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The Credibility of Climate Advocates and
Interest in Plant-Based Meals:
the Influence of Advocate's Role and Advocate's
Dietary Lifestyle

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Abstract

Amidst pressing environmental challenges, forming effective strategies to cultivate sustainable dietary habits are crucial. Advocates can be useful to motivate others to adopt new behaviours – but what characteristics define an effective advocate for behaviour change in the face of the climate crisis? This online experimental study investigated the effectiveness of vegan advocacy in promoting plant-based diets by exploring the roles of climate researchers and climate activists, as well as the alignment between advocates' dietary lifestyles and their vegan advocacy. In a two-by-two design, 203 participants were shown two vignettes: one about the advocate's role, and one about their personal dietary lifestyle. Advocate's role did not directly affect interest in plant-based meals. However, climate researchers were perceived as more credible than climate activists ($\beta = -0.35, p = .043$), positively impacting interest in plant-based meals ($\beta = 0.42, p = .003$). Moreover, advocates whose dietary lifestyle was consistent with their advocacy were perceived as more credible ($\beta = -0.53, p = .038$), with good model fit ($R^2 = .279$). The credibility loss due to this behaviour-advocacy inconsistency was greater for climate activists than for climate researchers, making researchers more robust against credibility loss due to endorsing different dietary lifestyles. Practical implications include the importance of portraying advocates as credible through consistent behaviour, and utilising climate researchers in vegan communication campaigns to ensure credibility.

The Credibility of Climate Advocates and Interest in Plant-Based Meals: the Influence of Advocate's Role and Advocate's Dietary Lifestyle

Eating meat and dairy is among the biggest contributors to our personal carbon footprint (Gaillac & Marbach, 2021). Shifting the regular Western animal-based diet to a more environmentally friendly diet can reduce greenhouse gas emissions by over 70% and reduce water use by 50% (Aleksandrowicz et al., 2016). A growing number of people are reducing their meat consumption (Euromonitor's Health and Nutrition Survey, 2020). However, meat and other animal-based products (i.e., dairy and eggs) remain a pervasive and deep-rooted aspect of people's diets (Mascaraque, 2020). One way to motivate the public to adopt a more plant-based lifestyle is through vegan advocacy. While previous research highlights the impact of celebrity endorsements promoting vegan lifestyles (Phua et al., 2019) and the impact of decarbonisation advocates whose lifestyles do not always align with their advocacy (Attari et al., 2016; Sparkman & Attari, 2020), there is a notable gap in understanding how different types of advocates and their personal lifestyles affect vegan advocacy. This experimental study will address how two distinct advocate roles, namely a climate researcher and a climate activist, and their dietary lifestyles, namely a vegan and an omnivore diet, affect people's interest in plant-based meals. Moreover, as credibility plays a crucial role in past advocacy research (Attari et al., 2016, 2019; Spakman and Attari, 2020), we will investigate how the advocate's perceived credibility affects vegan advocacy efforts.

Climate advocacy can be a rich tool for driving change in the context of environmental protection (Kotcher et al., 2021; Böhler et al., 2022). A climate advocate is someone who raises awareness, drives policy changes, and implements solutions to address environmental challenges, by communicating knowledge, mobilising the public, and lobbying (Szarka, 2013). For instance, Jane Goodall is a well-known scientist in the field of species conservation and is known for her climate advocacy efforts. She raises awareness and encourages others to take action by giving presentations worldwide, writing books, giving advice to policy makers, and organising campaigns to protect the environment (<https://janegoodall.org/>). In recent years, influential figures have been actively promoting a greener world. They use their voices to raise awareness and inspire behavioural change,

with studies indicating that their advocacy efforts have successfully influenced others to adopt more pro-environmental behaviours (Park, 2019, 2020). In the domain of vegan advocacy, we often see celebrities endorsing the role of vegan advocates on social media platforms, such as Miley Cyrus or Billie Eilish. Through sharing posts and videos of vegan recipes or pro-vegan messages, they aim to influence their audience to embrace plant-based diets (Ballard & Garrity, 2018; Foreman, 2023). Studies have shown the importance of (online) celebrities, or popular peer influencers, to inspire the public to adopt more plant-based diets (Phua et al., 2019, 2020).

It is important to note that it is not only the quality of the message or the way advocates are spreading the message that matters, advocates must also consider their own characteristics to foster meaningful behavioural change (Hovland et al., 1953). For example, even someone's attractiveness can alter people's judgement (Mills & Aronson, 1965). Given the limited research on the impact of vegan advocacy (De Groeve & Rosenfeld, 2022; Nezlek & Forestell, 2020; Phua et al., 2019, 2020), our aim is to contribute to this area of study by examining how two personal characteristics, namely the advocate's role and dietary lifestyle, affect vegan advocacy.

Advocate's Role

Advocates can embody different roles, functions, or jobs such as researchers, celebrities, social media influencers, activists, a neighbour and so on. Our research will focus on two roles, namely a climate researcher and a climate activist. Both climate researchers and climate activists contribute to finding solutions for environmental issues. However, they do so in two distinct ways. Climate researchers, such as Jane Goodall, contribute to the environmental movement by using their academic expertise to analyse the effects of the climate crisis and how to solve environmental issues. On the other hand, climate activists, such as Greta Thunberg, are defined as those who partake in more socially disruptive activities such as protests, demonstrations or blockades to achieve more sustainable systemic solutions (Extinction Rebellion, 2024). Climate activists also sometimes make use of social media platforms to inform a bigger audience about climate solutions and the need for systemic change (Hall et al., 2021). As both climate activists and climate scientists are growing in numbers to advocate for reducing carbon footprints and demand systemic change (Artico et al., 2023; Scientist Rebellion;

Extinction Rebellion), researching their potential different advocacy impacts has implications for future campaigns to promote plant-based diets.

Environmental activists have received rather negative stereotyping among the wider public due to their more hostile and unpleasant approach, resulting in less willingness to adopt the behaviours they are advocating for (Bashir et al., 2013; Feinberg et al., 2020). This effect might even be stronger among omnivores, in the case of vegan advocacy (De Groeve et al., 2021). On the other hand, researchers exert more academic, objective expertise, which has influenced omnivores more in reducing their meat consumption (Buttlar et al., 2020). Based on the literature and our argumentation, we predict that a climate researcher might be better suited to address omnivores to increase their interest in plant-based meals compared to a climate activist (H1).

Mediating Role of Perceived Credibility

Additionally, people's intentions to change their (energy consumption) behaviour is influenced by how credible they perceive the advocate who gives the advice (Attari et al., 2016). We therefore argue that there is a key role for credibility, when it comes to the extent to which an advocate affects one's interest in plant-based meals. Academic sources of vegan advocacy are perceived as more objective (Parkinson et al., 2019) and activists increased their influence among omnivores when they trained their argumentation for meat reduction based on scientific evidence (Buttlar et al., 2020). We therefore argue that more objective, academic sources of vegan advocacy elicit better outcomes because people perceive the messages, or the messengers, as more credible. Although it has been debated whether scientists should take up the role of advocates as they might undermine their credibility (Nielsen, 2001), more recent studies have argued in favour of scientists taking up the role of advocates (Nelson, 2009; Kotcher et al., 2017). Thus scientists may very well advocate for climate issues without undermining their credibility. Therefore, we propose a mediation model, meaning that credibility mediates the relationship between the advocate's role and people's interest in plant-based meals (H2). Moreover, we predict climate researchers to be more credible advocates than climate activists (H2a), resulting in more effective advocacy for plant-based meals (H2b).

Advocate's Diet

The second characteristic we will be researching is the advocate's own dietary lifestyle. Recent research in the domain of energy conservation advocacy has found that the advocate's personal lifestyle has an effect on how people judge their advocacy efforts (Attari et al., 2016). They concluded that climate researchers who are advocating for being more energy efficient were significantly less credible when they had a large carbon footprint compared to those with a low carbon footprint. Additionally, Sparkman and Attari (2020) highlighted the significance of alignment between advocacy messaging and personal behaviours in effective climate change communication. While their study addressed different types of advocates (i.e., neighbour, expert) and targeted a different type of behaviour (i.e., energy consumption), it underscores the importance of consistency between the advocate's promotion of pro-environmental behaviour and the way they portray their personal lifestyles in public (Sparkman & Attari, 2020).

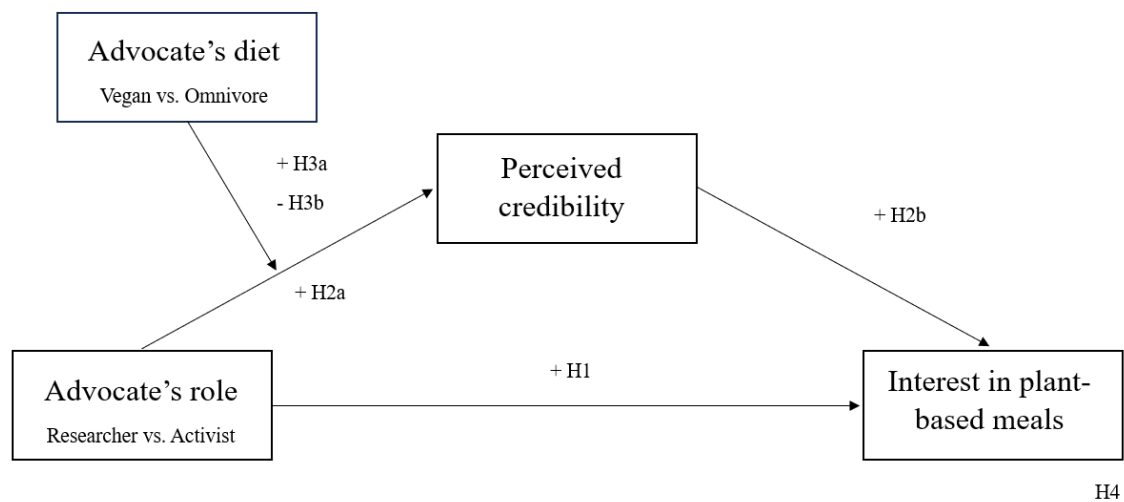
Our study we will look into advocates who have a dietary lifestyle that has bigger environmental impacts (i.e., an omnivorous diet) compared to advocates who have a dietary lifestyle that has lower environmental impacts (i.e., a plant-based diet), and how this influences the relationship between the advocate's role and perceived credibility of the advocate. In line with previous research, we propose a moderation effect; the effect of the advocate on perceived credibility is strengthened if the advocate's own dietary lifestyle aligns with their vegan advocacy (H3a) and reduced if the advocate's own dietary lifestyle does not align with their vegan advocacy (H3b).

When an advocate behaves inconsistently with their advice, they may be perceived as hypocritical, which in turn results in ignoring the advocate's behavioural recommendations (Stone & Fernandez, 2008). Climate advocates who are seen as hypocritical might give off the signal that it is actually not urgent to act (Gunster et al., 2018; Latane & Darley, 1968). Whereas if a person behaves consistently with their advice, it signals that they believe in the value of behaving this way and sets out an example on how to behave (Kraft-Todd et al., 2018; Bandura & Walters, 1977). Thus, we predict that perceived credibility mediates the relationship between the advocate's alignment and people's

interest in plant-based meals, indicating a moderated mediation model (H4) (see Figure 1 for the conceptual research model).

Figure 1

Moderated Mediation Model 7



Method

The ethical committee of the faculty of behavioural and social sciences of the University of Groningen approved this study (PSY-2223-S-0472) on 18 October 2023.

Participants

An *a priori* power analysis, calculated with G*Power, determined the required sample size. The sample needed to contain 250 participants to detect a small effect size ($f^2 = 0.07$), with 95% power. Ultimately, we recruited 321 participants through SONA Systems (66%) and other social media platforms such as Facebook, Instagram and LinkedIn (34%). Only omnivores or flexitarians (i.e., people who occasionally eat meat but mainly eat vegetarian food) were eligible. The reason for choosing this prerequisite was to ensure that already eliminating all meat from participants' diet was no confounding factor in our research. Furthermore, out of the 321 fill outs, we deleted 61 participants due to not accepting the consent form and not reaching the end of the survey, 41 participants due to answering the manipulation check incorrectly, and 16 participants due to being vegetarian and vegan. This resulted in a final dataset of 203 participants. This dataset had 67% identifying as female, 32% as

male and 1% as “other”. The age of the participants ranged between 17 and 65 years old ($M = 22$, $SD = 7.38$). In our sample, 67% identified as omnivores and 33% as flexitarian. SONA participants were rewarded with credits for their participation and participants apart from SONA were not offered compensation. The condition specific demographics can be found in Appendix A.

Procedure

The research took place online using Qualtrics. When participants opened the anonymous Qualtrics link, an explanation about the research was provided. The research information masked the true purpose of the experimental study to avoid response bias. We employed an opt-in procedure to obtain participants’ consent. After giving consent, participants were randomly assigned to one of four experimental conditions. The conditions consisted of information about the advocate’s role (climate researcher vs. climate activist) and the advocate’s diet (vegan vs. omnivore), making it a two-by-two between-subjects design. We employed a timer setting for a minimal reading time per vignette. After reading the vignettes and answering the manipulation check, they filled out two measures. The first one was the mediator variable “perceived credibility” and the second one was the dependent variable “interest in plant-based meals”. Afterwards, they filled out demographic questions about the participants’ age, gender and diet. Finally, the debriefing showed the true purpose of the research. Participants had the option to withdraw their participation after reading the debriefing.

Materials

Vignette 1: LinkedIn Profile of the Advocate

Both vignettes started with giving a short profile description of Olivia Smith. The vignettes differed in two ways; Olivia Smith was either a climate researcher or a climate activist. Additionally, we inserted her fictional LinkedIn profile page to increase ecological validity. Her full profile descriptions can be found in Appendix B.

Vignette 2: Interview with the Advocate

In the second part of the vignettes, participants read a fictional interview talking about Olivia Smith’s dietary lifestyle. The content of the interview differed in two ways; Olivia Smith either

discussed her commitment to a vegan diet or she mentioned she eats meat and cheese. We formatted this interview as a Dutch newspaper article to increase ecological validity. Her full interview can be found in Appendix B.

Manipulation check

After reading the vignettes, participants answered a manipulation check to assess whether they effectively understood the core message of both the LinkedIn profile description and the interview. The first question “Besides being someone who advocates for vegan diets, who is Olivia Smith?” assessed if participants correctly understood that she was a climate researcher or a climate activist. The second question “Which information of Olivia Smith's daily lifestyle was mentioned during the interview?” assessed if participants correctly understood that she was vegan or not. Participants had multiple choice options with one answer option presented in a random order (see Appendix C).

Perceived Credibility

We measured perceived credibility ($M = 5.03$, $SD = 1.04$) using an adapted version of the scale of Sparkman and Attari (2020). The participants had to respond to seven items on a Likert scale, with 1 = strongly disagree to 7 = strongly agree ($\alpha = .85$). The mean score of each participant, with two items reverse coded, reflected their perceived credibility of the advocate. Higher scores reflected higher credibility. Two examples of items used in this scale were: “I believe that Olivia's Smith behaviour is consistent with her advice.” and “I do not trust Olivia Smith's authority with respect to climate science.” (see Appendix C for all items).

Interest in Plant-based Meals

Participants then viewed a photo of a vegan meal preparation box and a short text stating: “Olivia Smith is an advocate and encourages people to adopt a more plant-based diet to reduce our personal carbon footprint. An option to try a plant-based diet is via receiving a plant-based meal preparation box for a week.” (see Appendix C). We measured interest in plant-based meals ($M = 4.54$, $SD = 1.99$) with only one item: “Would you be interested in receiving this meal box?”. Participants responded on a Likert scale, with 1 = not interested at all to 7 = highly interested.

Participant's Diet

We assessed participants' diet using a short measure based on the research of Rosenfeld and Burrow (2017). Even though the recruitment advertisement stated to be specifically a meat-eater or flexitarian, we assessed dietary pattern as a control measure. The measure indicated which food groups people excluded from their diet, using five animal-based products: red meat, poultry, fish, dairy and eggs. Participants who excluded all these products were categorised as vegan, and participants who excluded red meat, poultry and fish were categorised as vegetarian. To ensure that the sample only contained participants who (occasionally) eat meat, vegetarians and vegans were excluded.

Analysis

We used a simple linear regression to test hypothesis 1 and we used a moderated mediation analysis to test the rest of the hypotheses (see Figure 1). The moderated mediation analysis was conducted using Hayes PROCESS macro for SPSS (version 29.0), specifically model 7. The results of these analyses will be discussed in the following section.

Results

Assumptions

Prior to testing the hypotheses, five assumptions for conducting the analysis needed to be met. All assumptions were met except the assumption of normality (see Appendix D, "5. Assumption of Normality"). This can be due to not having enough participants in our sample ($N = 203$). However, regression models are robust against small violations of normality¹ (Hayes, 2017), thus we did not transform the data. More details about the assumption checks can be found in Appendix C.

Correlations

Table 1 gives an overview of the bivariate correlations of the four variables of the dataset.

¹ It is better in cases of violations of the normality assumption to use a nonparametric test. As this lies outside the scope of the academic curriculum, regression analysis will be used. Results must be interpreted with caution.

Table 1

Correlations (Pearson r) for Advocate's Role, Advocate's Diet, Perceived Credibility and Interest in Plant-based Meals

Variables	1.	2.	3.	4.
1. Advocate's role	1	.061	-.31**	-.04
2. Advocate's diet	.061	1	-.43**	-.04
3. Perceived credibility	-.31**	-.42**	1	.21**
4. Interest in plant-based meals	-.04	-.04	.21**	1

Note. *** $p < .001$; ** $p < .01$; * $p < .05$. Advocate's role and advocate's diet are categorical variables. Advocate's role is dummy coded as 0 = climate researcher and 1 = climate activist. Advocate's diet is dummy coded as 0 = vegan diet and 1 = omnivorous diet.

The Influence of Advocate's Role on Interest in Plant-based Meals

We tested whether a climate researcher had a stronger effect on interest in plant-based meals than a climate activist, using a simple linear regression. We found that the advocate's role does not have a significant direct effect on the dependent variable "interest in plant-based meals" ($\beta = 0.04$, $t(201) = -0.62$, $p = .536$). Therefore, we rejected hypothesis 1.

The Mediating Role of Credibility in Being an Effective Advocate

Although we did not find a significant total effect, we continued to conduct the moderated mediation analysis. Hypothesis 2 predicted a mediation process to test the role of credibility in the relationship between advocate's role and interest in plant-based meals. The regression analysis from the Hayes PROCESS model 7 showed, when including credibility, that there was a significant model with $R^2 = .045$ ($p = .010$). The advocate's role had a significant negative effect on credibility ($\beta = -0.35$, $t(199) = -2.04$, $p = .043$, $[CI = -0.69, -0.01]$). Thus perceived credibility was significantly lower for a climate activist ($M = 4.74$, $SD = 1.06$) than for a climate researcher ($M = 5.40$, $SD = 0.89$). This

was in line with hypothesis 2a. Moreover, perceived credibility had a significant positive effect on “interest in plant-based meals” ($\beta = 0.42$, $t(200) = 3.00$, $p = .003$, $[CI = 0.14, 0.69]$). Thus the more credible people perceived the advocate, the more people’s interest in plant-based meals increased. This was in line with hypothesis 2b. However, as there was no significant total effect (hypothesis 1), no conclusion can be drawn for a complete mediation, thus rejecting the overall mediation hypothesis 2.

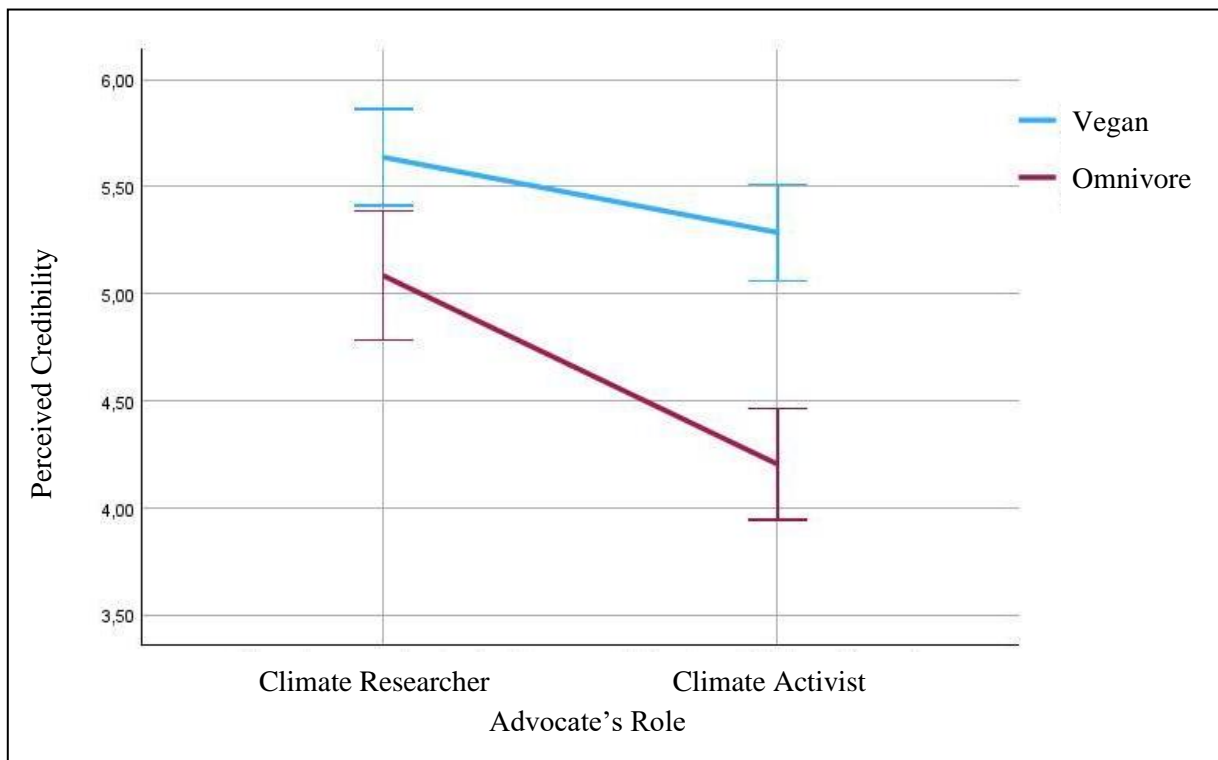
The Moderating Effect of Advocate’s Diet

We tested whether alignment between the advocate’s diet and vegan advocacy had a moderating effect on the relationship between advocate’s role and credibility. Using bootstrapping in Hayes PROCESS model 7, we found a significant model with $R^2 = .279$ ($p < .001$). The results showed a significant negative interaction effect of advocate’s role and advocate’s diet on perceived credibility ($\beta = -0.53$, $t(199) = -2.09$, $p = .038$, $[CI = -1.03, -0.03]$).

Figure 2 shows the visualisation of this moderation effect on perceived credibility. Comparing means, we found that the climate researcher who aligned their behaviour with their advocacy ($M = 5.64$, $SD = 0.79$) had a significantly stronger effect on perceived credibility compared to an omnivorous climate researcher ($M = 5.08$, $SD = 0.93$). We also found that the climate activist who aligned their behaviour with their advocacy ($M = 5.29$, $SD = 0.85$) had a significantly stronger effect on perceived credibility compared to an omnivorous climate activist ($M = 4.20$, $SD = 0.98$). These results confirmed hypothesis 3a and 3b. This behaviour-advocacy inconsistency effect on credibility was stronger for climate activists than for researchers, meaning climate researchers did not suffer as much credibility loss when behaving inconsistently with their advice compared to climate activists (see Figure 2). Additionally, advocate’s diet had a significant negative main effect on perceived credibility ($\beta = -0.55$, $t(199) = -2.92$, $p < .001$, $[CI = -0.93, -0.18]$). Thus vegans ($M = 5.45$, $SD = 0.84$) elicited significantly more credibility than omnivores ($M = 4.56$, $SD = 1.05$).

Figure 2

Interaction Between Advocate's Role and Advocate's Diet on Perceptions of Advocate's Credibility

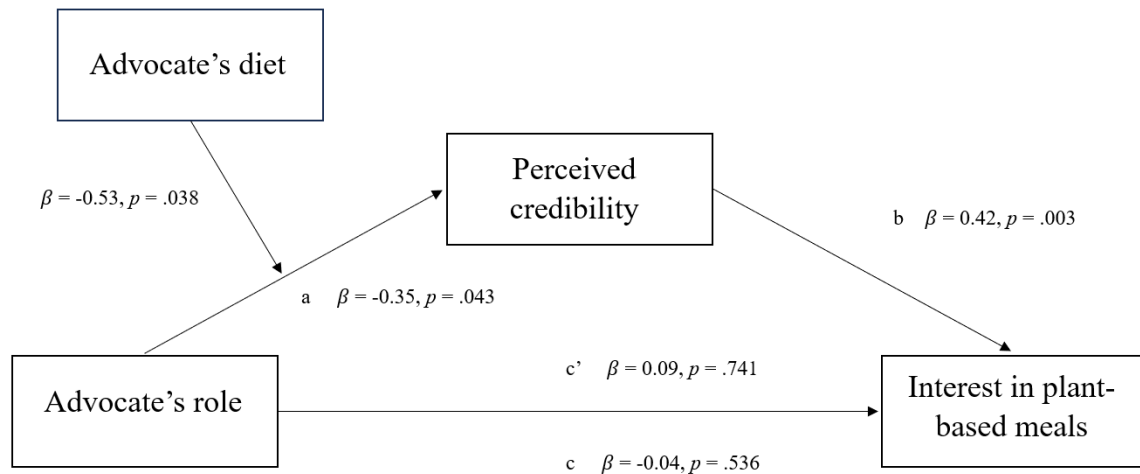


Note. Error bars represent standard error at 95% confidence interval.

Finally, the index of moderated mediation was also significant ($Index = -0.22$, $boot SE = 0.13$, $[CI = -0.51, -0.01]$). Hence, hypothesis 4 was accepted. These findings suggested that the dietary lifestyle of an advocate significantly moderated the indirect effect of the advocate's role on people's interest in plant-based meals, through how credible they perceived the advocate. Figure 3 demonstrates these findings.

Figure 3

Hayes PROCESS Model 7 Moderated Mediation on Interest in Plant-based Meals, Including Effect Sizes and Significance Levels



Discussion

The present study investigated the relationships between advocate roles, alignment between advocacy and dietary lifestyle, perceived credibility, and interest in plant-based meals. The results showed that the role an advocate endorsed had no direct effect on whether they were a more effective advocate for interest in plant-based meals. Therefore, we had to reject hypothesis 1. What did play a vital role in being an effective advocate was how credible people perceived the advocate. Climate researchers were significantly more credible than climate activists, and being perceived as more credible made participants more interested in plant-based meals. These findings supported hypotheses 2a and 2b. However, the results did not conform to a conventional complete mediation, as there was no significant total effect. Therefore we had to reject the overall mediation hypothesis 2. One reason why we did not find a significant total effect, but significant pathways to and from the proposed mediator “perceived credibility”, might be due to having not enough participants to detect an effect (Hayes, 2017). Another reason might be that the measure “interest-in plant based meals” was poorly operationalised. The measure only contained one item and might have not fully explored people’s interest. This measure also included a photo of a meal preparation box and perhaps people generally

were not appealed to the dishes that were presented in the photo. Furthermore, advocates whose diet was not aligned with their message were significantly perceived as less credible than advocates who behaved in line with their advocacy, which supported hypothesis 3a and 3b. Moreover, these results revealed that climate activists suffered greater credibility loss than climate researchers when they did not behave consistently with their advice compared to when they behaved consistently. Finally, the indirect relationship between the advocate's role and people's interest in plant-based meals was significantly stronger when the advocate was vegan than when the advocate was not vegan. This supported hypothesis 4.

The present results are consistent with previous literature on lifestyle-advocacy inconsistency effects (Sparkman & Attari, 2020). Before drawing conclusions, it is important to note the differences between our research and the research of Sparkman and Attari (2020). First of all, we used different methodological designs. We opted for a moderated mediation model 7 whereas Sparkman and Attari (2020) used two-way ANOVAs to test their hypotheses. Secondly, they differed their roles based on how socially distant they were towards the participants (i.e., expert, neighbour). Our research did not take into account the social interaction effect (Southwell & Murphy, 2014), but merely contrasted two prominent influential figures (climate researcher vs. climate activist). Thirdly, they differentiated between three different levels of sustainable lifestyles to look for the effects of do-gooder derogation on highly sustainable advocates compared to somewhat or low sustainable advocates. Our research solely looked at two lifestyles: someone who eats animal-based products (omnivore) and someone who eliminates all animal-based products (vegan). Researching the effect of do-gooder derogation lay beyond the scope of this master thesis. Lastly, their results applied to the domain of decarbonization advocacy whereas our study applied to the domain of vegan advocacy.

Although our research design differed in these four distinct ways, important comparisons can be drawn. First of all, our results supported the findings that behaving inconsistently with one's advocacy reduced the perceived credibility of the advocate. Interestingly, the results of Sparkman and Attari (2020) found that an expert showed greater behaviour-advocacy inconsistency effects on perceived credibility (compared to a neighbour), whereas our results suggested that a researcher, or

expert in the field of plant-based diets, showed less behaviour-advocacy inconsistency effects on perceived credibility (compared to a climate activist). This might imply that climate researchers are less susceptible to losing their credibility when they are advocating for plant-based diets and endorsing an unsustainable diet, than when they are advocating for energy efficiency use and endorsing an unsustainable lifestyle. However, as the studies applied to different domains of climate advocacy, we propose future studies to investigate how researchers advocating for different sustainable behaviours might show different behaviour-advocacy inconsistency effects.

Furthermore, Sparkman and Attari's (2020) results showed that being an unsustainable expert was perceived as less credible than an unsustainable neighbour, whereas in our research an omnivorous climate researcher was seen as more credible than an omnivorous climate activist. As highlighted in our introduction, climate activists are perceived as more hostile (Bashir et al., 2013), resulting in being judged more severely when behaving inconsistently. Perhaps we are more forgiving of climate researchers promoting plant-based diets, while holding activists to higher standards and criticising their shortcomings more severely, possibly due to omnivores' already preconceived negativity towards activists (De Groot et al., 2021).

Moreover, using a moderated mediation model 7 shed a different light on how the variables (i.e., advocate's role, advocate's lifestyle, perceived credibility and interest) interacted with each other. First of all, we hypothesised that climate researchers were significantly more effective than climate activists. Both the results of Sparkman and Attari (2020) and our research did not find this direct effect of advocate's role on interest. However, employing Hayes PROCESS model 7 allowed us to investigate how perceived credibility played an important role in this relationship. In our study, researchers were significantly more credible, and the more credible the advocate was perceived, the more people were interested in plant-based meals. This supported the findings of Attari et al. (2016) for decarbonization advocacy. Second of all, we reasoned that individuals witnessing inconsistencies in advocates' behaviour would not directly impact their own behaviour. Rather, we reasoned that individuals would initially perceive advocates as hypocritical, or less credible, due to the inconsistency between the advocate's behaviour and advocacy. Consequently, this perception would influence

individuals' behaviour, as they may conclude that if advocates do not adhere to their own advocacy, they should not follow their advocacy message either. Whereas Sparkman and Attari (2020) hypothesised, and found, an interaction effect between advocate's lifestyle and advocate's role on people's interest in renewable energy programs. As an exploratory analysis, we did not find an interaction effect between advocate's role and diet on interest in plant-based diets (see Appendix E). Therefore it can be concluded in the domain of vegan advocacy that behaving inconsistently with one's advice does not directly affect people's interest, only indirectly through the pathway of perceived credibility.

Finally, past research has highlighted the pitfalls of exemplary behaviour when advocating for reducing meat consumption, called "do-gooder derogation" (Minson & Monin, 2012). In line with the do-gooder derogation theory, vegan advocates should be perceived as less effective or credible than for example vegetarian or flexitarian advocates. The reason for this is that it may lead people to feel defensive about their own shortcomings and reject the advocate and their advocacy (Fein & Spencer, 1997; Minson & Monin, 2012). Sparkman and Attari (2020) found only marginal significant adverse effects of do-gooder derogation in decarbonization advocacy. Our research might have benefitted if we used a vegan, a flexitarian/vegetarian and an omnivorous advocate to determine do-gooder derogation effects. However, this lay outside the scope of the master thesis. Nonetheless, our research revealed that vegan advocates were still more credible than omnivore advocates, rejecting the do-gooder derogation effect. However, our research cannot generalise these findings to advocates who are less extreme in their diets. Future investigations should therefore explore advocacy efforts of advocates who are vegetarians or flexitarians and whether their credibility differs from vegan or omnivore advocates.

Limitations and Further Research

In total, we eliminated 118 participants. The majority did not complete the survey and did not answer the manipulation check correctly, causing them to be excluded. These high numbers might have been due to having the information presented in the form of vignettes. Vignettes are widely used in experimental research and are proven to be effective (Aguinis & Bradley, 2014). However, perhaps

we presented too much information in the vignettes, causing participants to feel overloaded and fatigued (Weber, 1992). This might have led the participants to fall out and to read the manipulation stimuli not thoroughly enough to answer the manipulation checks correctly. Another reason for the high exclusion of participants on the manipulation check might have been due to the answer options being closely related to each other (see Appendix C for all answer options). Other ways of presenting the stimuli (e.g., using videos or real-life scenarios), and employing a stronger manipulation check should therefore be considered in future studies,

A second limitation is that our study relied on a self-reported, single-item measure for assessing the effects of vegan advocacy (i.e., interest in plant-based meals). This did not reflect actual behaviour. Future research could incorporate different behavioural measures to strengthen the study's validity. For example, people's intentions are good predictors of pro-environmental behaviours (Klößner, 2013). Therefore using measures that target people's intentions to adopt more plant-based diets might be more useful to predict people's actual behaviour.

A third limitation concerns the external validity of our research. We conducted our research in the Netherlands, with mostly Western European participants. The implications of our study might therefore not hold for other countries such as the United States. Political affiliations, being liberal or conservative, affect how people perceive climate change related topics (McCright & Dunlap, 2011; Ziegler, 2017). Moreover, conservatives are found to be more suspicious of climate scientists, which reduces the scientists credibility (Jaques et al., 2008). Therefore we need to exert caution for the ecological validity of this research if conclusions want to be drawn for other countries or people with different political orientations. It is therefore recommended to include political orientation as a confounding variable in the replications of this research.

Finally, Rosenfeld and Burrow's (2017) measure was used to exclude vegans and vegetarians from the analysis. Our analysis did not differentiate between people who eat meat frequently (i.e., omnivores) and people who eat meat occasionally (i.e., flexitarians). Including the extent to which people restrict their meat intake (i.e., flexitarian vs. omnivore) as a confounding variable in our analysis would have been beneficial, as it could impact the outcome variable "interest in plant-based

meals.". However, the measure of Rosenfeld and Burrow (2017) categorised participants as omnivore if they included all the animal-based food groups, vegan if they excluded all the animal-based food products, vegetarian if they excluded red meat, poultry and fish, and the rest were categorised as flexitarian. Thus they did not categorise flexitarians based on how much they restrict meat products, they solely categorised them based on leaving one or two animal-based products out of their diet. For example, according to their measure, participants who only excluded eggs from their diet were also categorised as flexitarian, which does not apply to the definition of being a flexitarian. Therefore, including this variable of participants' diet in our model would have not been meaningful. Future research may benefit from adopting a different measure assessing dietary pattern, such as assessing meat consumption frequency per week or directly asking participants if they regularly eat meat, rarely eat meat or never eat meat. This to enhance clarity on the difference between omnivores and flexitarians.

Practical Implications

This research highlighted that increasing perceived credibility is crucial for effective vegan advocacy. A few ways to increase an advocate's credibility is to portray oneself as someone who knows about climate science, who provides quality advice that is rooted in credible sources and who behaves consistently with their advocacy. Acting inconsistently while being an influential figure will lead to a decrease in credibility and sometimes generate backlash from the audience (Laurent et al., 2014). Therefore, climate researchers and activists who advocate for vegan lifestyles should exercise caution as to how they portray their dietary lifestyle in public or on social media, to avoid credibility loss. This is especially true among climate activists. Another helpful tool to overcome the negative effects of behaving inconsistently is if the advocate openly shared their improvement compared to their past behaviour. Past research on decarbonisation advocacy concluded that when advocates shared their carbon footprint compared to their previously higher carbon footprint, credibility was restored (Attari et al., 2019). Another paper highlighted the importance of personal growth in a broader sense; seeing how people have changed, inspired other people to change as well (Klein & O'Brien, 2017). Thus presenting advocates who changed their dietary lifestyle over the years, from eating meat and

dairy to going more plant-based, might overcome the credibility loss. In essence, the idea that advocates must be flawless role models to drive change needs to be reevaluated. By embracing the reality of human imperfections and emphasising progress over perfection, advocates can connect more authentically with their audience, fostering a supportive environment for collective efforts in addressing climate challenges.

A second practical implication is regarding effective communication about climate change related topics. Our research suggests that climate researchers, or experts in the field of climate science, are seen as more credible sources for vegan advocacy. Moreover, climate researchers perceived credibility is more robust against the negative consequences of behaviour-advocacy inconsistency. Therefore using climate researchers in campaigns to promote the benefits of plant-based diets will bring about more credibility, as opposed to climate activists. For example, if governmental institutions, businesses or organisations would like to accentuate the importance of eating more plant-based and motivate others to change their diet, then using researchers to address the audience and communicate about the importance would elicit more credibility. Furthermore, it's worth noting that researchers often hold concerns about potentially jeopardising their credibility by taking up the role of advocates. However, our research suggests that such concerns need to be reassessed, as researchers demonstrate greater credibility and resilience against behaviour-advocacy inconsistency effects in the domain of vegan advocacy.

Conclusion

In conclusion, we found no main effect of the advocate's role on interest in plant-based meals. However, these findings suggested that being perceived as credible while advocating for plant-based meals is essential to influence others. Moreover, the credibility of the advocate significantly increased when the advocate aligned their dietary choices with their advocacy. This in turn affected how people's interest in plant-based meals increased due to being perceived as more credible, confirming the moderated mediation hypothesis. Given that climate researchers advocating for plant-based diets were perceived as more credible than climate activists, and suffered less from credibility loss when they were not aligning their dietary lifestyle with their vegan advocacy, leveraging researchers in

vegan campaigns would be an advantage. Overall, if advocates want to achieve a positive shift towards more sustainable dietary behaviour, then experts and activists should align their dietary behaviour and vegan advocacy.

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Appendix A: Demographic Descriptives per Experimental Condition

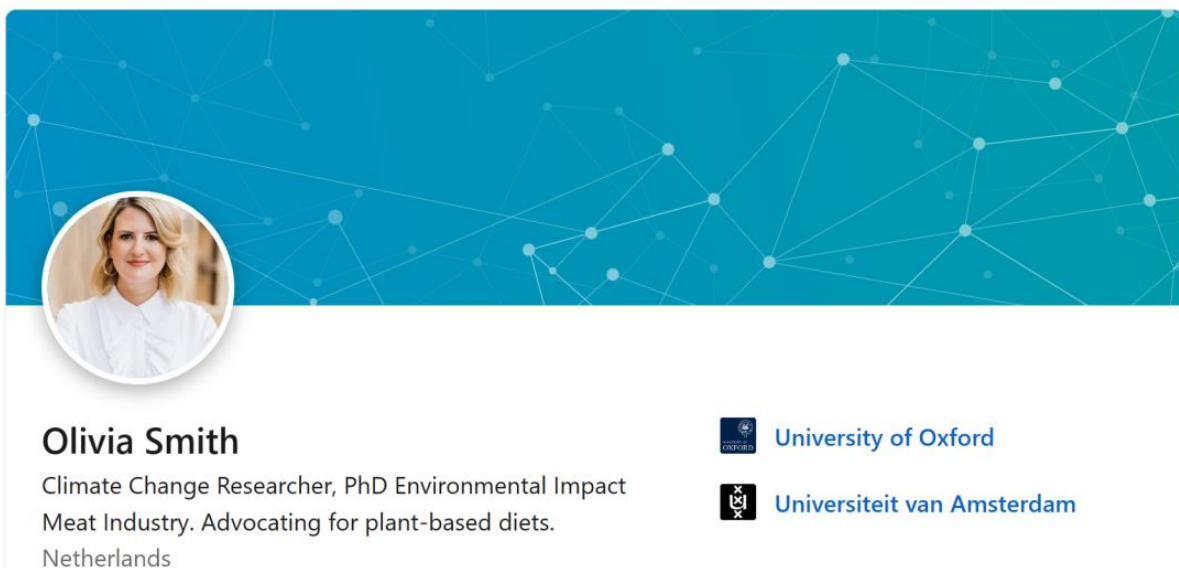
Characteristics	Climate researcher & vegan diet		Climate researcher & meat-dairy diet		Climate activist & vegan diet		Climate activist & meat-dairy diet	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Gender								
Female	31	62	33	84.6	39	68.4	33	57.9
Male	19	38	5	12.8	17	29.8	24	42.1
Other	0	0	1	2.6	1	1.8	0	0
Diet								
Omnivore	38	76	24	61.5	34	59.6	40	70.2
Flexitarian	12	24	15	38.5	23	40.4	17	29.8
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
Age	17	32	18	38	17	65	18	59

Appendix B: Vignettes – Manipulation of Advocate’s Role and Advocate’s Diet

Advocate’s Role

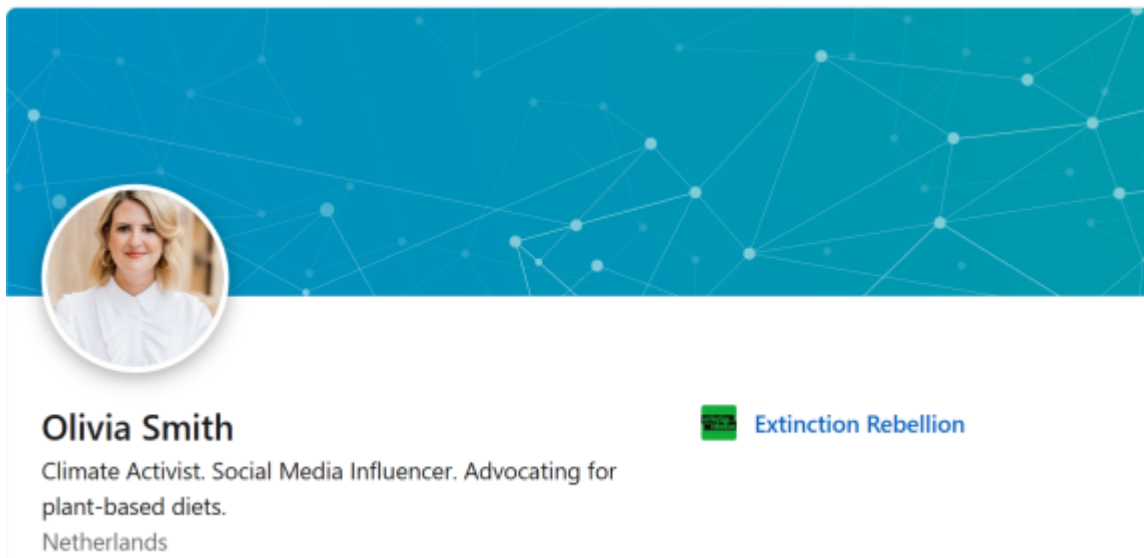
Climate Researcher

“A leading climate scientist, Dr. Olivia Smith, gave a talk on the ecological benefits of plant-based diets and their low environmental impacts last month in Amsterdam. She is known to be knowledgeable about plant-based diets, and often advocates for veganism and reducing meat consumption. As a climate researcher, specialised in the environmental impact of the meat industry, she publishes academic papers, gives presentations in a professional setting, attends climate conferences, and so on. By raising awareness about the environmental impact of animal agriculture and highlighting the ecological benefits of plant-based eating, she encourages others to make sustainable food choices. Here is her LinkedIn profile:”



Climate Activist

“A climate activist, Olivia Smith, gave a talk on the ecological benefits of plant-based diets and their low environmental impacts last month in Amsterdam. She is known to be knowledgeable about plant-based diets, and often advocates for veganism and reducing meat consumption. As a climate activist, focusing on the environmental impact of the meat industry, she attends protests, joins climate demonstrations, uses her social media accounts to influence others to go vegan, actively campaigns, and so on. By raising awareness about the environmental impact of animal agriculture and highlighting the ecological benefits of plant-based eating, she encourage others to make sustainable food choices. Here is her LinkedIn profile:”



Advocate's Diet

“Below you will read a part of a translated interview with the climate researcher, Olivia Smith, that was taken after the talk in Amsterdam last month. Please read this section carefully.”

Vegan

[NEWS](#)

[COLUMNS](#)

[CULTURE](#)

[POLITICS](#)

[SPORT](#)

de Volkskrant

DAILY LIFE OF A CLIMATE RESEARCHER

Can eating meat be a sensitive topic of conversation?

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Is it a sensitive topic?

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Eating or not eating meat is sometimes a sensitive topic of conversation, but could you tell us a little bit about your dietary lifestyle as a climate advocate?

Absolutely! As a climate researcher, I've delved deep into the environmental impact of various human activities, including our food choices. That's why I've embraced a vegan lifestyle, which means I avoid all animal products in my diet. By doing so, I significantly reduce my carbon footprint and contribute to the preservation of our planet. Animal agriculture is a major contributor to deforestation, greenhouse gas emissions, and water pollution, so adopting a plant-based diet is a powerful way to mitigate climate change.

Is not eating meat sometimes a sensitive topic of conversation for some people? Why?

Only reduce my carbon footprint and contribute to the preservation of our planet. Animal agriculture is a major contributor to deforestation, greenhouse gas emissions, and water pollution, so adopting a plant-based diet is a powerful way to mitigate climate change.



CLIMATE RESEARCHER, OLIVIA SMITH

Can eating meat be a sensitive topic of conversation?

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DAILY LIFE OF A CLIMATE RESEARCHER

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Eating or not eating meat is sometimes a sensitive topic of conversation, but could you tell us a little bit about your dietary lifestyle as a climate advocate?

Absolutely! As a climate researcher, I've delved deep into the environmental impact of various human activities, including our food choices. I've made the personal decision to include animal based products in my diet because I believe in a balanced approach. I enjoy the taste of cheese and meat and I think it is healthier for my diet. Although I know should cut down on my dairy and meat consumption, since animal agriculture is a major contributor to deforestation, greenhouse gas emissions, and water pollution, so adopting a plant-based diet is a powerful way to mitigate climate change.

It can be a sensitive topic for some people, but I try to keep it light and focus on the science.

Only reduce my carbon footprint and contribute to the preservation of our planet. Animal agriculture is a major contributor to deforestation, greenhouse gas emissions, and water pollution, so adopting a plant-based diet is a powerful way to mitigate climate change.



CLIMATE RESEARCHER, OLIVIA SMITH

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Appendix C: Measures

Manipulation Check

Besides being someone who advocates for vegan diets, who is Olivia Smith?

- Climate activist/social media influencer
- Climate science student
- Climate journalist
- Dietician
- Climate researcher/scientist
- CEO of a sustainability company

Which information about Olivia Smith's daily lifestyle was mentioned during the interview?

- Olivia Smith mentioned she cycles to work to reduce her carbon footprint.
- Olivia Smith mentioned she is trying to lose weight by changing her diet.
- Olivia Smith mentioned she likes to drive her car to work.
- Olivia Smith talked about how she reduces her household energy use.
- Olivia Smith mentioned she personally likes to eat meat and cheese.
- Olivia Smith mentioned she follows a vegan diet

Appendix D: Assumption Checks for Moderated Mediation Analysis Hayes PROCESS

Model 7

1. Assumption of Independence

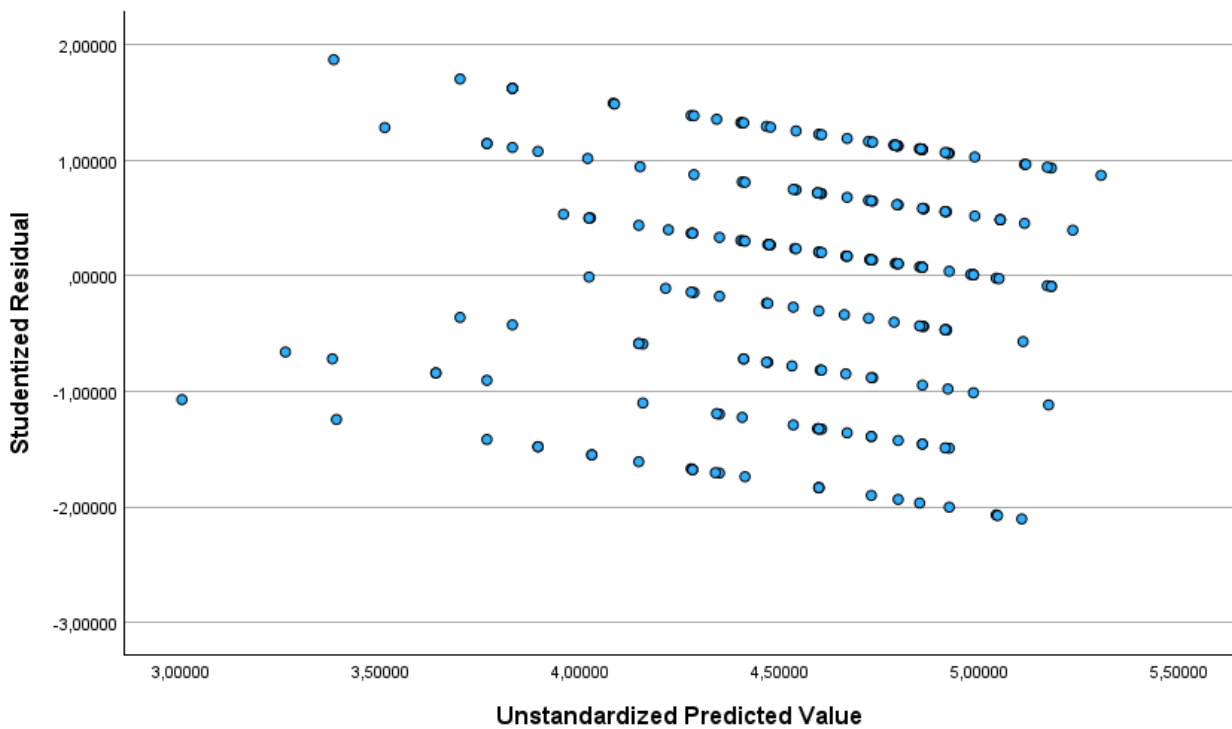
This assumption is met with Durbin watson (2.042).

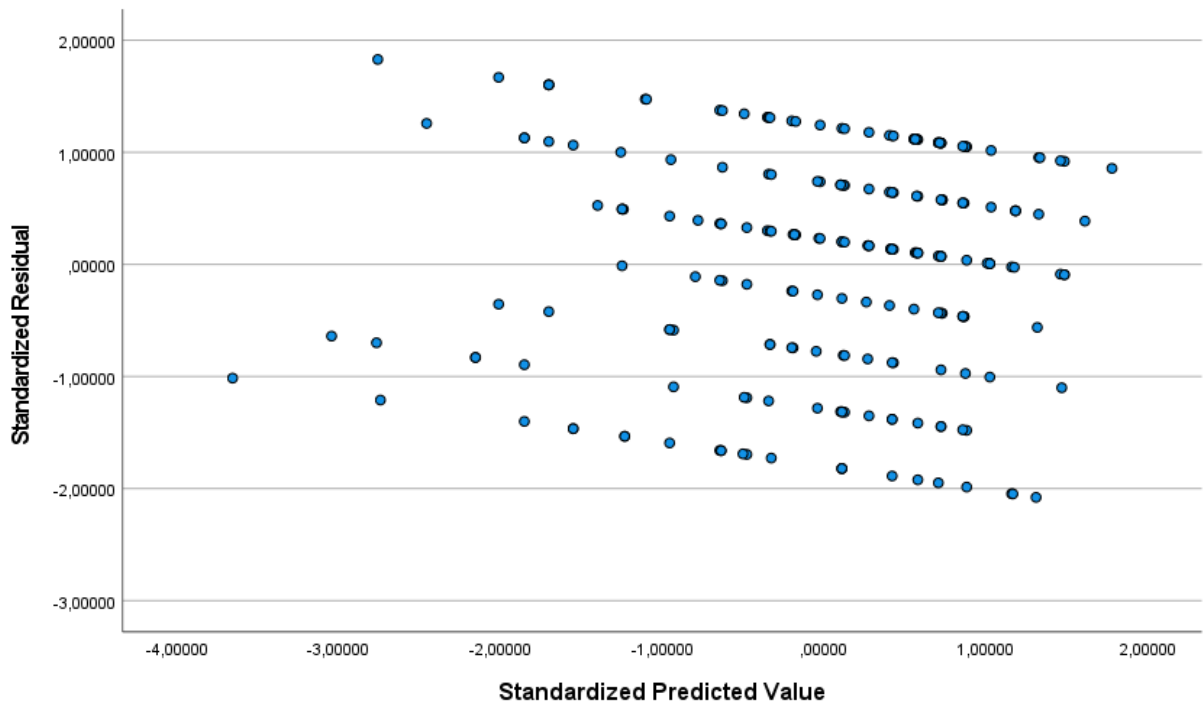
Has to be lower than 2.5 and higher than 1.5

2. Assumption of Linearity

This assumption is met.

Through visual inspection, the data appear to be horizontal in nature, which suggests that the relationships between all variables in the model are linear





3. Assumption of Homoscedasticity

This assumption is met.

Recall that this is a scatter plot of the residuals and using the same visual inspection of the scatter plots performed above, we conclude that the residuals fit a rectangular shape (ensuring that the error that is present in the association between the predictors and the DV is consistent across the scores of the predictors.)

4. Assumption of Multicollinearity

Multicollinearity does not exist based on the tolerance and VIF.

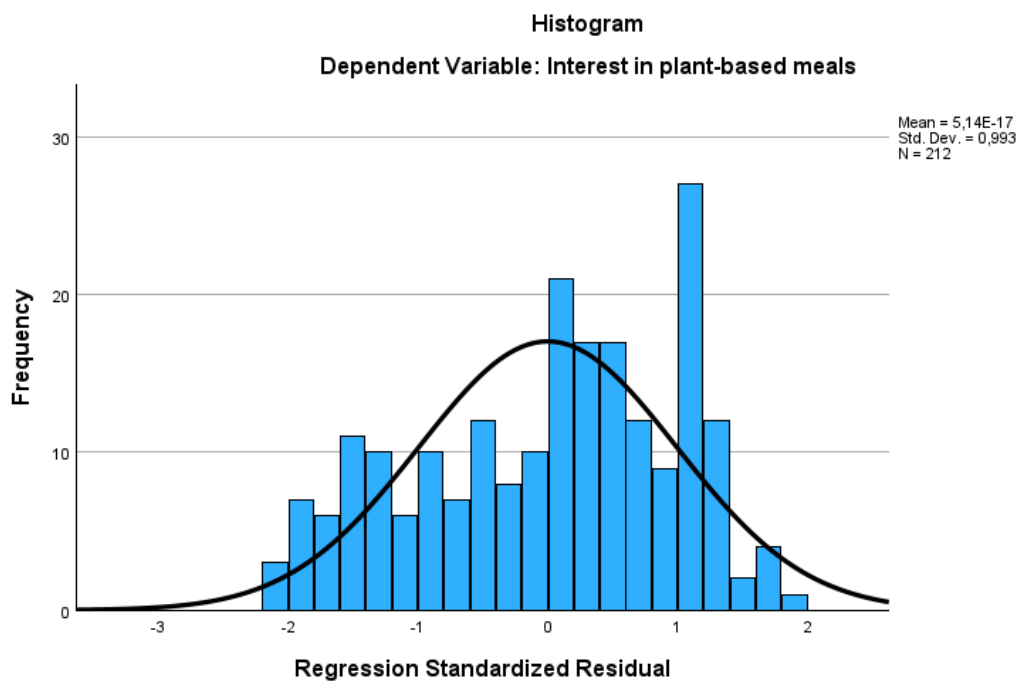
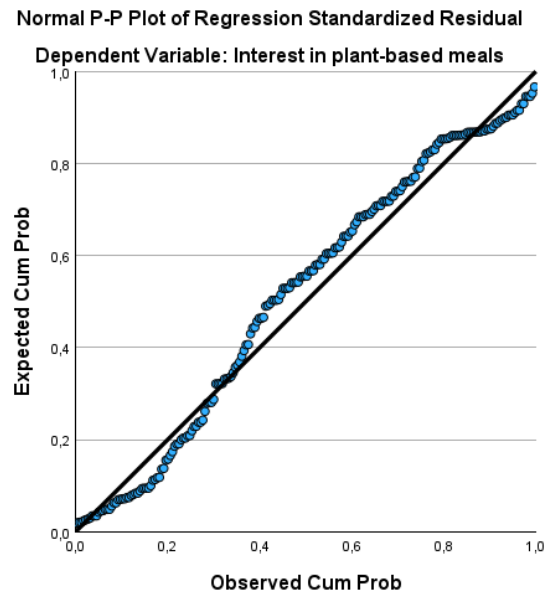
The rules of thumb for each variable are that tolerance should not be below 0.1 and VIF should not be above 10

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Advocate's role	,897	1,114
Advocate's diet	,812	1,232
Credibility_mean	,736	1,358

5. Assumption of Normality

This assumption is not met.

After visual inspection of the histogram and p-p plot, we see that it is not normally distributed. (dots are not all in one line). However, regression is robust against non-severe violations of normality (Hayes, 2018), thus the data will not be transformed



Note. negatively skewed, no normal distribution

Appendix E: Exploratory Analysis – the Interaction Effect Between Advocate’s Role and Diet on Interest in Plant-based Meals

There was no interaction effect between advocate’s role and diet on interest in plant-based meals($\beta = -0.18, t(199) = -0.32, p = .748$).

Model : 1

Y : Interest

X : IV_role

W : W_diet

Sample

Size: 203

OUTCOME VARIABLE:

Interest

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0617	,0038	4,0368	,2532	3,0000	199,0000	,8590

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,6600	,2841	16,4003	,0000	4,0997	5,2203
IV_role	-,0811	,3893	-,2082	,8353	-,8487	,6866
W_diet	-,0446	,4292	-,1039	,9173	-,8911	,8018
Int_1	-,1835	,5709	-,3214	,7483	-1,3092	,9423

Product terms key:

Int_1 : IV_role x W_diet

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0005	,1033	1,0000	199,0000	,7483