

OBJECTIVE

Develop and validate a public bus passenger safety scale

INTRODUCTION

- PT users make safety evaluations
- To date, no instrument exist to capture the content domain of PT users' personal safety
- PT safety scale important to understand differences and similarities between bus safety needs globally

DOMAIN SPECIFICATION AND ITEM GENERATION

- No theoretical perspectives on PT users' safety assessments
- Inductive scale development approach adopted
- 46 items generated from FGDs and IDIs (in a phenomenological constructivist study)

Content validity:

- Item review by traffic safety domain experts
- Item readability test
- 41 items retained

QUESTIONNAIRE ADMINISTRATION AND SCALE PURIFICATION

Study 1

- Scale factor structure and reliability
- Analysis: PCA (Varimax rotation) & reliability
- 3-factor solution, 24-items (DRSI- 8 items; TORSI- 7 items; VRSI- 9 items)
- Explained 44.4% of variance; Alpha= .88

QUESTIONNAIRE ADMINISTRATION AND SCALE PURIFICATION CONT'D

Study 2

- Purification and confirmation of factor structure and psychometric properties
- Analysis: PCA, reliability & CFA
- 23 items retained; explained 48.6% of the variance; Alpha= .90

CONFIRMATORY FACTOR ANALYSIS

- **MLE:** specified 3-factor, 23-item model with DRSI (10 items), TOSI (7 items) and VRSI (6 items)
- **Retained 3-factor, 17-item model (DRSI-5 items; TORSI-6 items; VRSI-6 items)**
 - **Chi-Square**= $\chi^2/df = 167.0/116, p = .001$
 - **RMSEA**= .043
 - **SRMR**= .051
 - **CFI**= .96
 - **TLI**= .95

CONVERGENT/DISCRIMINANT VALIDITY

CV

- Fornell & Larcker (1981) criterion= AVE= .5 & CR= .7

DV

- Fornell & Larcker criterion: AVE > MSV
- **Steenkamp & van Trijp (1991) criterion:** $\Delta \chi^2$ of nested model and χ^2 of original model $\div \Delta DF$ of two models
 - If constraint of perfect correlation does not result in a better model fit, then claim that dimensions are related is not justified and thus DV is established
- **Model fit of constrained model significantly hindered**

SCALE DIMENSIONS AND ITEM LOADINGS

DRSI

- Appropriateness of footwear (0.58)
- Ability to handle vehicle based on physique (0.57)
- Outward emotional state at the time (0.62)
- Professionalism: (Appearance- 0.72) (Behaviour- 0.72)

TORSI

- Operator reputation (public image) (0.71)
- Years of existence (0.71)
- Capital base and PT investments (0.68)
- Organisational structure (0.74)
- Prestige commuters accord operator (0.67)
- Frequency of fleet breakdowns on journeys (0.56)

VRSI

- Bus quality (0.56)
- Condition of exterior components (0.57)
- Bus suitability for the journey (0.72)
- Apparent load to carry/convey (0.69)
- Location of luggage/load on bus (0.61)
- Passenger overloading (0.61)

CONCLUSION AND FUTURE STUDIES

- Public bus passenger safety is a 3-dimensional concept
- Proposed scale is reliable and valid
- Test scale's ability to predict future bus use intentions and operator choices