

Health Quest: Engaging Adolescents in Health Careers with Technology-Rich Personalized Learning

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HEALTH QUEST

Background

Developing our biomedical, behavioral, and clinical research workforce is a critical national need.

- Significant workforce shortages exist or are emerging in the fields of medicine, dentistry, public health, nutrition/dietetics, and mental health
- Exacerbating this problem is the underrepresentation of women, and racial and ethnic minorities in health research and the health professions

Adolescence offers a key window to promote interest, and increase self-efficacy to pursue health science careers and health professions.

Objectives

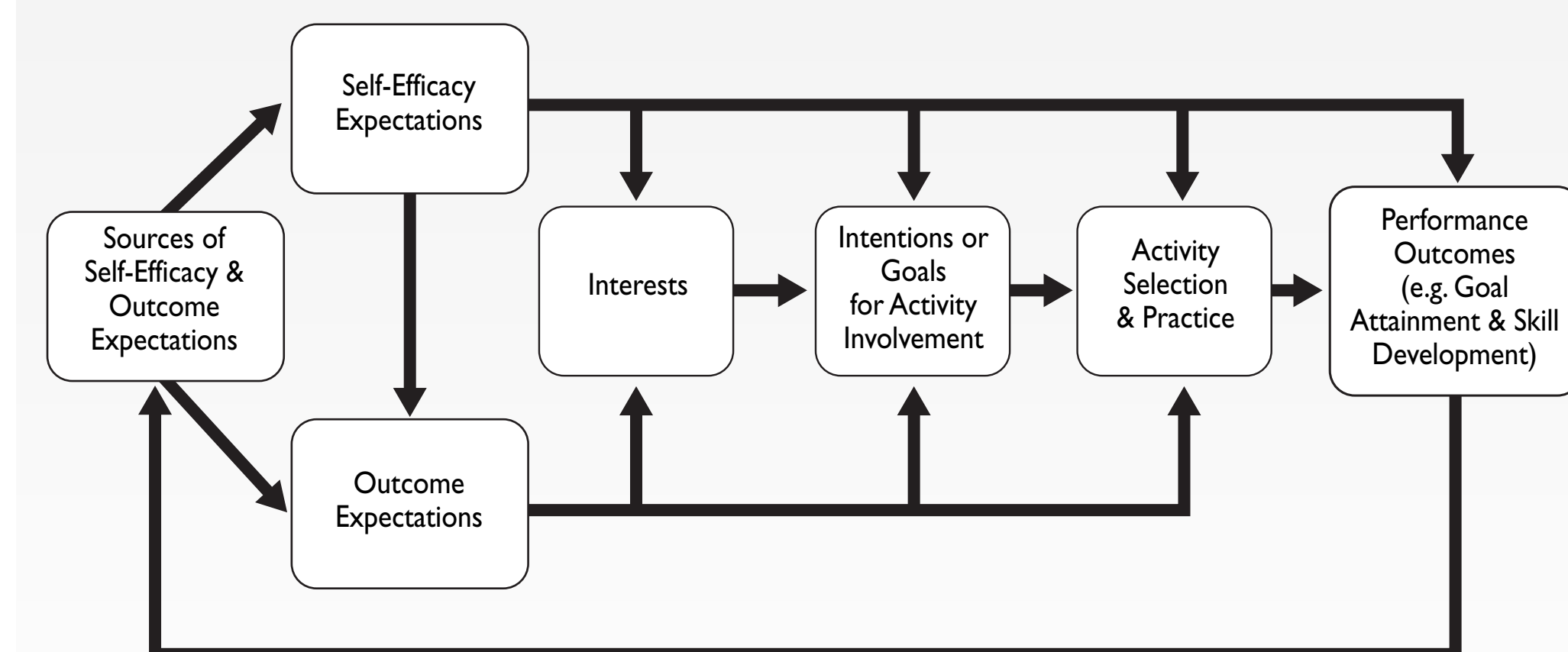
Health Quest aims to promote middle grade students' interests in health science careers by:

- Engaging students in a rich narrative-driven health sciences career adventure game where they can work with virtual scientists to solve critical scientific problems
- Allowing students to learn about the career paths of health professionals through interactive video interviews
- Providing middle school teachers with tools and resources to implement Health Quest in their classrooms
- Increasing students' self efficacy for pursuing health science careers

The project will culminate with a formative evaluation of Health Quest in the project's partner schools in North Carolina and California.

Social Cognitive Theory

Health Quest is grounded in Social Cognitive Career Theory (SCCT) which holds that self-efficacy and outcome expectations exert a significant effect on the formation of career interests.



Personalized Learning Technologies

Health Quest will leverage significant advances in personalized learning technologies to create engaging interactions that enable students to explore and gain confidence in pursuing health science careers.

I. Career Adventure Game

Through engaging storylines students will:

- Be introduced to a broad range of health science careers
- Work with virtual characters to address critical health science problems
- Learn about how science plays a key role in promoting health



II. Student Discovery Center

Through interactive interviews with health professionals from biomedical, behavioral and clinical science, students will:

- Learn about career paths for health science professions
- Learn about what motivates scientists
- Hear about barriers to success and how individuals overcame them

III. Teacher Resource Center

Through online professional development materials and in-class activities Health Quest will:

- Support middle school teachers' classroom implementations of Health Quest

Designing the Career Adventure Game

Over the past year, the research team has been actively developing the first career adventure episode, which aims to introduce students to careers in public health. The narrative-driven storyline requires students to interact with virtual characters to solve a local outbreak mystery.



The design of the episode has been informed by:

- The "Games for Health" Community, designing gameplay to improve users' health behaviors
- Ongoing iterative input from adolescents in our partner schools
- The project team's experience developing narrative-centered behavior change systems

The episode's core game mechanic promotes students' use of the scientific method while also aligning curricular content with national science teaching standards.

Video Interviews with Health Professionals

We conducted video interviews with public health professionals. The video includes personal accounts about their careers, career path, and what motivates them about their career field.



Focus Groups

We conducted focus groups with 8th grade students to gather input on the game episode's storyline, health science content, and visual appearance. We also gathered feedback on the health professional interviews.

Suggested improvements:

- Keep game episodes concise
- Keep dialogue short
- Include mini-games within the episode
- Make the scenario more consequential
- Make videos more bite-sized
- Include more age appropriate career explanations



Future Development

The feedback from focus groups is being used to refine the game design strategy and video content.

- The career adventure game will center on an infectious disease outbreak that students must solve through gathering clues, interacting with health professionals, and formulating and testing hypotheses
- Students will unlock hidden game levels where they can explore character backgrounds and complete mini games to learn more



- Videos interviews will focus on stories about personal and professional journeys, quotes about why health careers are important, as well as advice on how to get started

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