Robert Wood Johnson Foundation

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Discovering How Video Games Can Motivate Healthy Behaviors: More than $2 Million Awarded to 12 Research Teams Across U.S.

Awards go to researchers in CA, FL, IN, ME, NC, NY, SC, VT and WA; Studies explore how games can increase physical activity and enhance prevention, self-management of health conditions

Princeton, NJ /// May 29, 2008 /// The Robert Wood Johnson Foundation (RWJF) announced today during a telenews conference the first round of grants awarded through its *Health Games Research* national program. More than $2 million in grants will enable 12 research teams to help strengthen the evidence base that supports the development and use of digital interactive games to improve players' health behaviors and outcomes. Funded studies explore topics ranging from how motion-based games may help stroke patients progress faster in physical therapy to how people in substance abuse treatment can practice skills and behaviors in the virtual world of a game to prevent real-world relapses.

The 12 grantees, awarded up to $200,000 each, are leading one- to two-year studies of games that engage players – ranging in age from eight to 98 – in physical activity and/or games that motivate them to improve their self-care (e.g., healthy lifestyle choices, prevention behaviors, chronic disease self-management and/or adherence to medical treatment plans).

Health Games Research is headquartered at the University of California, Santa Barbara. The program is directed by Debra Lieberman, Ph.D., communication researcher in the university's Institute for Social, Behavioral, and Economic Research, lecturer in the Department of Communication and a leading expert in the research and design of interactive media for learning and health behavior change. *Health Games Research* is funded by an $8.25 million grant from RWJF's Pioneer Portfolio, which supports innovative projects that may lead to breakthrough improvements in the future of health and health care.

"*Health Games Research* gives us a tremendous opportunity to advance the field," said Lieberman. "Previous studies and clinical trials have shown that well-designed interactive games can significantly improve players' health-related knowledge, skills, behaviors and outcomes. The 12 new studies will give us deeper insights into how and why certain game designs are compelling, fun and effective, and for which types of people. This work will yield a broad spectrum of validated game design principles that game designers will be able to use to enhance the effectiveness of future health games and game technologies."

A total of 112 research proposals were submitted by universities, medical centers and game industry organizations across the country. In January 2009, *Health Games Research* will issue its next call for proposals, awarding up to an additional $2 million in grants in its second round of funding.

"Games and game technologies offer unique solutions to a wide variety of health and health care challenges," said Chinwe Onyekere, M.P.H., RWJF program officer. "*Health Games Research* and this impressive set of grantees will help build the strongest possible evidence to support the growing field of games and health, and maximize its potential to improve the health and health care of all Americans."

The 12 grant recipients are:

Cornell University, Department of Communication (Ithaca, NY) - *Mindless Eating Challenge* is a mobile phone game for younger adolescents that rewards their good health habits and food choices. The study will investigate how strategies of persuasion in a game can promote healthy behaviors in daily life. The game uses eating tips, mobile phone snapshots of food that players plan to eat, nurturing of virtual characters and feedback from the system and from peers to promote good nutrition and healthy lifestyles.

Indiana University, School of Health, Physical Education and Recreation (Bloomington, IN) - *BloomingLife: The Skeleton Chase* is an alternative reality game designed to promote physical activity and healthy lifestyles among college freshmen. It involves an interactive fictional story (a mystery that takes eight weeks to solve) unfolding across a variety of media (e-mail, Web sites, phone calls from fictional characters, physiological monitoring) and real-world physical and mental challenges that players must surmount to gather clues. The study will compare the impacts of competitive versus collaborative game versions.

Maine Medical Center (Portland, ME) - *Family-Based Exergaming with Dance Dance Revolution (DDR)* will identify impacts of the popular dance pad game on families with at least one overweight child, aged 9 to 17. Participating families will be randomly assigned to receive the DDR game or a pedometer. The study will assess, over time, players' amount, type and enjoyment of physical activity, quality of life, body mass index and body composition. It also will examine family dynamics in the activities they do together and factors that influence their motivation to be physically active.

Union College, Department of Psychology (Schenectady, NY) - *Seniors Cyber-Cycling with a Virtual Team: Effects on Exercise Behavior, Neuropsychological Function and Physiological Outcomes* is a randomized, clinical trial designed to identify individual and situational factors that influence exercise behaviors and health outcomes in community-dwelling older adults, aged 50+. The system combines a stationery bicycle with FitClub cardiovascular exergame software, which uses a touch screen to provide individualized feedback to the player and a three-dimensional virtual environment for exercise that can be shared with other players competitively or collaboratively.

University of California, San Diego, School of Medicine (La Jolla, CA) - *Behavioral Choice Theory Approach to Testing Exertainment for Adolescent Physical Activity* will identify health behavior change principles used in a variety of commercially available exergames and their impact on players' physical activity levels. The study will use the Xavix system (exergames with sport equipment controllers for tennis, boxing, bowling, cardio-fitness and other sports) to assess the frequency, intensity and duration of physical activity in people aged 11 to 15 that are given a Xavix to use at home for several months. The researchers also will investigate how the social interactions that take place during game play may influence health behavior change.

University of Central Florida, College of Medicine (Orlando, FL) - *Practicing Relapse Prevention in Artificial-Reality Environments: [PREPARE]: A Game-Based Therapy Maintenance Tool* will investigate role-playing games designed to enable people aged 18 to 65 that are diagnosed with alcohol abuse or dependence to practice skills that can help them prevent real-world relapses. The relapse prevention games are embedded as mini-games within an extensive multiplayer online game. The study will compare behavioral and health impacts of treatment plus access to the game versus treatment without access to the game.

University of Florida, College of Public Health and Health Professions (Gainesville, FL) - *Action Video Games to Improve Everyday Cognitive Function in Older Adults* will explore the effects of an action-adventure driving video game (Playstation 2's "Crazy Taxi") on the visual attention skills of a

group of community-dwelling adults, aged 65 and older. The study will compare participants who play "Crazy Taxi," those who receive a traditional visual attention training program and those who are given no training at all. It will evaluate visual attention performance and cognitive speed and skills, as well as investigate how players' levels of engagement in the game may influence their motivation to carry out the visual attention training program.

University of North Carolina at Chapel Hill, School of Public Health (Chapel Hill, NC) - *Presence: Predicting Sensory and Control Effects of Console Video Games in Young Adults* will investigate motivations to expend energy during video game play for people aged 18 to 35. The study will compare physiological measures of energy expenditure while people play traditional video games (those that involve pushing buttons on a standard game controller or on a Wii motion-sensing controller) versus active video games (those that require physical movement, using inputs such as a dance pad, balance board or guitar). It also will explore players' sense of being present in the game and their intrinsic motivation to play, two factors that are known to increase the amount of time people will spend playing a game. This is the first time that research will identify impacts of these factors on players' energy expenditure; study results may lead to recommendations for making traditional games more active and active games more compelling.

University of South Carolina Research Foundation (Columbia, SC) - *Commercially Available Interactive Video Games for Individuals with Chronic Mobility and Balance Deficits Post-Stroke* will investigate the potential of physical activity video games to serve as innovative, cost-effective ways to help people recover motor skills after experiencing a stroke. The study will compare the effects of two video game systems (Wii and EyeToy) on players' mobility, balance and fear of falling.

University of Southern California, School of Cinematic Arts (Los Angeles, CA) - *Effectiveness of Social Mobile Networked Games in Promoting Active Lifestyles for Wellness* will use cell phones and the Web to deliver "Wellness Partners," a character-driven social mobile networked game, to children and adults aged 12 to 44. The game is designed to motivate real-world wellness through a player support system that involves family members and friends, and by incorporating elements from virtual pets, role-playing games and online social networking. A single-player version provides a fictional game character that offers encouragement, reminders, progress checking and communication with others. The multi-player version allows players to enlist members of their social network to be partners or helpers. The study will examine how various components of the game may motivate healthy behaviors.

University of Vermont, School of Medicine (Burlington, VT) - *Breath Biofeedback Video Game for Children with Cystic Fibrosis* will explore whether a breath biofeedback video game can improve cystic fibrosis patients' self-administration of inhaled medicines, engagement in respiratory exercises and awareness of their respiratory status. The game uses a breath controller and game software developed by the research team in collaboration with patients in the target user group. In addition to potentially helping cystic fibrosis patients self-manage their condition and maintain better health, the game may also be useful for children and adults with asthma and other forms of chronic obstructive pulmonary disease.

University of Washington, School of Medicine (Seattle, WA) - *Video Games for Dietary Behavior Change and Improved Glycemic Control in Diabetes* will investigate health impacts of online mobile mini-games for people with type 2 diabetes, aged 18 and older. The games are designed to help players attain better blood sugar control by improving their ability to estimate carbohydrates and calories in food portions and by improving their eating habits. In addition to assessing the impact of the games on dietary knowledge and food choices, the study will explore effects of two game design strategies: tailoring and tethering. Tailoring involves customizing a game to meet an individual player's preferences and goals. Tethering involves embedding a learning task within the strategies that players must use to win a game.

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About the Robert Wood Johnson Foundation
The Robert Wood Johnson Foundation focuses on the pressing health and health care issues facing our country. As the nation's largest philanthropy devoted exclusively to improving the health and health care of all Americans, the Foundation works with a diverse group of organizations and individuals to identify solutions and achieve comprehensive, meaningful and timely change. The Foundation's Pioneer Portfolio supports innovative ideas and projects that may trigger important breakthroughs in health and health care. Projects in the Pioneer Portfolio are future-oriented and look beyond conventional thinking to explore solutions at the cutting edge of health and health care. When it comes to helping Americans lead healthier lives and get the care they need, the Foundation expects to make a difference in your lifetime. For more information, visit www.rwjf.org/pioneer.

About the University of California, Santa Barbara
The University of California, Santa Barbara (UCSB) is one of 10 universities in the University of California system, and is one of only 62 research-intensive institutions elected to membership in the prestigious Association of American Universities. The distinguished 980-member faculty includes five Nobel Prize winners and scores of elected members or fellows of elite national academies and associations. The campus is also home to 12 national centers and institutes, eight of them sponsored by the National Science Foundation. *U.S. News and World Report's* guide, "America's Best Colleges," ranks UCSB number 13 among all public universities in the nation. For more information, visit www.ucsb.edu.

UCSB's Institute for Social, Behavioral, and Economic Research (ISBER) brings together researchers from many academic disciplines in order to foster collaboration and span the boundaries between the social and behavioral sciences, the humanities, and the physical and biological sciences. For more information, visit www.isber.ucsb.edu.

The *Health Games Research* national program office at UCSB conducts and supports research to enhance the quality and impact of interactive games used to improve health. For more information, visit www.healthgamesresearch.org or contact the program at healthgamesresearch@isber.ucsb.edu.

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EDITOR'S NOTE: A streaming audio replay of the *Health Games Research* telenews event held today will be available on the Web at http://www.healthgamesresearch.org as of 7 p.m. EDT.

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