Validation of Perceived Community Safety Instrument Using Polytomous Rasch Measurement Model

Shahren Ahmad Zaidi Adruce, Donald Stephen, Dayang Siti Aisah Abang Suhaili, Alexandra Nastassia John, Abg Mohd Heikal Abg Othman and Nur Adila Latif
The Institute of Borneo Studies, Universiti Malaysia Sarawak
azshahren@unimas.my

Abstract—This study involves the designing, development and testing of an instrument for capturing perception of community safety in rural communities in Sarawak, Malaysia. Data were collected in Kampung Pulo Salak, Kampung Sebayor, Kampung Tanjong Bako and Kampung Pinggan Jaya. A total of 172 households were interviewed and their responses were recorded accordingly for each item listed in the instrument. The study details the validation of community safety instrument using a Rasch analysis technique. The instrument was adapted, translated from various sources and customized to the need of local communities. The many items in the original instruments were shortlisted and subsequently tested to assess the quality of the measurement used. Aspects investigated include personal and community safety, crime and social disorder, police effectiveness and engagement as well as the sense of community. Based on results from Rasch analysis, thirty items from the initial fifty-one shortlisted items were retained. The final version of the instruments implicates good reliability and validity. There was no differential item functioning detected and the measure was proven to be unidimensional. This instrument is expected to benefit local authorities especially for the formulation of necessary interventions to ameliorate issues pertaining to community safety.

Index Terms—Community Safety; Community Safety Instrument; Rash Analysis; Sense of Community; Crime and Social Disorder.

I. INTRODUCTION

Community safety involves a wide range of issues. The administration of community safety instrument provides discernment about issues that make people feel safe or unsafe within their community. The community safety instrument provides a platform for the community to voice their concerns and facilitate the implementation of interventions by local authorities [1]. This community safety instrument also incorporates the "sense of community" section, which can be a standalone construct use to measure the extent to which the residents perceived their "sense of belonging" to the community [2, 3]. If a neighbourhood is perceived to be safe by its residents, it is crucial to note that the residents have close knitted relationship and have good sense of community. The issue of community safety has been widely discussed through research and media. However, there is no notable effort to capture the perception of community safety in Sarawak. This is particularly beneficial for local authorities seeking to implement policies pertaining to crime prevention [1]. The instrument thus serve as an imperative tool to ameliorate community safety issues. Using this instrument, Local authorities can request for the administration of this community safety instrument in their area of responsibility to identify critical safety issues in the community.

II. DEVELOPMENT AND CONCEPTUALIZATION

The United States Department of Justice has identified five key components in public safety and law enforcement. The five components are community involvement, procedural justice, performance as well as contact and satisfaction [4]. Community involvement, contact, and satisfaction are components in the sense of community. With the incorporation of the sense of community components, perceived community safety in this study can be categorized into four major components: overall safety perception, crime and social disorder, effectiveness and engagement of law enforcement and sense of community. Initial items pool were adapted from various sources as follows: Personal safety perception [1, 4-6], Crime and Social disorder [1, 4, 7], Police effectiveness, engagement, and procedural justice [4, 8], and Sense of community [2, 3].

A. Personal and community safety

Collective perceived personal safety reflects real safety scenario in a community. Qualitative research regards personal safety as a barrier to local walking in a neighbourhood. Perception of personal safety in a neighbourhood is influenced by several factors, which are social environments, individual factors, physical environments, natural surveillance, and time of day [6].

B. Crime and social disorder

Crime and social disorder components contain a list of social problems that were anticipated to affect the perception on safety in rural communities. Crime and social disorder have been consistently linked to community social order and quality social life. Disorders indicate that the neighbourhood is unsafe, leading to community withdrawal and the increase in sense of insecurity [7].

C. Police effectiveness and engagement

Trust and confident from the community is important for police to perform their duty effectively. Racial and social inequality were cited as factors for the increase of complaints pertaining to police corruption, bias, and abuse of power [8].