

# **Do Classroom Lessons About Poverty and Hands on Experiences with Healthy Low Cost Food Preparation Impact North Carolina Undergraduate Students' Perceptions of Poverty?**

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## **Abstract**

Poverty and food insecurity are significant problems in North Carolina with 1 in 5, or 1.7 million North Carolinians living at or below the national poverty line. The purpose of this study was to better understand student's perceptions of poverty and SNAP benefits at a small liberal arts college in Western North Carolina, and to assess student knowledge level before and after providing classroom and experiential education. Students in three nutrition classes (n=90) were given pre-and post-surveys addressing students' personal understanding of national poverty income levels, amount of assistance the government provides, and student perceptions about poverty. A sub-group of students (n=16) participated in 1 of 2 cooking classes focused on healthy eating on a budget. The 2-hour cooking classes involved the preparation of one days' worth of meals on a budget of \$4 a day or less. The student cooking group completed a reflection assignment which indicates that 77% of the respondents reported an increase in cost awareness and interest in healthy low cost food preparation. Paired sample t-tests of pre-post survey questions revealed no statistically significant differences; however, when asked how likely low income individuals are to purchase nutritionally balanced meals, likelihood was higher in the post survey (mean of 2.06) than in the pre survey (mean of 1.63), which suggests that the experiential education may have influenced the students' perceptions of poverty. Further research is needed to determine the positive effects, if any, of classroom and hands on lessons on poverty and healthy eating on a budget.

## **1. Introduction**

The state of poverty is defined as one who lacks a usual or socially acceptable amount of money or material possessions.<sup>1</sup> Poverty status in the United States is assigned to people that do not meet a certain threshold income level set by the Department of Health and Human Services.<sup>2</sup> According to the United States Census Bureau (2013), 45.3 million people are living at or below poverty, which is set at \$11,900/year for an individual.<sup>3</sup> Poverty affects people in nearly all demographics age group, ethnic group, gender or area. Children living in poverty make up 21% or 16 million, women 15.4%, compared to men at 11.9%, 43% of total individuals are white, 33% are African American, 19% are Hispanic and then 2% or less are Native American or of Asian descent (USDA 2013).<sup>3</sup>

As of June 2014, 46.5 million persons or, 75% of those who are eligible, were participating in the Supplemental Nutrition Assistance Program (SNAP), formerly known as Food Stamp Program.<sup>4</sup> The Food Stamp Program originated in 1939 when it was noticed that farmers had a surplus of food labeled as "unmarketable" and a large number of people were living in urban environments who were undernourished.<sup>5</sup> The Food Stamp Act was voted into permanent existence in 1964 with the official purpose being to strengthen agriculture economy and improve nutrition in low income individuals: however the practical purpose was to bring the pilot Food Stamp Program under Congressional control.<sup>4</sup> SNAP eligibility rules require that participants be at or below 130% of the Federal Poverty Level, which is roughly \$11,400 gross individual income/year.<sup>6</sup> Recent studies show that 49% of all SNAP participants are children (age 18 or younger), with almost two-thirds of SNAP children living in single-parent

households. In total, 76% of SNAP benefits go towards households with children, 16% go to households with disabled persons, and 9% go to households with senior citizens.<sup>7</sup>

Specifically in North Carolina 1.7 million people are living at or below the official poverty line, making the state the 10<sup>th</sup> highest in poverty in the United States.<sup>8</sup> In North Carolina, children represent 25.2% of those living in poverty, women 19.5%, men 16.5%, older adults 10% and individuals that are disabled make up 24.9%.<sup>8</sup> As of 2013, 1.7 million people or, 1 in 6 residents of North Carolina were participating in SNAP.<sup>9,10</sup>

Individuals living in poverty have to live without basic needs being met in addition to the negative stereotypes that society attaches to them.<sup>11</sup> Instead of being able to make choices about everyday life, people living in poverty are in a state of continual crisis and often this means not knowing how to make ends meet from one month, or even one week, to the next. According to the 2002 Economic Policy Institute, “poor working adults spend more hours working than wealthier counterparts”.<sup>11</sup> Social upward mobility is not about working hard, but about gaining knowledge and furthering education in order to move up in the working world.<sup>12</sup>

Common myths and perceptions about poverty are drug/alcohol addiction, lack of motivation/education, free government handouts, disability and/or elderly, just to name a few.<sup>13</sup> The common misperceptions about people living in poverty may be a lack of knowledge and education within our system, not just a lack of education within an impoverished community. All of these myths and misconceptions perpetuate the growing problem of poverty within our communities.

Individuals are exposed to these negative perceptions at a young age with no real education on what poverty really means or looks like on a financial level.<sup>14</sup> To be able to relate and contribute within society, children must come to understand the “origins, nature, and implications of a variety of human differences, including differences in socioeconomic status (SES).”<sup>14</sup> “As children come to view a lack of ability and effort as a possible cause of poverty, they also come to regard income as justified and become less disposed to help poor people.”<sup>14</sup> Poverty is perpetuated by the repeated negative perception and lack of education within our system specifically the lack of financial education classes in high school and continuing education environments. “As college graduates enter the work force, they should understand the reality of financial hardship so they may successfully incorporate this understanding into their organizational policies, business plans, treatment plans and so on.”<sup>15</sup> Students entering and exiting the college environments are carrying these negative beliefs about poverty within them and there is no system set up to counter act those beliefs. “Which view of poverty we ultimately embrace will have a direct bearing on the public policies we pursue.”<sup>16</sup>

In order to begin increasing student knowledge in regards to poverty, students at both high school and college levels should be educated about poverty, food insecurity and the cultural ideas surrounding these two concepts. Student reflections from a study done by Steck et al. reported an “enhanced and sometimes changed understanding of people who are living in poverty and a deeper recognition of the many factors that affect impoverished families.”<sup>15</sup> Experiential learning and teaching provides a personal experience with applicable material and is an increasingly recommended practice.<sup>15</sup> “Experiential education is a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities.”<sup>17</sup>

The purpose of this project is to look at student learning outcomes with the use of both classroom lecture teaching about living below the poverty level and experiential learning. The experiential learning portion is working with students in the UNC Asheville teaching kitchen with healthy food preparation on a budget based on current SNAP benefit guidelines. Our hypothesis is that students who receive both classroom lecture and experiential learning with food preparation will have an increase in their understanding of poverty and how to make healthy meal choices on a limited income. Those who only receive the classroom lecture are expected to have an improved awareness of poverty.

## 2. Methods

Students in three college level nutrition classes (n=90) were given pre- and post- surveys addressing students' knowledge of and beliefs about poverty. Specific questions included what students believe poverty levels are on a financial scale, what amount of assistance the government provides on a financial scale and what the student personally thought of when asked about poverty, for example, lack of motivation/education.

All students (n=90) received the classroom lecture which lasted approximately 30 minutes. The lecture included information about the history of SNAP benefits including the original purpose of feeding the hungry with excess food, current statistics and demographics of SNAP beneficiaries in the U.S. and the state of North Carolina. The lecture also included how much, on average, an individual would receive in SNAP benefits monthly.

All students (n=90) signed up for a cooking class experience. A subset of students (n=16) signed up to participate in 1 of 2 experiential cooking on a budget (\$4 a day) classes; the others attended cooking classes on other topics (i.e. keeping the harvest, healthy comfort food, etc.). The cooking classes were 2 hours long and were comprised of recipes that accounted for one days' worth of meals all under the total of \$4 a day. The group prepared sweet potato chili, sweet potato muffins, lentil stew and braised cabbage slices. The only meal not prepared was breakfast, but the cost was accounted for in the ingredient purchasing and the class was informed of the added estimated cost of breakfast items.

All students were given the post survey, which contained the same questions as the pre survey, but with additional questions to answer about their cooking experience. These additional questions were: 1) before taking your cooking class, how knowledgeable were you about what foods could be purchased on a very limited budget? 2) After taking this class how likely are you to increase the frequency with which you shop and prepare your own food? 3) How likely are you to budget for food shopping trips and plan out menus in advance? 4) Before taking this class, how knowledgeable were you about how to prepare healthy meals?

In addition to filling out the post survey, students (n=16) involved in the presentation plus experiential cooking group were asked to fill out the assignment called "Food Education Experience Reflection Assignment: Cooking on a Budget" Examples of the questions asked are: 1.) What surprised or impressed you about the food education experience you participated in? Describe something you learned or a moment, experience, or conversation that helped you think about something differently

2.) Are you likely to make changes to your thinking about food, food purchasing decisions, cooking strategies, or eating patterns based your experience with this food education experience or your class?

### 3. Results

Paired sample t-tests of pre-post survey questions revealed no statistically significant differences; however, several of the questions asked showed a positive change between the pre and post surveys.

When the presentation plus experiential group were asked the following questions there was a slight change between pre and post responses which suggests that the experiential education may have influenced the students' perceptions of poverty. When asked "how likely low income individuals are to purchase nutritionally balanced meals?", the likelihood was higher in the post survey than in the pre survey with a change in the mean value by 0.43 from 1.63 to 2.06 with 1 being very unlikely and 2 being unlikely. When asked "how likely are you to implement a budget in the next few months?" there was a change of .19 from 4.00 to 4.19 with 4 being likely and 5 being very likely.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	how likely are low income individuals to purchase nutritionally balanced meals (pre survey)	1.63	16	.885	.221
	how likely are low income individuals to purchase nutritionally balanced meals (post survey)	2.06	16	1.389	.347
Pair 2	how likely are you to implement a budget in the next few months (pre survey)	4.00	16	1.155	.289
	how likely are you to implement a budget in the next few months (post survey)	4.19	16	1.223	.306

Presentation + Experiential Group

When the presentation only group was asked the same questions there was a difference between the pre and post response, but it was not as great a difference as the experiential group showed. “How likely are low income individuals to purchase nutritionally balanced meals?” the presentation groups post increase was .04 from a mean of 2.00 to 2.04. When asked “how likely are you to implement a budget in the next few months?” the presentation groups post surveys had a difference of .04 from a mean of 3.78 to 3.82.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	how likely are low income individuals to purchase nutritionally balanced meals (pre survey)	2.00	45	1.022	.152
	how likely are low income individuals to purchase nutritionally balanced meals (post survey)	2.04	45	1.021	.152
Pair 2	how likely are you to implement a budget in the next few months (pre survey)	3.78	45	1.166	.174
	how likely are you to implement a budget in the next few months (post survey)	3.82	45	1.173	.175

Classroom Presentation Only Group

The presentation group and the presentation plus experiential group answered additional questions in the post survey. 1.) Before taking your cooking class, how knowledgeable were you about what foods could be purchased on a very limited budget? The experiential (n=16) group reported at 62.5% being knowledgeable or very knowledgeable while the classroom only (n=45) group reported at 72% being knowledgeable or very knowledgeable. The 9.5% difference in responses is possibly due to the experiential group feeling less knowledgeable and may account for why they signed up for the cooking on a budget class. 2.) How likely are you to budget for food shopping trips and plan out menus in advance? The experiential (n=16) group reported at 87% as likely or very likely, the classroom only (n=45) group reported at 80% likely or very likely. The experiential group report of 87% shows an increased awareness in the importance of budgeting and pre planning. 3.) Before taking this class, how knowledgeable were you about how to prepare healthy meals? The experiential (n=16) group reported at 87.5% being knowledgeable or very knowledgeable while the classroom only (n=45) group reported at 81% being knowledgeable or very knowledgeable.

Both the presentation group and the presentation plus experiential group indicate negative beliefs about low income individuals, but the presentation plus experiential group had a greater increase between the pre and post testing than the presentation group only. The presentation plus experiential group completed written reflection assignments. Despite the lack of statistical significance in the survey data, in the reflection assignments 77% of the respondents reported an increase in cost awareness and interest in healthy low cost food preparation.

Here are some of the student responses to the “Food Education Experience Reflection Assignment: Cooking on a Budget”. All responses were/are anonymous.

Response 1: “By taking this class I have already began to make changes to my eating and purchasing habits. I have begun purchasing beans, rice, and grain dry and in bulk instead of precooked or in cans. I have been using vegetables broth and leftover vegetables to make large pots of soup to have for lunch each week. By using this strategy I learnt (learned) from the class along with cooking large quantities and freezing the left overs, I have cut my food budget in half and eliminated as much food waste from my home.”

Response 2: “I was also surprised when the instructors of our class told us that each meal only cost about three dollars per person. I can’t remember anytime as a college student that I’ve paid three dollars for an entire meal.”

Response 3: “Many times people associate eating healthy foods with high prices, however this class proved that idea wrong. I am much more likely to explore healthy recipes online and attempt to shop at cheap grocery stores, as well as change ingredients to add nutritional benefit and/or decrease the cost.”

Response 4: “I was impressed at the low cost per serving of all the dishes we prepared. In the past, I’ve considered low cost meals to include beans and rice, with some sort of vegetable to add more micronutrients. These dishes were diverse, tasty, and cost effective. If I’m ever in a pinch again, I may consider the value of other foods. Even if I’m just trying to save money, it is useful to know that you can still meet your needs without limiting your intake to grains and legumes.”

Response 5: “Overall, the groceries to cook for 24 people cost about \$85. This meant that one serving of each dish cost only \$3.54 per person.”

Response 6: “I was surprised at just how inexpensive some of the recipes came out to be. For example, the Roasted Cabbage Wedges cost only \$0.22 per serving!”

Response 7: “The realization that there are many ways to save money, such as knowing that dried beans are at a lower price, and contain more nutrients per serving than canned beans, has changed the way I look at food.”

Response 8: “I was pleasantly surprised at how cheap it was to buy all of the ingredients for the recipes. Christina and Megan said the class typically cost around \$40 to prepare for. That’s insane with the amount of food we made. If you really try, you can eat on a budget. You may have to sacrifice everything that does not constitute as a necessity, but the benefits far outweigh the cons. I left the class feeling nourished and content.”

#### **4. Discussion**

Due to current levels of poverty in the U.S. and specifically, North Carolina it is important to look at all options and ideas available in order to begin reversing the poverty issue. This project was started to determine what college students’ perceptions are in regards to poverty and to test whether those predisposed notions can be altered through lecture and/or experiential learning. College students are an important source to look at when it comes to issues such as poverty and low income. The beliefs that college students graduate with will have a direct impact on future policy change on issues such as food access, food insecurity and SNAP benefits, just to name a few. These policies will then have a direct impact on individuals and families that are living in poverty or in areas with little to no access to healthy foods. Future improvements in areas such as policy change and advocacy for individuals and families living in poverty will not happen unless a change is made in individuals beliefs on issues about poverty and low income living.

While the results of this project showed no statistically significant change within or between groups, the experiential group did show a small improvement in their beliefs on whether a low income individual is likely to purchase healthy food on a budget. This notion that low income individuals are unlikely to make healthy food options is possibly a lack of education on how to purchase and prepare healthy foods and the true cost of those foods. This shows a gap in student knowledge and education when it comes to issues related to finances and budgeting.

Additional studies with larger experiential class size, increased frequency of meetings and a more targeted subject may provide a statistically significant difference. In addition, as suggested by the reflection assignments, qualitative data may be more useful in understanding beliefs, attitudes and behaviors.

This project shows through reflection that students are interested in experiential learning with 77% positive responses from students showing an increased interest in learning. The use of experiential learning provides the students with practical, useful knowledge and includes tangible take home experiences that they can repeat on their own. In combination with classroom lecture, this teaching style encourages students to take their learning to a different level and provides students with a second form of learning that might enhance knowledge retention.

#### **5. Conclusion**

Further studies are needed in the area of student experiential learning vs lecture only learning to improve student understanding and to possibly increase student empathy when it comes to situations such as poverty and healthy food access on a budget.

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