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Monitoring Preference Stability Over Time: A Scoping Review Protocol

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ADMINISTRATIVE INFORMATION

Support - N/A.

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Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 May 2026 and was last updated on 28 May 2026.

INTRODUCTION

Review question / Objective The overarching aim of this scoping review is to explore preference stability as informed by source articles that conducted repeat preference assessments over time and featured individuals with intellectual and developmental disabilities. As it relates to the Population, Concept, and Context (PCC) framework, the population is individuals with intellectual and developmental disabilities, the concept is preference stability over time, and the context is repeat preference assessment administrations. Through this project, we aim make a significant contribution to the literature by exploring the following research questions: (1) What is the comprehensive status of the literature evaluating preference stability across repeated administrations of preference assessments in individuals with intellectual and developmental disabilities?, (2) Are select study and participant characteristics (e.g., psychotropic medication presence/absence) differentially associated with preference stability across time in individuals with intellectual and developmental disabilities, and (3) What is the overall methodological rigour and quality associated with preference stability research?

Background Intellectual and developmental disabilities are neurodevelopmental disorders often characterized by mild to severe deficits in personal, social, academic, or occupational functioning (American Psychiatric Association, 2013). Applied behaviour analytic (ABA) assessments and interventions are often employed with this clinical population to facilitate socially significant change across two broad domains—skill acquisition and challenging behaviour reduction (Cooper et al., 2020; Kurtz et al., 2020). One fundamental principle that has been described as critical to the success of ABA interventions is positive reinforcement (Scott & Landrum, 2020; Skinner, 1953). This principle has been described as a situation wherein presenting a specific stimulus following a specific response results in an increase in the future frequency of that response (Cooper et al., 2020; Hall et al., 1968). Importantly,

stimulus preference is idiosyncratic. That is, different stimuli may function as reinforcers for different individuals (Mangum et al., 2012). As such, when positive reinforcement forms the foundation of an intervention, outcomes may be influenced by the selection of appropriate and individualized preferred stimuli that are often uncovered using indirect or direct preference assessments (Hagopian et al., 2004). Structured assessments are important for individuals with intellectual and developmental disabilities due to communication deficits (i.e., limited robust vocal-verbal repertoires) that may render many individuals comprising this clinical population unable to self-report changes in preference (Taylor, 2022). Most direct preference assessments are well-established, objective tools used to determine preferred stimuli that often function as reinforcers (Virués-Ortega et al., 2014). Existing research has provided support for the predictive validity of most preference assessments (DeLeon et al., 2009; Kang et al., 2013). However, Board Certified Behavior Analysts reported administering full-scale preference assessment less than once a month due to a lack of time (Graff & Karsten, 2012). Frequency of repeated preference assessment administrations may be an important consideration given existing research suggests mixed results regarding preference stability across time (e.g., Hanley et al., 2006; Zhou et al., 2001). MacNaul et al. (2021) recently conducted a systematic review wherein 20 studies on preference stability across repeated administrations of preference assessments met their inclusion criteria. These authors evaluated the impact of determinants, such as inter-assessment interval (i.e., frequency of preference assessment administration), preference assessment type, and number of stimuli. Their results indicated that preference was most stable when a paired-stimulus preference assessment comprised of either edible or social interaction stimuli was conducted monthly. The authors concurred with Hanley et al. (2006)'s conclusions, which posited that shifts in preference might be attributed to context-dependent stimulus changes in the environment as opposed to the passage of time alone (MacNaul et al., 2021). It is possible that one such stimulus change may be the presence or absence of psychotropic medications.

Rationale To our knowledge, there exists only one review on preference stability (MacNaul et al., 2021). The present study aims to extend MacNaul et al. (2021) by conducting a scoping review as opposed to a systematic review. Systematic reviews attempt to compile empirical evidence from a relatively smaller number of studies to examine a focused research question (Munn et al., 2018). In contrast, scoping reviews endeavour to comprehensively identify and synthesize the existing literature base across several research questions in order to determine key characteristics associated with a concept, examine how research is conducted on a certain topic (e.g., rigour assessment), and to uncover knowledge gaps (Munn et al., 2018). Further, while MacNaul et al. (2021)'s inclusion criteria included all populations and peer-reviewed publications only, the current review specifically focused on intellectual and developmental disabilities and included grey literature (i.e., theses and dissertations) in addition to peer-reviewed publications. The inclusion of grey literature can reduce publication bias, increase comprehensiveness of review outcomes, and foster a balanced synthesis of available evidence (Paez, 2017). Additionally, the present study aimed to evaluate psychotropic medication presence/absence as a potential determinant of preference stability given its prevalence in the featured clinical population and impact on neurotransmitters inherently linked to reward experiences (e.g., dopamine).

METHODS

Strategy of data synthesis The research questions, outlined in accordance with the PCC framework above, served as the foundation for developing a comprehensive search strategy. Data synthesis steps included specifying key concepts according to the PCC framework (i.e., individuals with intellectual and developmental disabilities, preference stability, and repeated administrations of preference assessments), identifying target articles (i.e., Butler & Graff, 2021; Ciccone et al., 2007; Hanley et al., 2006; Kelley et al., 2016), mining/harvesting terms corresponding to the key concepts, creating a search string using the mined/harvested terms, and translating the search string to multiple databases, as needed. We created the initial search string using PsycINFO and translated the search string to Medline via OVID, Education Source, Web of Science Core Collection, and ProQuest Dissertations and Theses Global for a total of five databases that were searched. The initial and translated search strings were as follows, respectively: (1) (MAINSUBJECT.EXACT("Neurodevelopmental Disorders") OR MAINSUBJECT.EXACT("Intellectual Development Disorder") OR MAINSUBJECT.EXACT("Developmental Disabilities") OR MAINSUBJECT.EXACT("Autism Spectrum Disorders") OR (neurodevelopmental OR developmental OR intellectual OR autism) NEAR/2 (disorder* OR disab*) OR IDD OR autism OR autistic OR ASD) AND

(MAINSUBJECT.EXACT("Choice Behavior") OR MAINSUBJECT.EXACT("Preferences") OR tiab(preference* NEAR/2 (stabilit*) OR "choice behavio?r*")) AND (MAINSUBJECT.EXACT("Response Frequency") OR MAINSUBJECT.EXACT("Preference Measures") OR MAINSUBJECT.EXACT("Followup Studies") OR MAINSUBJECT.EXACT("Longitudinal Studies") OR tiab(preference NEAR/2 (assessment* OR measure*) OR "over time" OR "time factor*" OR "response frequenc*" OR longitudinal)); (2) (Neurodevelopmental Disorders/ or Intellectual Disability/ or Developmental Disabilities/ or Autism Spectrum Disorder/ OR (((neurodevelopmental or developmental or intellectual or autism) adj2 (disorder* or disab*)) or IDD or autism or autistic or ASD).mp) AND (Choice Behavior/ OR ((preference* adj2 stabilit*) or "choice behavio?r*").ti,ab) AND (Follow-Up Studies/ or Longitudinal Studies/ OR ((preference adj2 (assessment* or measure*)) or "over time" or "time factor*" or "response frequenc*" or longitudinal).ti,ab); (3) (DE "Intellectual disabilities" OR DE "Developmental disabilities" OR DE "Autism spectrum disorders" OR (neurodevelopmental OR developmental OR intellectual OR autism) N2 (disorder* OR disab*) OR IDD OR autism OR autistic OR ASD) AND (TI (preference* N2 (stabilit*) OR "choice behavio#r*") OR AB (preference* N2 (stabilit*) OR "choice behavio#r*")) AND (DE "Longitudinal method" OR TI (preference N2 (assessment* OR measure*) OR "over time" OR "time factor*" OR "response frequenc*" OR longitudinal) OR AB (preference N2 (assessment* OR measure*) OR "over time" OR "time factor*" OR "response frequenc*" OR longitudinal)); (4) (ALL=(neurodevelopmental OR developmental OR intellectual OR disorder* OR disab* OR IDD OR autism OR autistic OR ASD)) AND (TS=(preference* NEAR/2 (stabilit*) OR "choice behavio$r*")) AND (TS=(preference NEAR/2 (assessment* OR measure*) OR "over time" OR "time factor*" OR "response frequenc*" OR longitudinal)); and (5) (mainsubject.Exact("neurodevelopmental disorders" OR "intellectual disability" OR "developmental disabilities" OR "autism spectrum disorders") OR (neurodevelopmental OR developmental OR intellectual OR autism) NEAR/2 (disorder* OR disab*) OR IDD OR autism OR autistic OR ASD) AND (mainsubject.Exact("preferences") OR TITLE,ABSTRACT(preference* NEAR/2 (stabilit*) OR "choice behavio?r*")) AND (mainsubject.Exact("followup studies" OR "longitudinal studies") OR TITLE,ABSTRACT(preference NEAR/2 (assessment* OR measure*) OR "over time" OR "time factor*" OR "response frequenc*" OR longitudinal)).

Eligibility criteria Eligibility for inclusion encompassed: (a) peer-reviewed or grey literature (e.g., theses, dissertations), (b) published in English, (c) human participants, (d) at least one participant featured in the study had a diagnosis of an intellectual or developmental disability, (e) conducted a direct preference assessment, (f) reported individual participant outcomes, and (g) assessed preference at least twice with a minimum of 24 hours elapsed between each preference assessment. Finally, sources in which the primary objective was to evaluate preference stability and sources wherein there was an alternative objective, but preference stability outcomes were presented in the Results section were both eligible for inclusion. Criteria for exclusion were as follows: (a) preprints, research in progress (e.g., clinical trials), conference proceedings/abstracts, books/book chapters, (b) non-English language, (c) animal subjects, (d) no participants with a diagnosis of intellectual or developmental disability, (e) synthesized evidence (i.e., systematic reviews, scoping reviews, rapid reviews), randomized controlled trials, controlled trials, observational study types (i.e., cohort/longitudinal study, case control study, cross-sectional, ecological), qualitative study types (i.e., focus groups, interviews, observational, document analysis), (f) only conducted indirect preference assessment, and (g) assessed preference less than two times or more than two times with less than 24 hours elapsed between preference assessments. Notably, given one of our research questions was to uncover the comprehensive status of the literature featuring individuals with intellectual and developmental disabilities, date and time restrictions were not imposed.

Source of evidence screening and selection Citations for all references identified using the search strings across the five databases will be saved in RIS format and imported into Covidence. Any duplicates will be automatically marked by Covidence or manually marked by researchers. Using the eligibility criteria outlined above, title and abstract screening will be completed by the lead researcher (i.e., principal student investigator) for 100% of imported references and by a trained research assistant for 33% of imported references as interrater agreement (IRA; Ledford & Gast, 2024). Any conflicts will be resolved by an expert researcher (i.e., principal faculty investigator). Included references from title and abstract screening will move forward to full-text screening. Full text for included references will be uploaded

by the lead researcher. Full-text screening will be completed by the lead researcher for 100% of included references and by a trained research assistant for 33% of included references as IRA (Ledford & Gast, 2024). Any conflicts will be resolved by the expert researcher. Included references from full-text screening will be used to conduct an ancestral search by the lead researcher (Ledford & Gast, 2024). All included articles from full-text screening as well as the ancestral search will move forward to data extraction.

Data management Screening will be completed on Covidence, a web-based platform designed to streamline the process of conducting comprehensive literature reviews. By design, Covidence mirrors the multiphase review process and allows for the explicit assignment of voting roles and conflict resolution while maintaining blinding to minimize bias (Kellermeyer et al., 2018). Data extraction will be completed on a table created on Microsoft Excel by the researchers. Across all included articles, each participant will be coded as per the following categories: participant characteristics, context, preference assessment type, stimuli, response, analysis, and psychotropic medication status. Participant coding will be completed by the lead researcher for 100% of participants and by two trained research assistants for 33% of participants as IRA (Ledford & Gast, 2024). Any conflicts will be resolved by the expert researcher. Methodological rigour and quality will be assessed using the Single Case Analysis and Review Framework (SCARF; Ledford et al., 2023). SCARF developers created a spreadsheet tool for implementers to use to assess the quality of single case studies at the design level (https://ebip.ledfordlab.org/scarfv2/; Ledford et al., 2023). SCARF coding will be completed by two trained research assistants for 100% of cases and by the lead researcher for 33% of cases as IRA (Ledford & Gast, 2024). Any conflicts will be resolved by the expert researcher.

Reporting results / Analysis of the evidence Results will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). Specifically, we will report on the selection of sources of evidence, characteristics of sources of evidence, critical appraisal within sources of evidence, results of individual sources of evidence, and synthesis of results.

Presentation of the results The results will be presented using a combination of narrative and visual formats (i.e., flowcharts, tables, and graphs).

Language restriction Only sources published in the English language will be eligible for inclusion.

Country(ies) involved The scoping review is being carried out in Canada.

Keywords intellectual and developmental disabilities; preference stability; over time; preference assessment; applied behaviour analysis.

Dissemination plans Dissemination plans will include, but are not limited to submission for publication in a peer-reviewed journal as well as symposium presentations at behaviour analytic and psychiatric conferences (e.g., Ontario Association for Behaviour Analysis [ONTABA] Annual Conference, Association for Behavior Analysis International [ABAI] Annual Convention, Canadian Academy of Child and Adolescent Psychiatry [CACAP] Annual Conference).

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