

Does Morality Facilitate the Purchase of Meat Alternatives?

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Extended Abstract

Due to global population growth and economic expansion, meat consumption has been on the rise, resulting in negative impacts on the environment, human health, and animal welfare [1, 2, 3]. Meat alternatives are expected to be an effective solution to these problems. While the topic of alternative products has gained widespread attention on social media since 2019, it remains to be seen as a boom [4]. To further promote meat alternatives, the moral aspect of the products could be a key factor. Given the influence of alternative products on social problems, recent consumers possibly find substitutes attractive for moral reasons. A previous study has found a relationship between consumers' morality and their willingness to purchase certain goods [5]. However, it has not yet been clarified that the consumption of new foods produced with new technologies could be promoted through morality. The purpose of this research is to quantitatively show the fact that morality influences consumers' willingness to purchase meat alternatives. We also identify the differences between various alternative products and moral values to achieve insight into promoting meat alternatives.

We conducted an online survey of 229 residents in the US, divided into two parts: the Moral Foundations Questionnaire (MFQ [6]), which is based on the Moral Foundations Theory [7], and questions about attitudes toward three alternative meat products: plant-based meat, cultured meat, and insect-based meat. Morality has two aspects: one as a social norm and the other as an innate intuition. The Moral Foundations Theory adopts the latter and explains human morality as having five different moral foundations, including Harm, Fairness, Authority, Ingroup, and Purity. It depends on the individuals, cultures, and ideologies how much each of the five foundations is emphasized [8]. The second half of the survey includes questions based on the previous study [5]. The participants were asked about their attitudes (such as liking or disliking, positive or negative, etc.) toward three alternative meat products and provided answers to questions, including "To what extent do your attitudes reflect your moral convictions or beliefs?" They also answered questions related to their familiarity with the products and their purchasing intentions.

First, we created a multiple regression model with willingness to buy meat alternatives as the objective variable. The results showed attitude, morality, age, and familiarity with the products were the significant explanatory variables ($p < 0.05$). Morality was the second-most important variable, with a greater influence on willingness than standard demographic metrics of gender and age (see Table1). However, further analysis revealed that the impact of morality was found to be limited by the products. While morality has a significant influence on plant-based meat, which is the most popular among the three, it did not apply to cultured meat and insect-based meat. Attitudes, knowledge, and age are significant to cultured meat and only attitudes matter for insect-based meat. Thus we could encourage consumers to buy plant-based meat by appealing to the moral aspects of the products, whereas we are required to come up with other strategies for cultured meat and insect-based meat.

Second, we identified types of moral values associated with the willingness to buy meat alternatives. A clustering analysis was employed to determine types of moral values in consumers, i.e., how much they tend to emphasize each of the five moral foundations. We used participants' age, gender, and MFQ scores to classify cluster types of moral values using the K-means method. We set the number of clusters to four according to the elbow method and qualitative evaluation. The results showed that the willingness to buy alternative products varied among the four clusters identified (Fig. 1). Cluster 1 had the highest willingness and Cluster 2 had the lowest willingness. Interestingly, these two clusters emphasized different moral foundations, with Cluster 1 focusing on Harm and Fairness only, while Cluster 2 gave equal weight to all foundations. According to the previous studies, the former moral type is related to the liberal ideology and the latter is associated with conservatism [8]. This suggests an association between ideology and the willingness to buy meat alternatives, with liberals being more likely to adopt new foods and conservatives tending to stick with conventional eating habits.

In conclusion, our study suggests that the more people connect meat alternatives to morality, the more likely they are to buy the products. The influence of morality, however, is limited by the products, and it currently applies only to plant-based meat. Since the trend of limitation could change in the future, continuous observation is required. Additionally, there is an association between ideology and the willingness to buy meat alternatives. The willingness to buy alternative products is connected to liberals' moral values. We should be mindful of how to utilize morality in order to appeal to consumers, as content that resonates with one set of moral values can provoke strong rejection from those who hold different moral values. Further research could investigate ideological conflicts regarding food and its factors to find an efficient way of promoting and preventing delays in the popularization of products.

References

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Table 1: Multiple regression model predicting willingness to purchase alternative meat products

	Regression coefficients	t-value(674)	p-value
Age	−0.055	−2.669	0.008
Gender (Female)	−0.007	−0.354	0.723
MFQ (Harm)	0.022	0.978	0.329
MFQ (Fairness)	−0.028	−1.264	0.207
MFQ (Ingroup)	−0.001	−0.036	0.971
MFQ (Authority)	−0.048	−1.282	0.200
MFQ (Purity)	0.059	1.899	0.058
Attitude	0.805	34.382	<0.001
Morality	0.085	3.735	<0.001
Certainty	0.007	0.305	0.761
Ambivalence	−0.009	−0.443	0.658
Knowledge	0.048	2.092	0.037

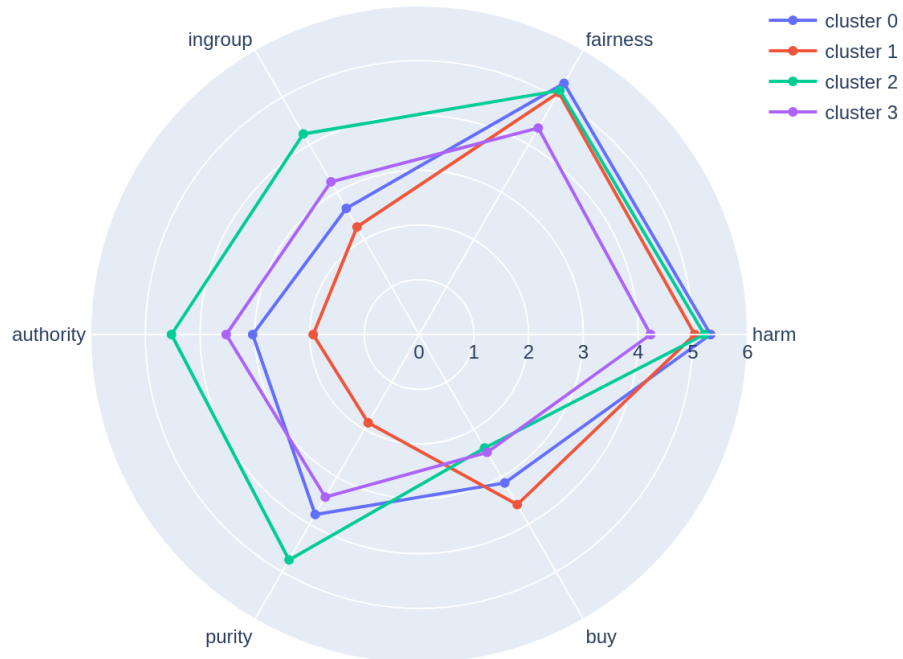


Figure 1: Moral foundations and willingness to buy meat alternatives