

# Healthy Choices in Motion Increases Physical Activity Knowledge in Butte County



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## Introduction

- The Shaping Healthy Choices Program (SHCP) is a multi-component, school-based nutrition intervention with the goal of improving health and nutrition-related outcomes in 4<sup>th</sup>-6<sup>th</sup> grade students.
- The SHCP was initially evaluated in 4<sup>th</sup> grade classrooms during a pilot study that took place during the 2012-2013 school year. Results included improvements in nutrition knowledge and vegetable identification; an increase in reported and observed vegetable intake; improvements in BMI percentile; and improvements in physical activity intensity pattern.
- Following the study, the SHCP was adopted by UC CalFresh Nutrition Education Program and implemented in multiple counties across California, including Butte County.
- Due to the need for an evidence-based physical activity curriculum that was identified during the previous intervention, a supplemental, comprehensive curriculum was developed with an optional technology enhancement, called *Healthy Choices in Motion (HCIM)*.

## Methods

- Healthy Choices in Motion* encourages physical activity through experiential learning approaches in which youth explore how physical activity can be enjoyable. The curriculum consists of 5 modules: 1) The Benefits of Physical Activity; 2) Physical Activity Recommendations Across the Lifespan; 3) Components of Physical Fitness; 4) Why We Need a Variety of Physical Activity; and 5) What Being Physically Active Means to You.
- During the 2015-2016 school year, the UC CalFresh Nutrition Education Program in Butte County partnered with the Center for Nutrition in Schools and the Department of Nutrition at UC Davis to pilot *HCIM* in conjunction with the SHCP.
- Eight classrooms enrolled in Butte County's UC CalFresh Nutrition Education Program were selected to participate in the *HCIM* pilot study and classrooms were assigned into one of four groups: 1) Comparison (no direct nutrition education); 2) SHCP only; 3) SHCP + *HCIM*; 4) SHCP + *HCIM* with technology-enhancement.
- SHCP lessons were facilitated by UC CalFresh Nutrition educators throughout the school year and *Healthy Choices in Motion* lessons were facilitated by UC Davis researchers over 5 weeks.
- All lessons were approximately 1 hour in length.



## Results

- Mean physical activity knowledge significantly increased for the students participating in the *HCIM* curriculum, as compared to students not receiving direct nutrition education and students participating only in the SHCP (Table 1).
- Students that participated in *HCIM* with the technology enhancement also demonstrated improvements in physical activity knowledge as compared to students participating only in the SHCP (Table 1).
- There were no differences in physical activity knowledge in students that participated in *HCIM* with the technology enhancement as compared to students receiving no direct nutrition education and students participating in *HCIM* (Table 1).

**Table 1: Change in Physical Activity Knowledge**  
Physical activity knowledge score<sup>1</sup> (mean (SD))  
(maximum score possible = 20)

	Comparison (no intervention) n = 23	SHCP n = 19	SHCP + HCIM n = 36	SHCP+HCIM w/ tech n = 40	p-value
<b>Pre</b>	13.3 (2.3)	13.6 (2.0)	10.1 (3.4)	12.2 (2.8)	
<b>Post</b>	13.5 (2.3)	13.5 (2.4)	12.9 (3.3)	12.5 (4.0)	
<b>Change*</b>	0.13 <sup>ab</sup> (2.6)	-0.1 <sup>a</sup> (2.4)	2.9 <sup>c</sup> (3.4)	2.3 <sup>bc</sup> (3.6)	0.05*

Note: Values with different alphabetical superscripts denote significance of  $P < 0.05$ .

## Client Testimonials

- "This is so great! I think this is my favorite activity we have done [during SHCP]! It's like their fitness testing, but way more fun!" – **Mrs. Webb, 4<sup>th</sup> grade teacher**
- "I love when you come to our class because it means we get to do something fun. My favorite is when get to cook with the things we grow in the garden." – **4<sup>th</sup> grade student, Mrs. Taylor's class**
- "This program is so neat, Aiden [4<sup>th</sup> grade student] lives with just his dad, and he was telling me today that they have made every recipe from the cooking lessons together at home." – **Mrs. Schlanser, 4<sup>th</sup> grade teacher**
- "I love Farm to Market! We should play this game every time you visit Miss Jamie!" – **4<sup>th</sup> grade student, Mrs. Dailey's class**

## Future Directions

- The results from this study support the inclusion of *HCIM* into existing SHCP interventions in Butte County and provided the needed momentum for the expansion of *HCIM* into 3 additional Butte County schools in the 2016-2017 school year.
- Data from this study were used to help inform the development of an intervention using wearable physical activity devices to disseminate health messages to students receiving the SHCP with *HCIM* over 9-months.
  - This subsequent study was conducted in 8 classrooms across 3 schools in Butte County during the 2016-2017 school year.
  - Individual-level data on demographics, anthropometrics, nutrition knowledge, physical activity knowledge, behavior, and self-efficacy was collected on participating students and results are currently being analyzed.
- Improvements in physical activity knowledge in students participating in *HCIM* with and without technology-enhancement may contribute to improvements in physical activity and should continue to be explored in a larger sample over a longer period.

## Funding & Acknowledgements

- Funding was provided in part by UC ANR Competitive Grant #15-3723, USDA NIFA, Hatch project 221082, and the UC CalFresh Nutrition Supplemental Nutrition Education (SNAP-Ed) Program.
- The authors would like to thank the participating school districts, schools, teachers, students, and the *Healthy Choices in Motion* team at the UC Davis Center for Nutrition in Schools.

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