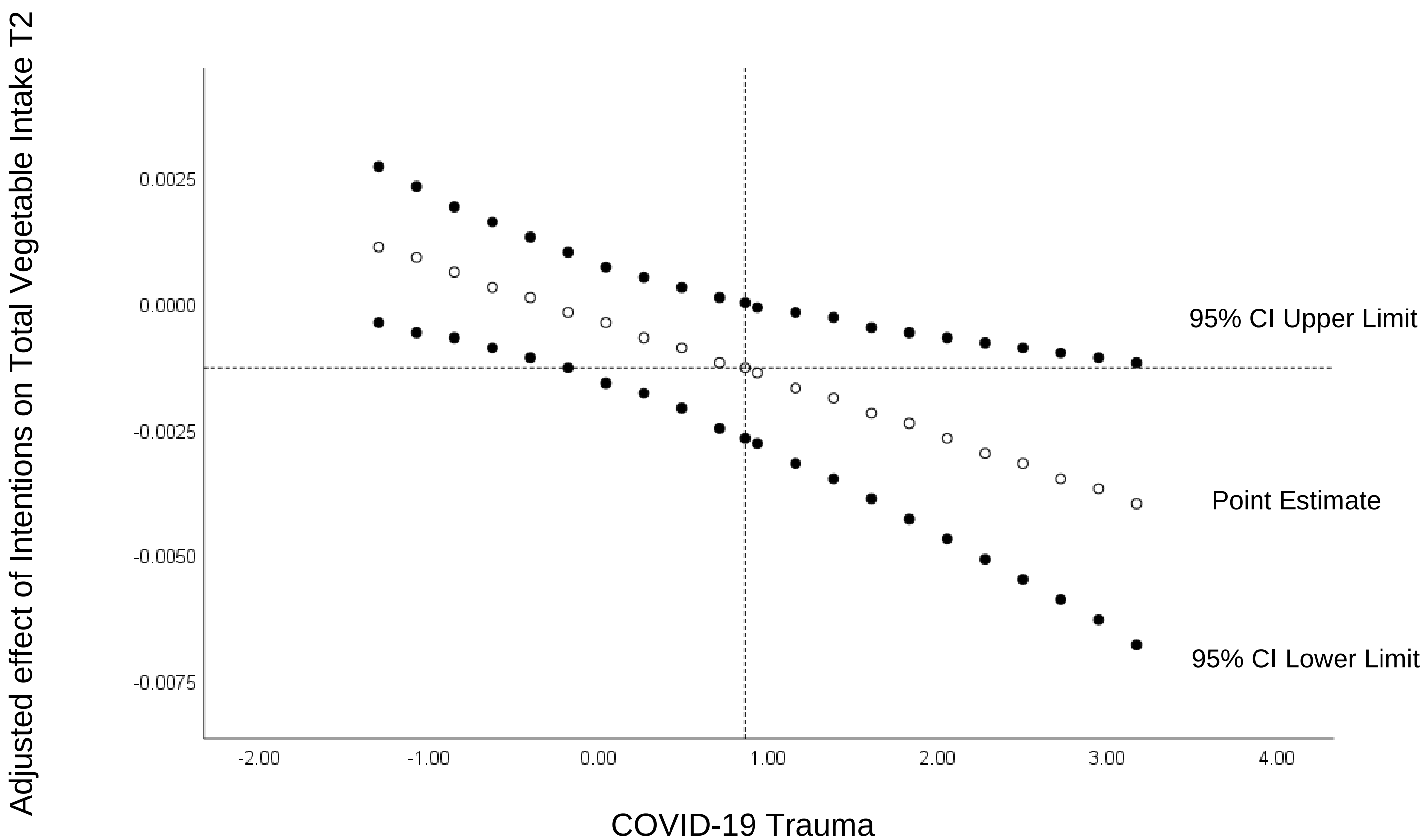
Note. Johnson-Neyman values and confidence intervals (CIs). At the COVID-19 trauma value of 1.537 and above (13.51% of the sample), the adjusted effect of intentions on T2 total vegetable intake with willingness scenario 2 in the model became significant and more negative as COVID-19 trauma increased.

Figure 6



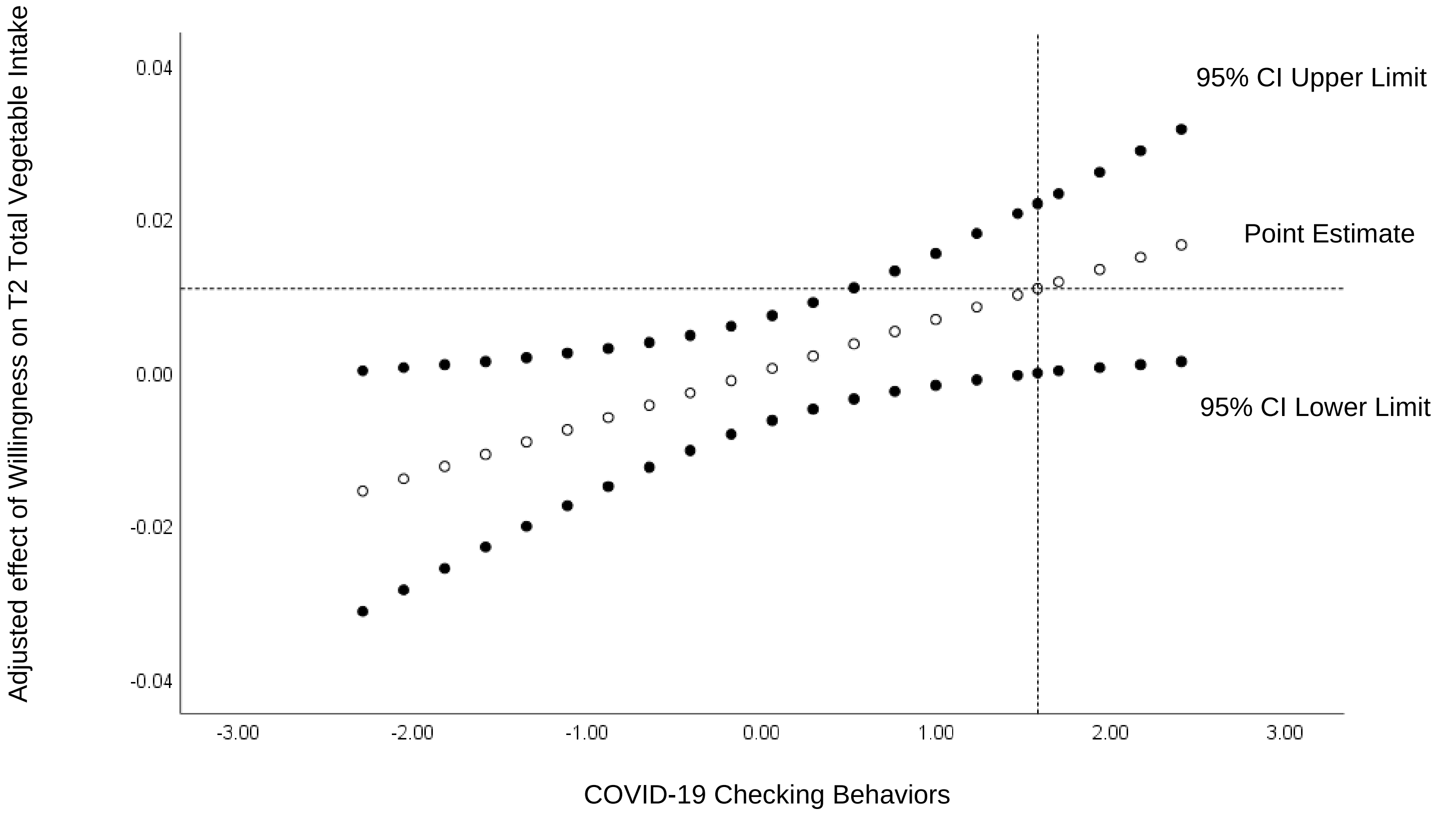
Note. Johnson-Neyman values and confidence intervals (CIs). At the COVID-19 trauma of 1.786 and above (11.97% of the sample), the adjusted effect of intentions on T2 total vegetable intake with willingness scenario 3 in the model became significant and more negative as COVID-19 trauma increased.

Figure 7



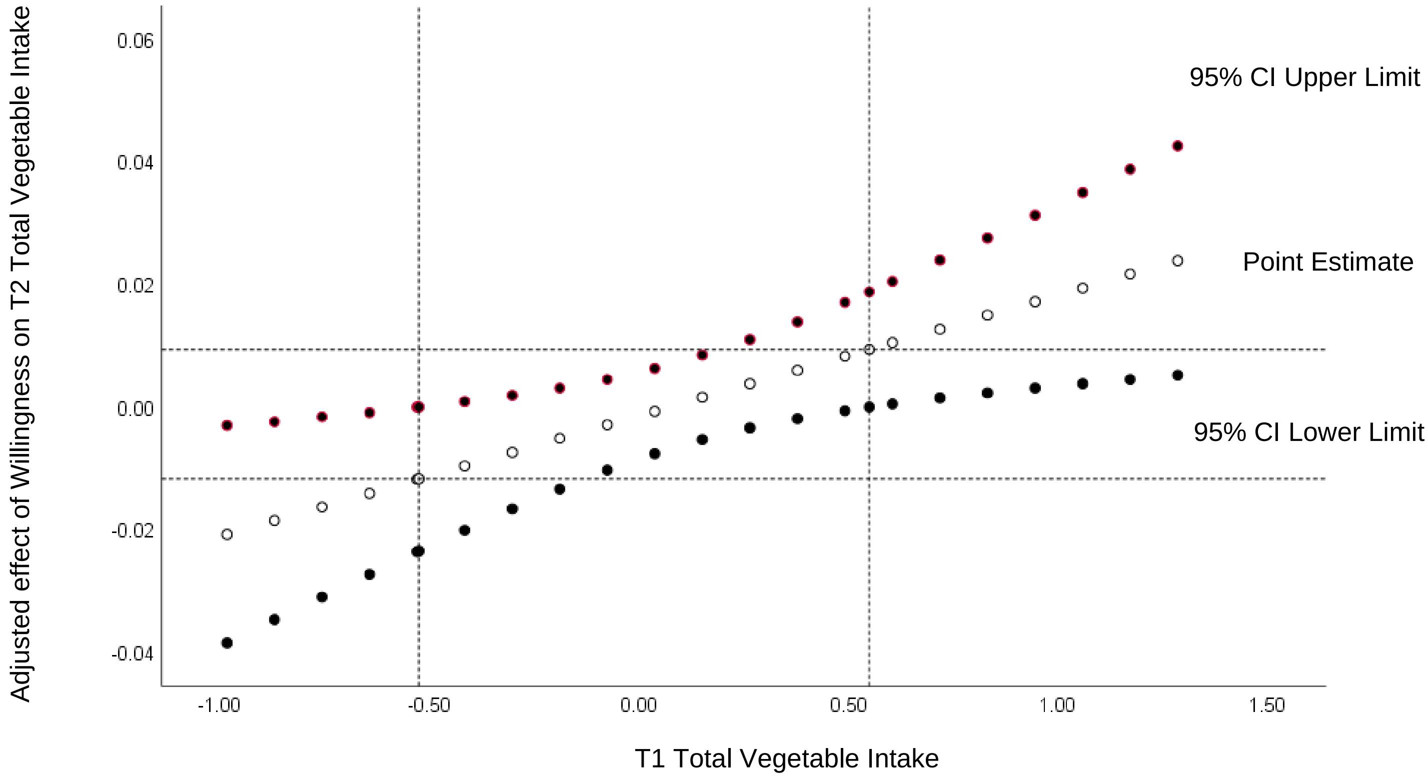
Note. Johnson-Neyman values and confidence intervals (CIs). At COVID-19 trauma value of 0.861 and above (25.10% of the sample), the adjusted effect of intentions on T2 total vegetable intake with willingness scenario 4 in the model became significant and more negative as COVID-19 trauma increased.

Figure 8



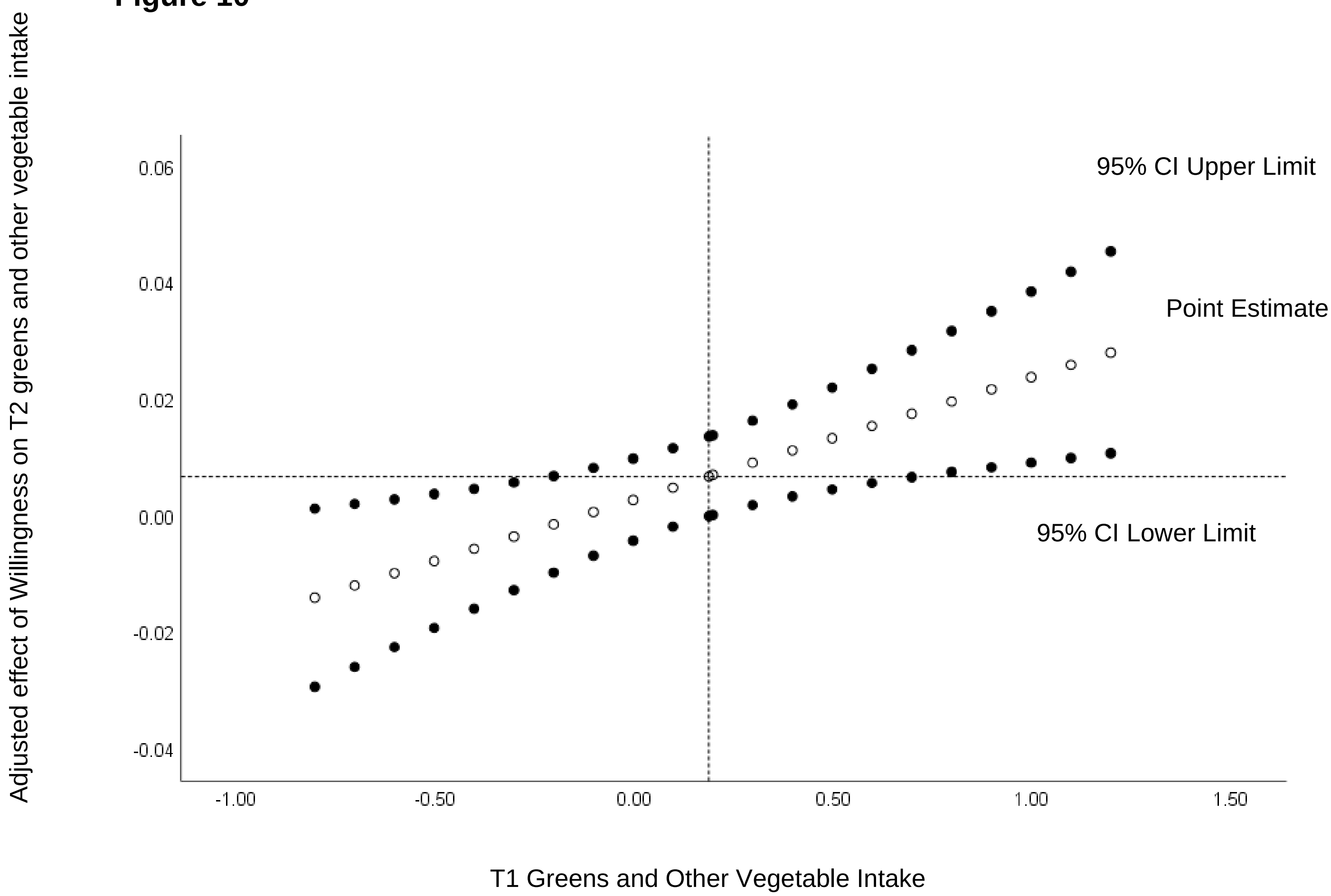
Note. Johnson-Neyman values and confidence intervals (CIs). At COVID-19 checking behaviors value of 1.578 and above (7.72% of the sample), the adjusted effect of willingness (scenario 1) on T2 total vegetable Intake became significant and more positive as COVID-19 checking behaviors increased.

Figure 9



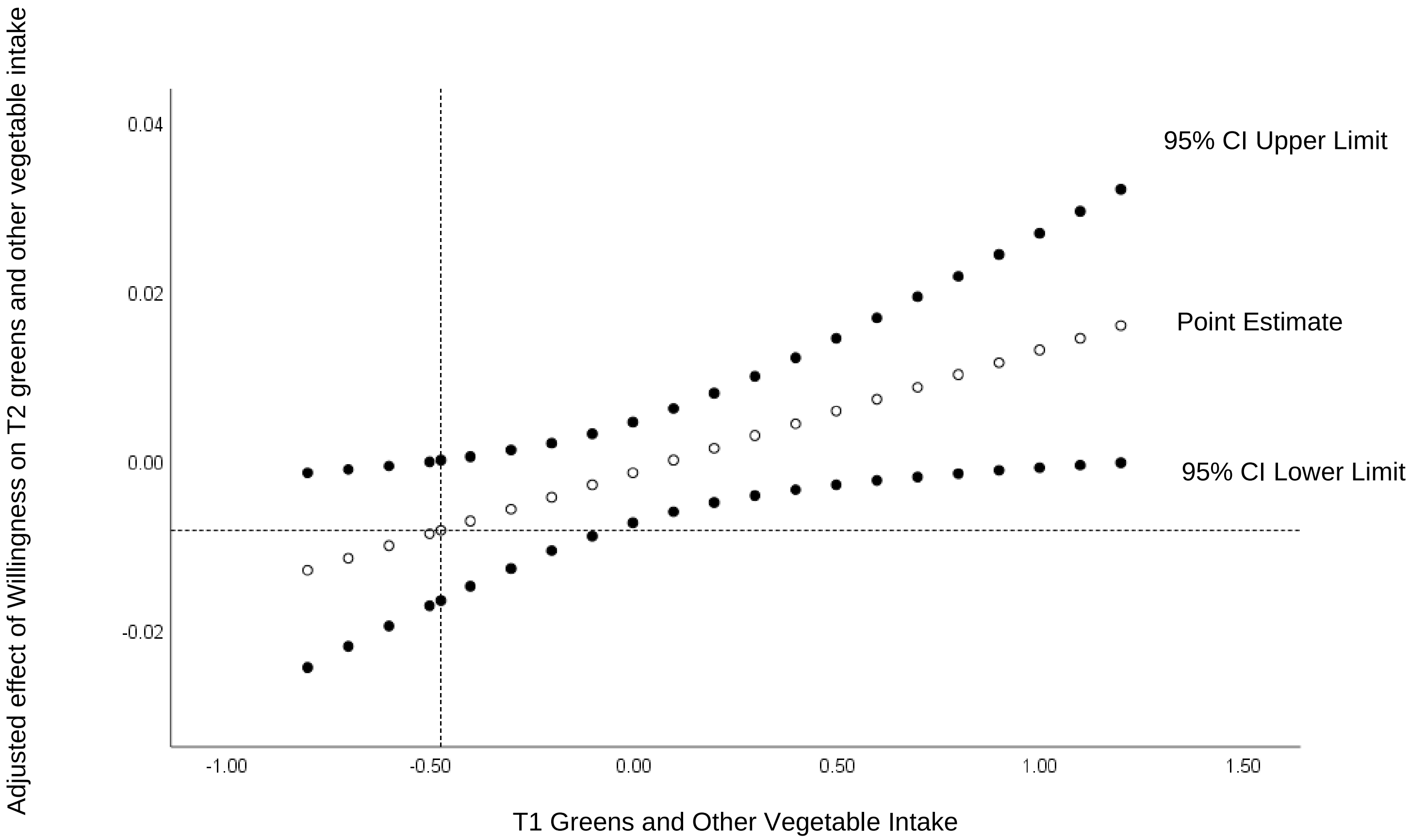
Note. Johnson-Neyman values and confidence intervals (CIs). At the T1 total vegetable intake value of -0.525 and below (6.56% of the sample) and 0.549 and above (8.49% of the sample), the adjusted effect of willingness (scenario 1) on T2 total vegetable intake became significant and more negative and positive as T1 total vegetable intake decreased and increased, respectively.

Figure 10



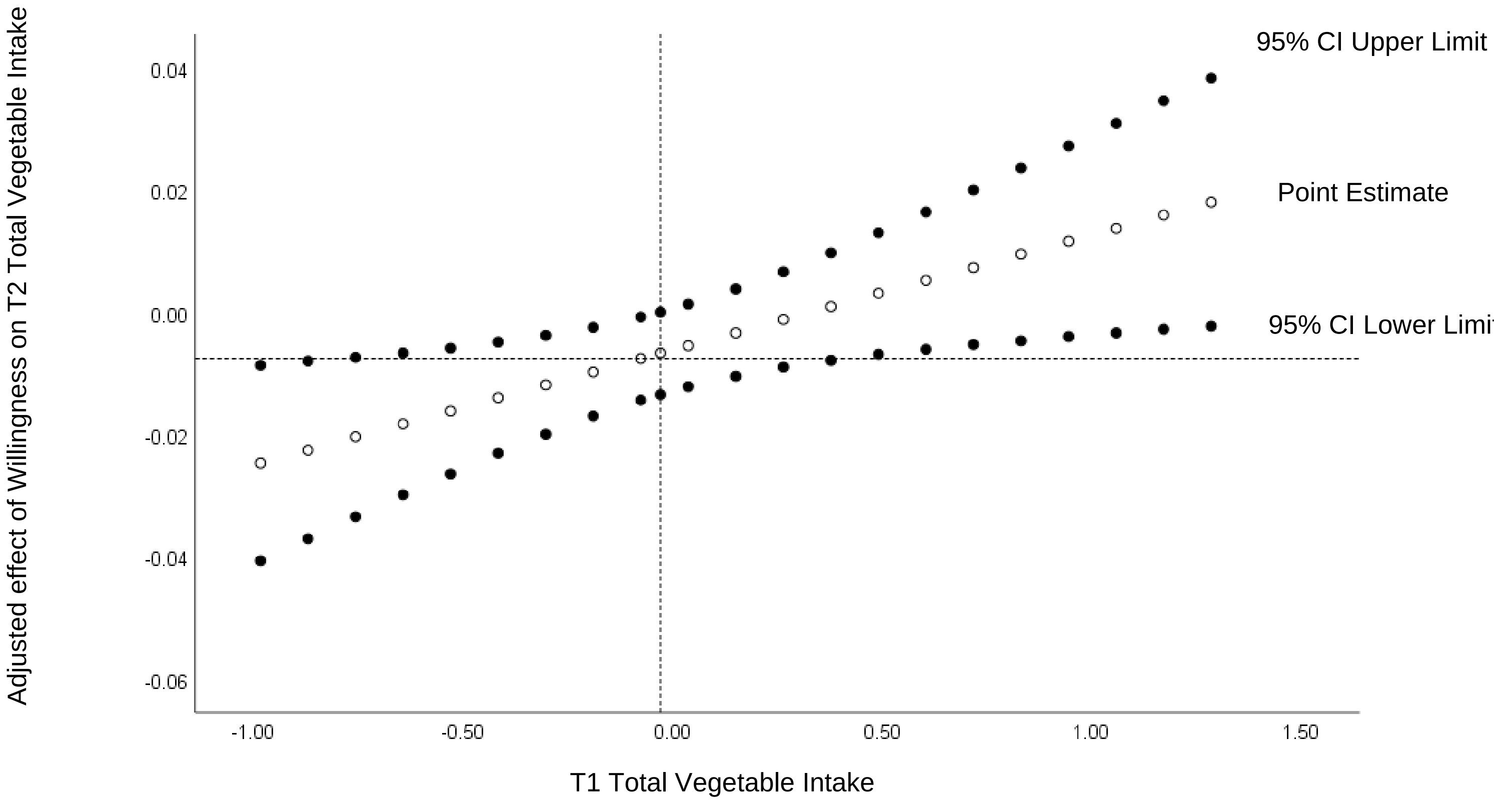
Note. Johnson-Neyman values and confidence intervals (CIs). At the T1 greens and other vegetable intake value of 0.188 and above (28.96% of the sample), the adjusted effect of willingness (scenario 1) on T2 greens and other vegetable intake became significant and more positive as T1 greens and other vegetable intake increased.

Figure 11



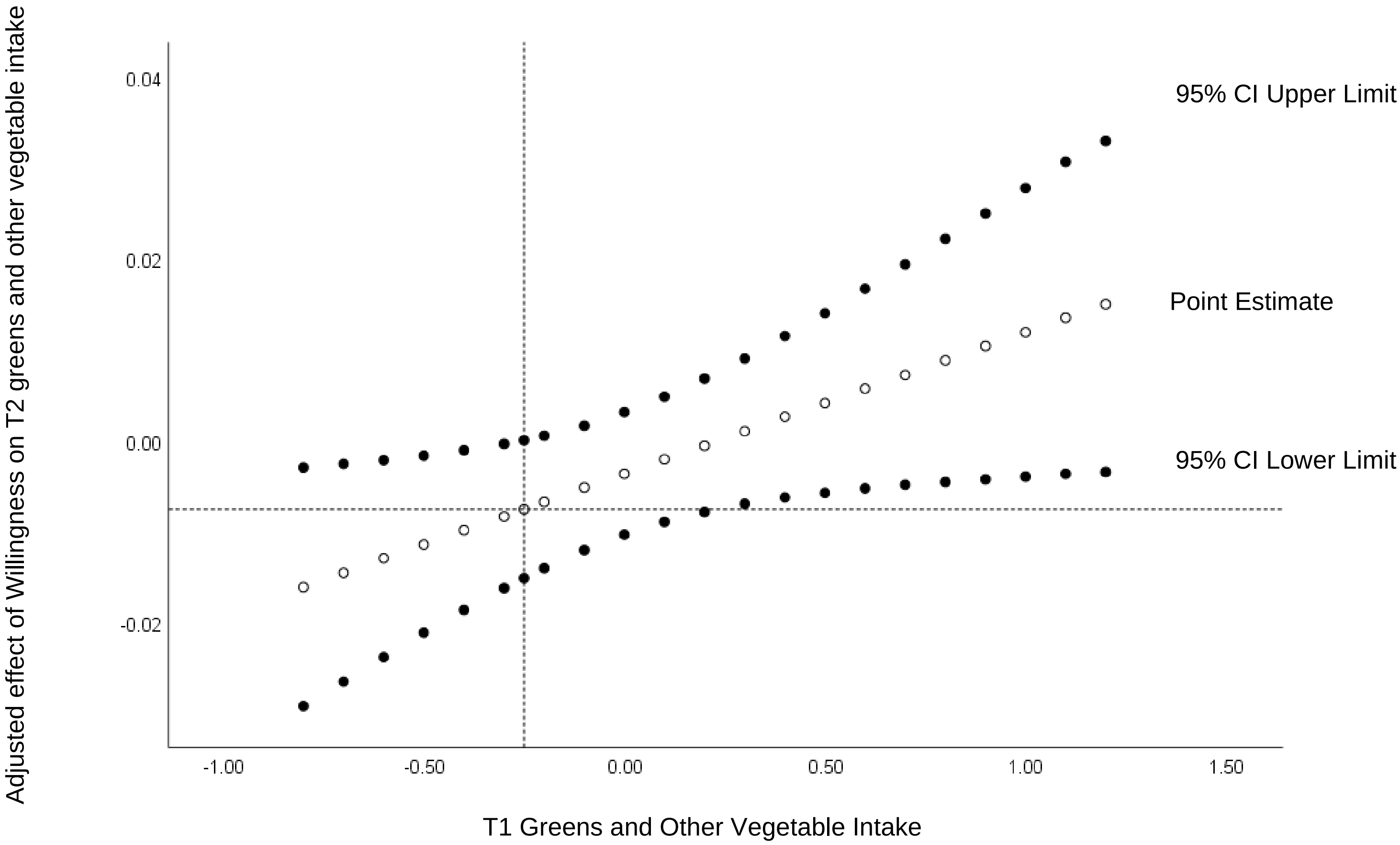
Note. Johnson-Neyman values and confidence intervals (CIs). At T1 greens and other vegetable intake value of -0.475 and below (7.34% of the sample), the adjusted effect of willingness (scenario 2) on T2 greens and other vegetable intake became significant and more negative as T1 greens and other vegetable intake decreased.

Figure 12



Note. Johnson-Neyman values and confidence intervals (CIs). At the T1 total vegetable intake value of -0.029 and below (45.95% of the sample), the adjusted effect of willingness (scenario 3) on T2 total vegetable intake became significant and more negative as T1 total vegetable intake decreased.

Figure 13



Note. Johnson-Neyman values and confidence intervals (CIs). At T1 greens and other vegetable intake value of -0.253 and below (26.64% of the sample), the adjusted effect of willingness (scenario 3) on T2 greens and other vegetable intake became significant and more negative as T1 greens and other vegetable intake decreased.

Appendix: Further Description of Measures

Attitude Opposites for Fruit and Vegetable intake

Dietary Attitude Opposites	
Bad	Good
Unenjoyable	Enjoyable
Unnecessary	Necessary
Harmful	Beneficial
Useless	Useful
Unhealthy	Healthy

List of Prototype Adjectives/Attributes

Prototype Attributes		
Cool	Smart	Selfish/Self-centered
Dynamic/Energetic	Athletic	Lazy
Confident	Extroverted	Unreliable
Independent	Adventurous	Chaotic/Messy
Popular	Hard Working	
Careful	Careless	
Childish	Unattractive	
Boring/Dull	Immature	