SESSION 3090 (SYMPOSIUM)

EXPLORATORY STRUCTURAL PROCEDURES IN HEALTH SERVICES RESEARCH

Chair: Martina Roes Discussant: Barbara Resnick

When analysing data where little knowledge of relationships is available, exploratory structuring techniques, e.g., clustering and scaling techniques, are applied, using an inductive approach to construct analogies and thus suggest how to organize the data. These procedures in Health Service Research mainly focus on latent variables and are particularly used in the development of instruments or theories. Our symposium includes three presentations on research studies in which exploratory structural procedures were used for data analysis, that were considered appropriate for Health Service Research. Dr. Johannes Bergmann will present a concept mapping technique of the German Preferences for Everyday Living Inventory (PELI-D), for structuring the questionnaire from the perspective of professional nurses. This is a mixed methods participatory approach that combines interpretation and decisions by the researchers with a sequence of multivariate statistical analyses (multidimensional scaling, cluster analysis). Jan Dreyer will present a Multiple Correspondence Analysis and Hierarchical Cluster Analysis as exploratory data reduction procedures. His aim was to identify types of home-based care arrangements for people living with dementia. To analyse the relationships between care arrangement variables, he performed Multiple Correspondence Analysis. To cluster the care arrangements, he performed Hierarchical Cluster Analysis. Anna Louisa Hoffmann will present an alternative, modified procedure of Multiple Correspondence analysis. Since Multiple Correspondence Analysis underestimates the true quality of data representation, she used Adjusted Multiple Correspondence Analysis to explore construct validity of the DemPol-Q. This procedure was considered appropriate to assign categorical variables to latent variables.

USING ADJUSTED MULTIPLE CORRESPONDENCE ANALYSIS TO EXPLORE LATENT VARIABLES FOR THE DEMPOL-Q

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Nursing home administrators are responsible to operationalize dementia-specific person-centred care into their care practice, e.g., by internal policies. To assess the degree of existence of internal policies on person-centred care for dementia-specific care in German nursing homes, we developed the Dementia Policy Questionnaire (DemPol-Q). After pretesting, the instrument consists of 19 dichotomous items. We aimed to explore the construct validity of the DemPol-Q. We used a secondary data set of a national survey with a representative sample of 134 nursing homes. For data analysis we conducted an Adjusted Multiple Correspondence Analysis. Results show that nine items of the DemPol-Q were significantly assigned to two latent variables. Since the items per latent variable vary in their content, they cannot be explicit denominated with a specific sub-dimension of dementia-specific person-centred care. Nonetheless, Adjusted Multiple Correspondence Analysis is an uncommon but appropriate exploratory data reduction procedure for nursing science.

USING MULTIDIMENSIONAL SCALING IN COMBINATION WITH CLUSTER ANALYSIS TO STRUCTURE THE PELI-D QUESTIONNAIRE

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Background: One way to contribute person-centered care is the use of a preference-based approach. In our project PELI-D the original PELI USA-version for Nursing Homes was (1) translated into German (2) and structured to explore construct validity of the instrument. Objective and Method: The PELI-D instrument (72-items) is used to illustrate how structuring procedures can be used for concept analysis. The approach allows to analyze the instrument from the perspective of the professional caregivers and to identify theoretical relations in further steps, which can be finally validated. For this purpose, the data of 58 professional nurses are analyzed.

Results: We computed a three-dimensional concept map of preferences enabled us in a second step to identify an appropriate cluster solution. The five-cluster solution, which explained 79 percent of the total variance, seemed to offer the best balance between statistical analysis and detailed categorisation through qualitative interpretation.

USING MULTICORRESPONDENCE ANALYSES AND CLUSTER ANALYSIS TO CONSTRUCT TYPES OF CARE ARRANGEMENTS

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Background: When analysing data where little knowledge of relationships is available, exploratory structuring techniques, e.g., clustering and scaling techniques, are applied, using an inductive approach to construct analogies and thus suggest how to organize the data. These procedures in Health Service Research mainly focus on latent variables and are particularly used in the development of instruments or theories. Our symposium includes three presentations on research studies in which exploratory structural procedures were used for data analysis, that were considered appropriate for Health Service Research. Dr. Johannes Bergmann will present a concept mapping technique of the German Preferences for Everyday Living Inventory (PELI-D), for structuring the questionnaire from the perspective of professional nurses. This is a mixed methods participatory approach that combines interpretation and decisions by the researchers with a sequence of multivariate statistical analyses (multidimensional scaling, cluster analysis). Jan Dreyer will present a Multiple Correspondence Analysis and Hierarchical Cluster Analysis as exploratory data reduction procedures. His aim was to identify types of home-based care arrangements for people living with dementia. To analyse the relationships between care arrangement variables, he performed Multiple Correspondence Analysis. To cluster the care arrangements, he performed Hierarchical Cluster Analysis. Anna Louisa Hoffmann will present an alternative, modified procedure of Multiple Correspondence analysis. Since Multiple Correspondence Analysis underestimates the true quality of data representation, she used Adjusted Multiple Correspondence Analysis to explore construct validity of the DemPol-Q. This procedure was considered appropriate to assign categorical variables to latent variables.
Neurodegenerative Diseases (DZNE), Witten, Nordrhein-Westfalen, Germany

Most persons with dementia live at home and are cared for by family carers and professional carers. Together, they form care arrangements to address the needs of persons with dementia. The aim of this study is to (1) uncover the underlying structures of home-based care arrangements for persons living with dementia, (2) construct types of these care arrangements, and (3) compare these types with regard to their stability. In this secondary analysis, data from 320 care arrangements for persons with dementia are analysed using multiple correspondence analysis and hierarchical cluster analysis. The multiple correspondence analysis identified 27 axis that explained the entire variance between all care arrangements. The subsequent cluster analysis identified four types of care arrangements. Two types included spouse-centred care arrangements, and two types included child-centred care arrangements at different phases of the dementia and care trajectory. The types differ with regard to their stability.

SESSION 3100 (SYMPOSIUM)

EXPLORING STRATEGIES FOR IMPROVED COORDINATION AND INNOVATION IN TRANSPORTATION FOR OLDER PEOPLE
Chair: Nina Silverstein Co-Chair: Taylor Jansen Discussant: Alycia Bayne

Communities across the nation have outgrown their capacities to meet the transportation needs of older people. While a struggle in the past, for many communities it now is a crisis given an increase in older people with impairments in critical driving skills that lead to driving cessation and/or limitations that preclude them from successfully navigating public transit. It is time for new strategies and innovations to meet these growing challenges. Jansen will describe a pilot study of a regional transit authority’s use of customized software with four Councils on Aging to increase riders’ trips and destinations, improve efficiencies in reporting and dispatching, and increase shared rides across the communities. Gleason will present results of a qualitative study of paratransit managers across the U.S. and their attempts to innovate and adapt to evolving market expectations spurred on by the emergence of transportation network companies (TNC) like Uber and Lyft. Schwartz describes a mixed-methods study of Project TRIP, a rural transportation program designed to increase access to healthcare and other locations for low income and vulnerable populations in rural eastern North Carolina. Lynott introduces AARPs RideSheet, an open-source ride scheduling software application designed for small, demand-responsive transportation providers that incorporates a transactional data specification (TDS) enabling two or more providers to interoperate more efficiently, improving service for their clients. Bayne concludes as discussant bringing in her own work with the CDC on barriers and facilitators to ride sharing and reflecting on the themes presented. Transportation and Aging and Qualitative Research IGS collaboration.

BRIDGING SILOS: EVALUATION OF AN INNOVATIVE REGIONAL SENIOR TRANSPORTATION SERVICE
Taylor Jansen, Nina Silverstein, Beth Dugan, Chae Man Lee, Shu Xu, and YanJhu Su, University of Massachusetts Boston, Boston, Massachusetts, United States

A pilot study was conducted for a regional transit authority (RTA) to evaluate the implementation of a customized software to increase ridership, trips, destinations and coordination of rides among four Councils on Aging (COA) using RTA vans to serve rural communities in north central Massachusetts. Baseline and follow up ride data were collected from each COA from Fall 2019 (N= 178 riders; N= 4,230 trips) and Fall 2021 (N= 131 riders; N= 2,020 trips) and from 59 stakeholder interviews with riders, drivers, dispatchers, and staff from the COAs, RTA, and software company. The evaluation found after 6 months that while the goals of the pilot were not yet achieved, due in part to external factors such as the COVID-19 pandemic and driver shortage, valuable lessons were learned including the importance of balancing provider goals of efficiency and reporting with rider needs of driver hands-on assistance and friendly scheduling support.

THE FUTURE OF PARATRANSLITE: A STUDY OF PROVIDER EXPERIENCES AND HOPES FOR CHANGE
Shayna Gleason, and Nina Silverstein, University of Massachusetts Boston, Boston, Massachusetts, United States

The present study examined paratransit managers’ perceptions of a changing transportation market, and what resources or supports they might need to adapt to evolving market expectations. As transportation network companies (e.g., Uber, Lyft) have emerged, the landscape of demand-responsive transportation has changed. However, the experiences of those closest to the operations of paratransit programs have been largely neglected in research. In-depth, semi-structured interviews were conducted with 16 managers of paratransit services. The resulting transcripts were coded iteratively using NVivo software, using both inductive and deductive approaches. We found that participants were already innovating and often wanted to be even more creative with their services, but were hampered by inadequate funding, driver shortages, regulatory or policy challenges, and other barriers. This study’s findings advance the literature toward greater understanding of how policymakers can leverage existing paratransit infrastructure to better serve the transportation needs of older adults and other transportation disadvantaged groups.

A MIXED METHODS EVALUATION OF PROJECT TRIP: KEY FINDINGS AND EXPANSION
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