

### Efficacy of Two Nutrition Education Methods for Older Adults in an Independent Living Community

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#### Abstract

Older adults are a diverse population with many life experiences. As adults age, food and physical activity can promote better health and quality of life. This study took place in an independent living facility. Independent living facility residents live in their own apartments where they cook their own meals and choose their own physical activity. Two methods of nutrition education, in-person and online lessons, were used to discuss areas of concern for older adults: meal planning, physical activity, protein intake and produce consumption. Participants completed several measures to gather information, determine education topics, and determine the effects of the study. Interviews were conducted to gather perspectives on their community and perceptions of food and nutrition. The Dietary Screening Tool was administered before (PRE) and after (POST) the educational series to assess changes in dietary intake frequency and nutritional risk. Finally, Post-Pre questionnaires assessed self-reported change in familiarity and intention to change. Results were not significant due to a small, non-diverse sample. However, the results suggested a shift toward higher familiarity and likelihood to apply changes.

#### Background

- Food, nutrition, and activity are important in improving the quality of life and overall health of older adults.
- As older adults age, body fat increases and lean body mass decreases, which is known as sarcopenia. Sarcopenia is a risk factor for many health outcomes, including “weakness, falls, immobility, functional decline and institutionalization” (3).
- Educating older adults about nutrition provides them with the knowledge to feed themselves in a way that can help to prevent sarcopenia and the resulting adverse outcomes.

#### Purpose

- PART 1: Needs Assessment**
- To determine the nutritional and general health needs of community-residing older adults.

**PART 2: Program Evaluation**

- To determine to what extent short online lessons (5-8 minutes) and in-person sessions (about 1 hour) are capable of improving familiarity of and intention to practice recommended nutrition and exercise practices.
- To compare the impacts of the two education approaches to one another

#### Methods (Parts 1 and 2)

**Recruitment.**

- Convenience sampling was used to recruit participants.
- Participants had to be:
  - Residents of a local independent living facility
  - Age 55+ (minimum age required to live there)
  - Literate
  - Willing to complete PRE and POST assessments
- The study protocol was reviewed and approved by the university’s Institutional Review Board

**Participants.**

- Thirteen older adults completed Parts 1 and 2
- The majority were females and were “at nutritional risk” (Table 1).

	Number	Percent (%)	
<b>Gender (n=13)</b>	Male	4	30.8
	Female	9	69.2
<b>Nutritional Risk Category (n=11)</b>	At Risk	5	45.4
	Possible Risk	3	27.3
	Not at Risk	3	27.3

#### Part 1: Needs Assessment Methods

**Assessments.**

- One-on-one interviews were conducted to identify participants individual perspectives on their:
  - coop-style community,
  - food and nutrition,
  - physical activity, and
  - barriers to achieving optimal health.
- Participants also completed the Dietary Screening Tool (1,2) which assesses dietary intake frequencies and nutritional risk; max score is 100 (Table 2)
- Descriptive statistics assessed frequencies of DST responses
- Interviews were reviewed for themes

Diet Category	Total Points	
<b>“Prudent” Diet Categories</b>	Dairy	10
	Lean Protein	10
	Vegetables	15
	Total and Whole Grains	15
	Whole Fruit and Juice	15
<b>“Western” Diet Categories<sup>a</sup></b>	Processed Meat	10
	Added Fats, Sugars, and Sweets	25
<b>Nutritional Risk Category</b>	At Nutritional Risk	<60
	Possible Nutritional Risk	60-75
	Not at Nutritional Risk	>75

<sup>a</sup> A higher score indicates a lower intake of these foods which is desired

#### Part 1: Needs Assessment Results

The majority of participants reported that:

- Independence was a factor in choosing the community they live in
- Involvement in their community is a common value
- Socialization is an enjoyable aspect of the community
- Food preferences are based on past experience and enjoyment
- Walking was the preferred form of physical activity
- Challenges to achieving optimal health are attitude and social conditions (e.g., eating alone, withdrawal)

#### Part 2: Program Evaluation Methods

**Educational Program Design.**

- Topics were based on the DST needs assessment outcome.
- Topics included:
  - Fruits and vegetables
  - Protein
  - Eating regular meals
  - Physical activity.
- Participants were randomly assigned to either the online lesson group or the in-person lesson group ; content did not differ between groups (Table 3)
- Both groups completed the DST at Session 1 (PRE) and 3 months following the program (POST).
- Post-Pre questionnaires were completed after each lesson by both groups

COMPONENT	ONLINE LESSONS	IN-PERSON LESSONS
<b>Duration</b>	• 5-8 minutes	• 45 to 60 minutes
<b>Educational Delivery</b>	• Group viewing of lessons without discussion during or after	• Interactive group education session
<b>Interactive Activities</b>	• None	<ul style="list-style-type: none"> <li>Critical thinking:                             <ul style="list-style-type: none"> <li>Matching games (e.g., matching chronic diseases to the nutrient that can prevent them)</li> <li>Application activities (e.g., using food models to indicate preferences and meal ideas, discussing good sources of nutrients)</li> </ul> </li> <li>Taste testing</li> <li>Physical activity</li> </ul>
<b>Supplemental Materials</b>	• PowerPoint slides	<ul style="list-style-type: none"> <li>Lesson-specific worksheets</li> <li>Extension publications</li> </ul>
<b>Reinforcement</b>	• None	• Additional worksheet to take home

**Data Analysis.**

- Data analyzed using IBM SPSS Statistics 23.
- Descriptive statistics assessed frequencies of responses on each question.
- Paired-sample t-tests assessed the change in familiarity in topics from PRE to POST.
- A Mann-Whitney U Test was used to determine if differences existed between online and in-person groups

#### Part 2: Program Evaluation Results

- No significant changes in nutritional risk were detected from PRE to POST.

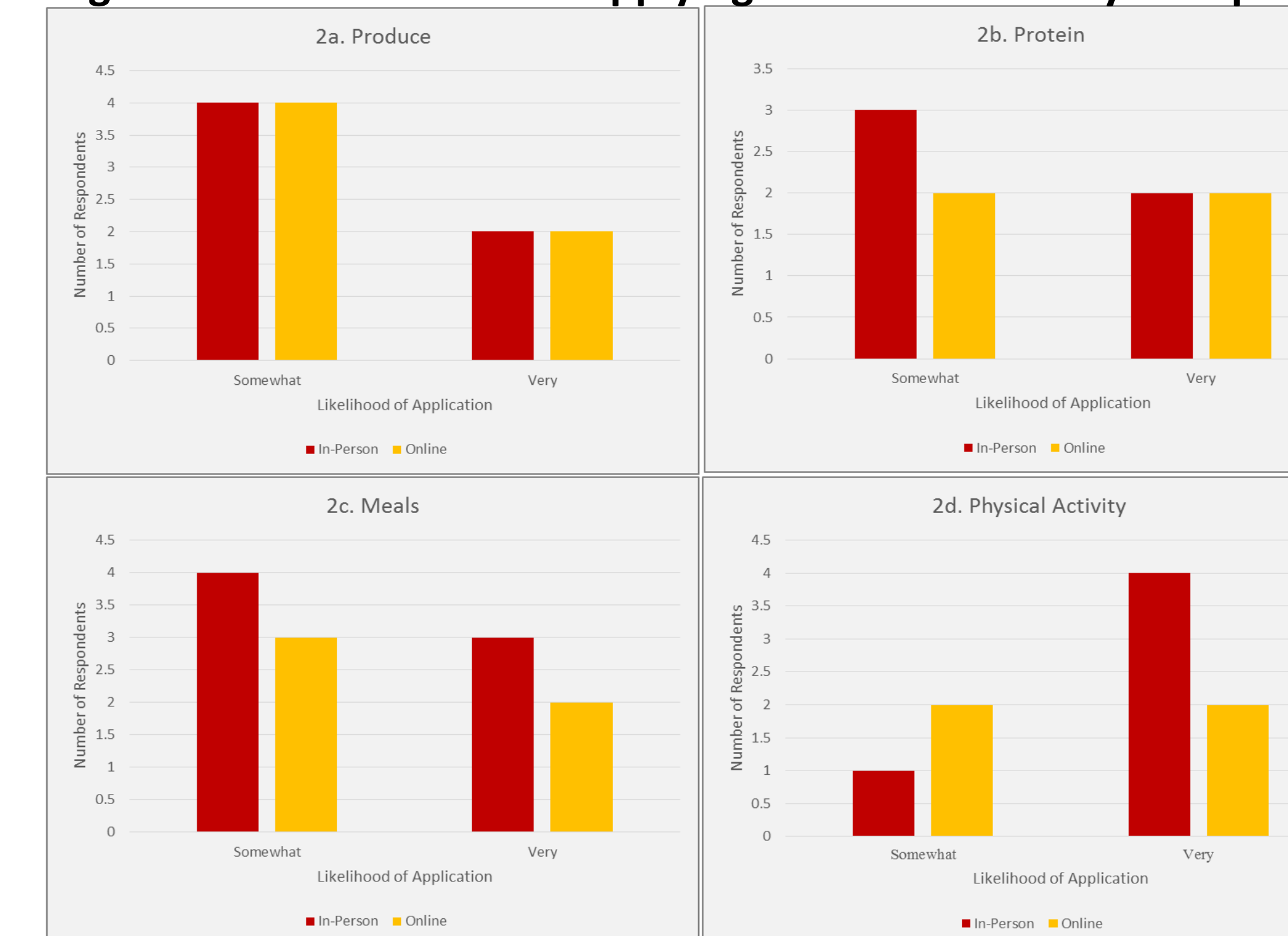
	PRE N (Percent)	POST N (Percent)
<b>Nutritional Risk Category</b>		
At Nutritional Risk	3 (23.0)	2 (15.4)
Possible Nutritional Risk	5 (38.5)	5 (38.5)
Not at Nutritional Risk	5 (38.5)	6 (46.1)

- Positive shifts toward higher familiarity with the topics presented were detected in both groups (Figures 1a-d). Familiarity shifted from more people reporting “Somewhat familiar” at PRE to reporting “Very Familiar” at POST. This finding was not significant.
- Participants in both groups reported that they would likely apply the recommendations mentioned in the lessons (Figures 2a-d)
- No significant differences between groups were detected.

**Figures 1a-d. Familiarity of Lesson Content by Group**



**Figures 2a-d. Likelihood of Applying Lesson Content by Group**



#### Conclusions

- Generalizability of this study is limited due to a small sample size (n=13) and a non-diverse sample of White males and females.
- These results suggest that both online and in-person nutrition education for older adults may improve the familiarity of and intention to practice recommended nutrition and physical activity practices.
- Further research is needed to determine if the method of nutrition education delivery can influence familiarity and likelihood to practice nutrition and physical activity recommendations.

#### References

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