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Improving episodic future thinking (EFT) in children with ADHD through VR game-based training

Li Zheng[1], Mei Si[1], Tingting Ma Qilu[2] and Aihua Cao Qilu[2]
[1]Rensselaer Polytechnic Institute and [2]Hospital of Shandong University Hospital of Shandong University

OBJECTIVES/GOALS: This study investigates how VR-based Episodic Future Thinking (EFT) training enhances prospection and self-regulation mechanisms in children with ADHD by engaging neural processes of future-oriented planning within ecologically valid virtual contexts. METHODS/STUDY POPULATION: This randomized controlled trial included 80 typically developing children aged 4–10 years, randomly assigned to a VR intervention group (n=40) receiving 10 days of gamified Episodic Future Thinking (EFT) combined with conventional executive function training, or an active control group (n=40) receiving only conventional training. Intervention efficacy was evaluated using pre- and post-tests with five standardized measures: the Behavior Rating Inventory of Executive Function (BRIEF), grade-specific Executive Function Assessment Scales (Grades 1–3 or 4–5), Children's Executive Functioning Inventory (CHEXI), Achenbach Child Behavior Checklist (CBCL), and Vanderbilt ADHD Diagnostic Rating Scale (VADRS). RESULTS/ANTICIPATED RESULTS: Mixed-design ANOVA revealed that the VR-EFT intervention significantly enhanced cognitive and emotional regulation, while traditional training showed advantages in behavioral control and planning, reflecting the dual-system nature of executive functions. BRIEF and EFAS results were consistent, showing significant gains in inhibition, emotional control, planning, and working memory (η^2=0.06–0.17). CHEXI indicated that the VR group improved in working memory and regulation, whereas the control group performed better in behavioral-level planning and inhibition. CBCL and Vanderbilt results showed reduced aggression, hyperactivity, and oppositional symptoms (η^2=0.056–0.138), highlighting VR-EFT's efficacy in enhancing self-regulation and reducing externalizing behaviors. DISCUSSION/SIGNIFICANCE OF IMPACT: Findings suggest that VR-based Episodic Future Thinking (EFT) training effectively strengthens children's cognitive–emotional executive functions and self-regulation. By integrating future-oriented cognition into intervention models, it provides a novel, evidence-based approach to enhancing executive development.

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Obtaining a clinical research Master's degree among paradigm shifts: Is it worth it?

Lisa Kim
Rutgers University

OBJECTIVES/GOALS: Identify how graduates and talent acquisition specialists perceive the value and limitations of MS Clinical Research degrees in today's clinical research workforce. Apply insights from this study to reimagine curriculum, mentorship, and industry partnerships that strengthen the value and recognition of MSCR programs. METHODS/STUDY POPULATION: This descriptive qualitative study investigated the perceived value of the Master of Science in Clinical Research (MSCR) degree amidst pharmaceutical industry shifts. Data were collected from 23 participants: 17 degree completers (DCs) and 6 talent acquisition specialists (TASs). Using purposive and snowball sampling, participants engaged in semi-structured focus groups, dyadic conversations, and individual interviews. Data were coded through directed qualitative content analysis, guided by Sheth et al.'s consumption values framework, with inductive coding to capture emergent themes. RESULTS/ANTICIPATED RESULTS: Findings revealed that DCs emphasized professional identity formation, recognition barriers, curriculum impact, and beyond-the-classroom value; TASs stressed practical value, industry disruption, and bridging academia-workforce gaps. Both cohorts acknowledged MSCR's symbolic and strategic value but highlighted persistent "experience paradoxes" where degrees alone could not overcome entry barriers. DISCUSSION/SIGNIFICANCE OF IMPACT: Study shows MSCR builds core knowledge yet remains misaligned with industry needs due to skill gaps and credential ambiguity. Findings call for systemic professionalization, coordinated interventions across stakeholders, and research on identity, credential pathways, and employer perceptions.

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Development of the next generation of translational scientists in Puerto Rico (PR): Real-world impact on pre-university (Pu) and undergraduate (Ug) students (S)

Rubén García García, Lizbelle de Jesús Ojeda, Yisel M. Cantres Rosario, Edgardo L. Rosado Santiago, Juan C. Soto Santiago, Efraín Flores Rivera, José R. Ubieta Santiago and Gloribel Colón Ortiz
University of Puerto Rico, Medical Sciences Campus, Title V Project 2024

OBJECTIVES/GOALS: 1.To develop the next generation of translational scientists in PR. 2. To equip pre-university/undergraduate students with the necessary skills, knowledge, and experiences for their academic and professional development from a holistic perspective of life. 3. To strengthen the technological-translational science (TS) infrastructure. METHODS/STUDY POPULATION: Develop the Center for Research Education and Science Communication-Counseling Opportunities (CRESCO) to provide support to PuS and UgS in TS skills, statistics, scientific writing, emerging technologies, mentoring-tutoring and counseling-orientation; organize/launched the ACADEMIA-TS (ACAD-TS) with the inaugural activity to provide training/student development in TS to PuS and UgS, including peer-mentoring with graduate students (GS); create the Small Project in Translational Science (SPTS) program to offer

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