Assessing Implementation Fidelity Use in Adults With Intellectual Disability and Their Residential Care Staff

Charleen N. Yeager, SN
Natalie R. Loops, SN
David M. Hellrung, SN
Rush University, Chicago, IL, USA

Abstract

Learning Objective: Identification of a tool available to enhance fidelity in health promotion and preventive interventions with individuals with intellectual disabilities living in group homes and their residential staff.

Purpose: The purpose of this project is to adapt Breitenstein's Fidelity Checklist and coding manual for use in evaluation of implementation fidelity of the Steps to Effective Problem-Solving program (STEPS), an NIH funded clinical trial to test the efficacy of a preventive training individuals with intellectual disabilities living in group homes and their residential staff in the STEPS program (Breitenstein, 2008a; Breitenstein, 2008b). Hypothesized results are improved social problem-solving skills and reduced problem behaviors of the residents with intellectual disabilities in comparison to an attention-control nutrition program, Food for Life.

Significance: One outcome of clinical trials is moving interventions into wide-scale dissemination outside the research setting. To do this, it is important to evaluate implementation fidelity in the clinical trials and to use implementation fidelity checks once interventions are in wide dissemination (Bellg et al., 2004; Leeuw, Goossens, Vet, & Vlaeyen, 2009). Implementation fidelity has two dimensions, adherence and competence (Breitenstein, et al., 2010). Adherence refers to adherence to the intervention protocol. Competence refers to the completion of process and facilitation skills in an intervention. Previous research on fidelity has addressed evaluating intervention fidelity in group-based interventions versus individual-based interventions, measuring fidelity over time and in multi-site programs (Baer, 2007; Bellg et al., 2004; Dunkley, et al., 2017). Evaluation of implementation fidelity in interventions among people with intellectual disabilities must address the particular issues of the social and communication skills necessary to develop group process in this population. Previous research on addressing implementation fidelity among people with intellectual disabilities used a clinical treatment-based tool rather than a health promotion and preventive intervention-based tool (Jahoda, et al., 2013).

Methods: Breitenstein's (2008) Fidelity Checklist was used as a model for this research because it addresses the two dimensions of fidelity and has been used for health promotion and preventive interventions. Adherence is measured using a yes/no subscale about activities such as welcoming the group and covering material important to the intervention. Competence is measured using a subscale from one to three; "one" relates to a skill being demonstrated less than 25% of the time; "two" to a skill being demonstrated between 25% to 75% of the time; and "three" to a skill being demonstrated more than 75% of the time. Skills include elements such as actively engaging and listening, positive attitude and nonjudgmental manner; appropriately reinforcing participants' ideas and opinions, and facilitating the sharing of ideas. Two coders will check two audiotaped sessions from each of 7-10 homes that have participated in the STEPS and Food for Life interventions. After coding they will meet to determine actions and responses in the interventions representative of each score and the congruence/non-congruence with coding instructions in the original coding manual.

Results: Results will be reported in a table with columns for Breitenstein's original coding scheme and the coding scheme decided on as relevant for this intervention. Information will be used to complete

modification of the Fidelity Checklists for the two interventions and to edit the coding manual so that it is suitable for evaluating implementation fidelity for the STEPS research.

Implications: This work will improve our knowledge of evaluating implementation fidelity among individuals with intellectual disabilities and in developing tools to evaluate implementation fidelity during wide-scale dissemination.

Title:
Assessing Implementation Fidelity Use in Adults With Intellectual Disability and Their Residential Care Staff

Keywords:
Adherence, Fidelity and Intellectual Disabilities

References:

Baer, J. S., Ball, S. A., Campbell, B. K., Miele, G. M., Schoener, E. P., & Tracy, K. (2007). Training and fidelity monitoring of behavioral interventions in multi-site addictions research. *Drug and Alcohol Dependence, 87*(2-3), 107-118.

Bellg, A. J., Borrelli, B., Resnick, B., Hecht, J., Minicucci, D. S., Ory, M., ... Czajkowski, S. (2004). Enhancing treatment fidelity in health behavior change studies: Best practices and recommendations from the NIH behavior change consortium. *Health Psychology, 23*(5), 443-451.

Breitenstein, S. (2008a) Fidelity checklist. Chicago, IL: Rush University Medical Center.

Breitenstein, S. (2008b) Fidelity manual. Chicago, IL: Rush University Medical Center.

Breitenstein, S. M., Gross, D., Garvey, C. A., Hill, C., Fogg, L., & Resnick, B. (2010). Implementation fidelity in community-based interventions. *Research in Nursing & Health, 33,* 164-173.

Dunkley, A. J., Tyrer, F., Spong, R., Gray, L. J., Gillett, M., Doherty, Y., ... Khunti, K. (2017) *Screening for glucose intolerance and development of a lifestyle education programme for prevention of type 2 diabetes in a population with intellectual disabilities: The STOP Diabetes research project.* Southampton, UK: NIHR Journals Library.

Jahoda, A., Willner, P., Rose, J., Kroese, B. S., Lammie, C., Shead, J., ... Hood, K. (2013). Development of a scale to measure fidelity to manualized group-based cognitive behavioural interventions for people with intellectual disabilities. *Research in Developmental Disabilities, 34*(11), 4210-4221.

Leeuw, M., Goossens, M., Vet, H. D., & Vlaeyen, J. (2009). The fidelity of treatment delivery can be assessed in treatment outcome studies: A successful illustration from behavioral medicine. *Journal of Clinical Epidemiology, 62*(1), 81-90.

Abstract Summary:
This abstract discusses the assessment of implementation fidelity using a checklist adapted from Breitenstein's (2008) Fidelity Checklist. Adherence and competence of the facilitators are evaluated through the STEPS and Food for Life interventions in multi-site community homes for adults with intellectual disabilities and their residential staff.

Content Outline:

- Introduction:
  - Learning Objective
    - Identification of tool to enhance fidelity in health promotion and preventive interventions.
  - Purpose
    - Purpose of this project is to adapt Breitenstein's Fidelity Checklist and coding manual for use in the implementation fidelity if the STEPS programs.
- Body:
  - Significance
    - One outcome of this study is to move this intervention into wide-scale dissemination outside the research setting by evaluating implementation fidelity.
  - Methods
    - Breitenstein's (2008) Fidelity Checklist was adapted for this research study to address the two dimensions of fidelity: adherence and competence.
    - The two dimensions are measured used subscales and evaluated by two research assistants.
- Conclusion:
  - Results
    - Results will be reported in a table with columns for coding and the coding scheme decided on for this intervention.
  - Implications
    - This work will improve our knowledge of evaluating implementation fidelity among individuals with intellectual disabilities.
    - It will evaluate implementation fidelity for wide-scale dissemination.

First Primary Presenting Author
Primary Presenting Author
Charleen N. Yeager, SN
Rush University
Student Nurse/Research Assistant
Chicago IL
USA

Professional Experience: 2011-2015 -- Research assistant at University of Illinois: Urbana-Champaign in the Neurocognitive Kinesiology Lab for the Fit Kids program, Urbana, IL 2015-present -- Research assistant at Rush University for Black Girls Move Project, Chicago, IL 2017-present -- Research assistant at Rush University for Steps to Effective Problem-solving and Food for Life Programs, Chicago, IL
Author Summary: Charleen Yeager is a generalist entry masters in nursing candidate with an anticipated graduation date of August 2018. Prior to being enrolled at Rush University, Charleen worked as a research assistant during her undergraduate degree in kinesiology at the University of Illinois: Urbana-Champaign in the Neurocognitive Kinesiology Laboratory. She currently works with two professors on their research projects at Rush University.

Second Secondary Presenting Author
Corresponding Secondary Presenting Author
Natalie R. Loops, SN
Rush University
Nursing Student/Research Assistant
Chicago IL
USA

Professional Experience: 2017- Present - Nurses Aid II at Rush University Medical Center, Chicago, IL

2018-Present - Research Assistant at Rush University for the Steps to Effective Problem-solving and Food for Life programs, Chicago, IL 2016 - 2017 Medical Consultant Associate, Karen Zupko & Associates, Chicago, IL 2014 - 2016 -- Medical Coder, Karen Zupko & Associates, Chicago, IL
Author Summary: Natalie Loops is a generalist entry masters in nursing candidate with an anticipated graduation date of December 2018. Prior to being enrolled at Rush University, Natalie worked as an MRI technologist, a medical coder, a volunteer at Northwestern Memorial Hospital, and a volunteer at the Red Cross

Third Secondary Presenting Author
Corresponding Secondary Presenting Author
David M. Hellrung, SN
Rush University
Nursing Student/Research Assistant
Chicago IL
USA

Professional Experience: 2008 – 2009 – Paramedic, Paramedic Services of Illinois, Melrose Park Fire Department, Schiller Park, IL. 2009 – 2015 – Firefighter/ Paramedic, Northlake Fire Protection District, Northlake, IL. 2013-2014 -- EMS Coordinator at Northlake Fire Protection District 2017-Present -- Research Assistant at Rush University for Steps to Effective Problem-Solving and Food for Life programs, Chicago, IL
Author Summary: David Hellrung is a generalist entry masters in nursing candidate with an anticipated graduation date of December 2018. Prior to being enrolled at Rush, David worked as a firefighter/paramedic and EMS Coordinator at a suburban Chicago fire protection district.