

Development of a Stage of Change Algorithm for Environmentally-Conscious Protein Choices

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Background

Stage of Change (SOC)-based interventions have been effective for behavior change but few have been developed to assess sustainable eating behavior (GE)¹. No algorithm assessing motivational readiness to make environmentally-conscious protein choices (ECP) has been previously developed.

Objective

To develop a SOC algorithm for ECP choices.

Methods

Development was initiated using a cross-sectional survey of participants (n=400) enrolled in introductory classes. Participants ranged from 18-24 years old and received extra credit for completion. The ECP SOC algorithm was recoded for this study categorizing participants as pre- or post-action, and was determined by the question “Do you make a conscious effort to choose more environmentally friendly proteins?”. Answers categorizing participants in pre-action (pre) included, “No, and do not intend to start within the next 6 months”, “No, but I am thinking about it within the next 6 months”, and “No, but I am planning on it within the next 30 days”. Answers determining post-action status (post) included “Yes, and have been for less than 6 months”, and “Yes, and have been for 6 months or more”. The following questions were asked to determine ECP behavior: “How often do you choose what you eat based on long term impacts to your health?” (LTH), and “Do you think it is possible to eat a healthy, nutritious diet consuming mostly plant-based foods?” (PBF).

Questions also included, “On average per week, how many days do you consume some form of animal protein?” (AP), and “How often do you think about the impact of meat consumption on the environment?” (MOE). Lastly, GE was determined by the validated algorithm¹ “Are you a Green Eater?” after participants were given the definition of GE.

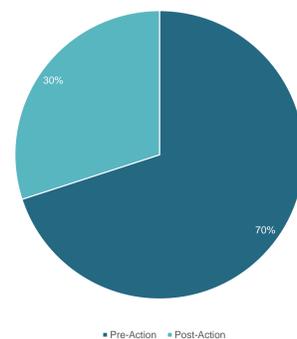
Demographics

400 students participated in an extra credit survey; mean age was 19 (±1.2) years old, 80% were female, and 83% were white.

Results

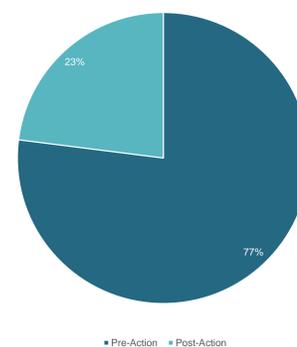
Most participants (70%) were in pre stages for ECP which was slightly lower than the proportion in pre for GE 77% (p<0.001). 61% were pre for both ECP and GE but only 14% were post for both behaviors (p<0.001). 57% in pre for ECP consumed AP 4-6 days a week vs. 41% of those in post (p<0.001). Those in pre were less likely to always choose foods for LTH (22%) vs. post (51%) (p<0.001). 51% in pre believed in eating mostly PBF to sustain health vs. 79% in post (p<0.001). Lastly, post were more likely to contemplate the impact of MOE every time they ate meat (26%) vs. pre (10%) (p<0.001).

Chart 1: Environmentally Conscious Protein Choices



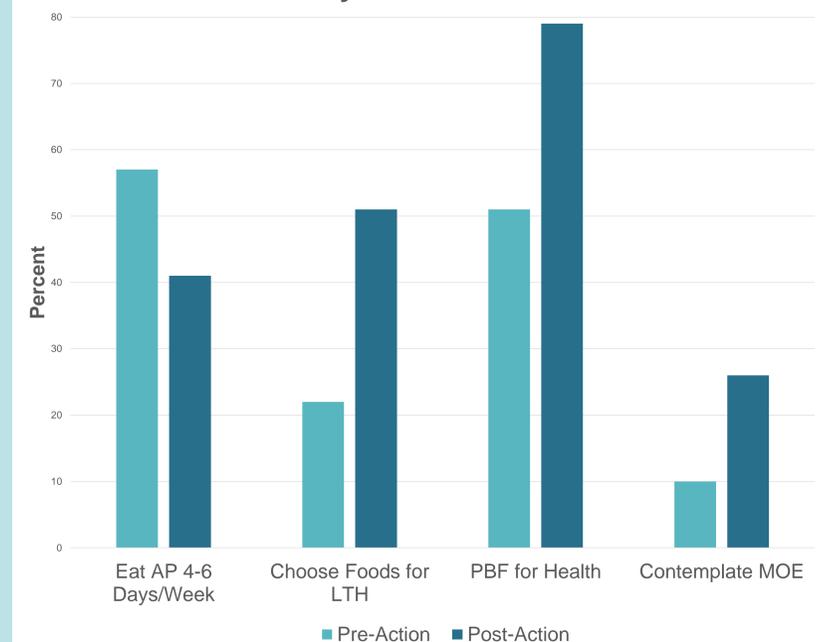
*Results are statistically significant with a p-value of <0.05

Chart 2: Green Eating Behavior



*Results are statistically significant with a p-value of <0.05

Chart 3: Attitudes and Behaviors of Students in Pre-Action Versus Post-Action of Environmentally-Conscious Protein Choices



*All results are statistically significant with a p-value of <0.05

Conclusions

The ECP SOC algorithm successfully distinguished pre- and post-action stages by behavior and attitudes. The greater proportion of students in post-action for ECP than GE suggests that the ECP algorithm successfully differentiated between this specific behavior and the more general GE construct. The consistency of these results with previous research provides support to the validity of the ECP SOC algorithm. Future research is needed to validate this algorithm and to determine if it can be used for interventions to facilitate behavior change.

Acknowledgements

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References

1. Weller KE, Greene GW, Redding CA, et al. Development and validation of green eating behaviors, stage of change, decisional balance and self-efficacy scales in college students. J Nutr Educ Behav. 2014, 46 (5):324- 33.

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