

2008 International Occupational Therapy Conference

Users' Experience of Wheelchair Transportation Safety in Hong Kong



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Wheelchair Users Concern Group
Hong Kong Occupational Therapy Association




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Safety is everyone's concern

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Safety is everyone's concern

- from 2004 onward, new public light bus must equip with
 - high back seat
 - passenger seat belt
- public light bus passenger must wear seat belt where provided

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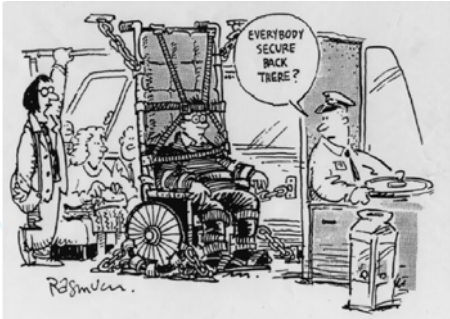
Seat belt saves life (TD, 2003)

- compulsory seat belt legislations → fatal accident ↓

vehicle class	coverage	effective date
private car	driver/front passenger	1983
taxi & light bus	driver/front passenger	1989
goods vehicle	driver/front passenger	1990
private car	rear passenger	1996
bus	driver	1997
taxi	rear passenger	2001
public light bus	passenger	2004

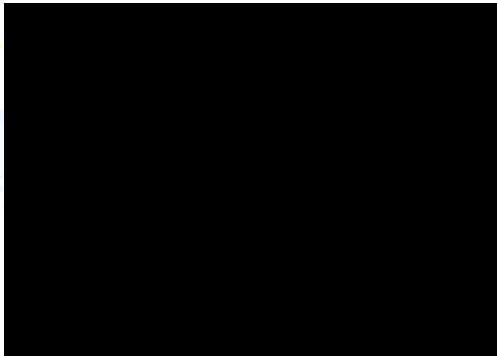
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Wheelchair users



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Impact Tests



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Side-facing wheelchair after a frontal impact test



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Impact Tests



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Wheelchair users



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Wheelchair users

- increasing demand & expected usage of transportation service
 - frequent revision of 'A Guide to Public Transport for People with Disabilities' by Transport Department, i.e. 1993, 1996, 2000, 2003, 2005
 - new requirements in franchised bus services: fixed ramp, back rest and restrain lap belt, front kneeling capacity...
 - increasing number of Rehabus & launch of accessible hire car service

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Short summary

- increasing effort in transportation safety for general public
- increasing need from wheelchair users, including ageing population
- Question in mind
 - are wheelchair users safe during transportation?

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Objectives

- understand the state of wheelchair transportation safety by user's experience
 - seating orientation
 - presence of safety equipment
- examine acceptance & self-reported usage of safety equipment provided by transit operator
 - wheelchair tiedown
 - occupant restraint

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Questionnaire design

- drafted by a group of experienced OT
 - 27 questions in 3 domains
 - demographic data
 - travel habit
 - safety related questions
- piloted on 30 wheelchair users
 - minor adjustment on linguistic expressions
 - addition of two graphics

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Demographic data

1. 受訪者的識別 —— 您是以下哪一個組別的人仕？
 - 01 輪椅使用者本人 02 家屬 03 照顧者 04 其他(請註明_____)
2. 輪椅使用者年齡：
 - 01 0-20 02 21-40 03 41-60 04 61-80 05 ≥81
3. 輪椅使用者的性別：
 - 01 男 02 女
4. 使用輪椅的年資：
 - 01 0-2年 02 3-5年 03 6-9年 04 ≥10年
5. 輪椅的種類：
 - 01 別人推動 02 自己推動 03 電動 04 其他(請註明_____)

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Travel habits

6. - 16.

閣下過去三個月內，坐著輪椅使用下列交通工具外出的平均次數？

(01 0 次; 02 1-3 次; 03 4-6 次; 04 7-12 次;
05 13-24 次; 06 ≥ 25 次; 07 差不多每天或一天多次)

6. 私家車
7. 的士
8. 巴士
9. 復康巴士
10. 易達巴士
11. 非緊急接載服務

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Seat & its orientation

23. 當閣下乘坐交通工具時，你是坐在自己的輪椅上，還是轉移到該交通工具的座位上？
 - 01 坐在自己的輪椅上 02 交通工具的座位上
24. 如閣下乘著輪椅使用交通工具時，在車廂內，你面向的方向通常是：
 - 01 面向車頭方向 02 面向車尾方向 03 側向

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Equipment: Wheelchair tiedown

25. 閣下使用的交通工具，是否已配備圖中的「輪椅固定裝置」，(例如：附有金屬勾或扣的帶或輪椅夾之類的裝置)，用以綁穩你坐著的輪椅？
 - 01 全部都有 02 多數有
 - 03 有時有，有時無(一半，一半)
 - 04 多數無 05 全部都無
 - 06 不清楚甚麼是「輪椅固定裝置」
26. 當閣下使用交通工具時，會否使用已配備的「輪椅固定裝置」？
 - 01 會 02 不會(請註明原因：_____)
27. 如閣下須要將你的輪椅固定在交通工具上，你是否知道「輪椅固定裝置」的正確使用方法？
 - 01 知道 02 不知道

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Wheelchair tiedown



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Equipment: Occupant restraint

28. 閣下使用的交通工具上，是否已配備圖中的車輛乘客適用的「三點式安全帶」？

01 全部都有 02 多數有
03 有時有，有時無（一半，一半）
04 多數無 05 全部無
06 不清楚甚麼是「三點式安全帶」



29. 如果閣下使用的交通工具，已配備車輛乘客適用的「三點式安全帶」，你會否使用？

01 會 02 不會（請註明原因：_____）

30. 閣下是否知道「三點式安全帶」的正確佩帶方法？

01 知道 02 不知道

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Occupant restraint



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Methodology

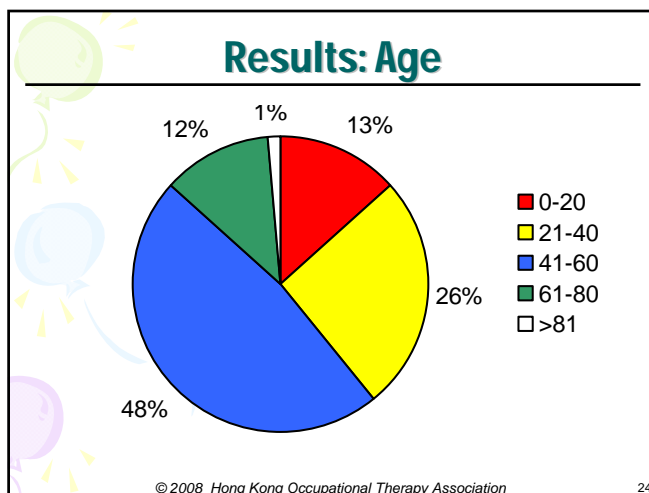
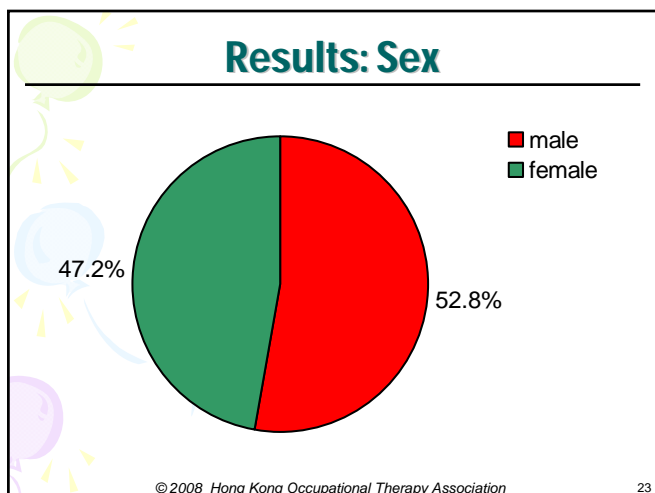
- 2880 questionnaire sent out to
 - members of 7 local organizations
 - representing majority of wheelchair users in HK
- 574 questionnaire received
 - response rate: 20%
- 562 questionnaire valid for analysis

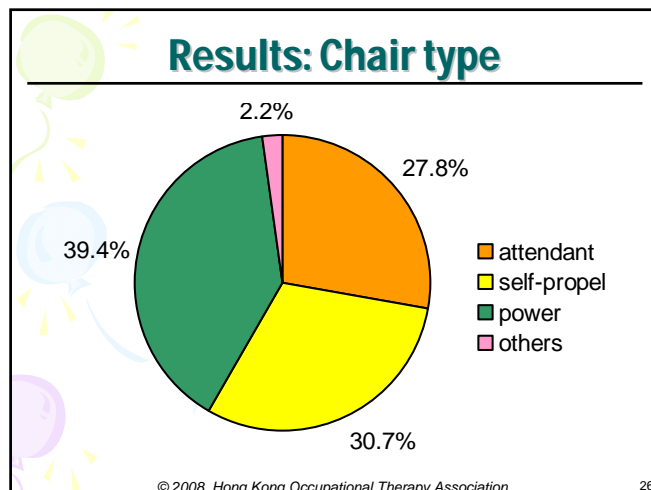
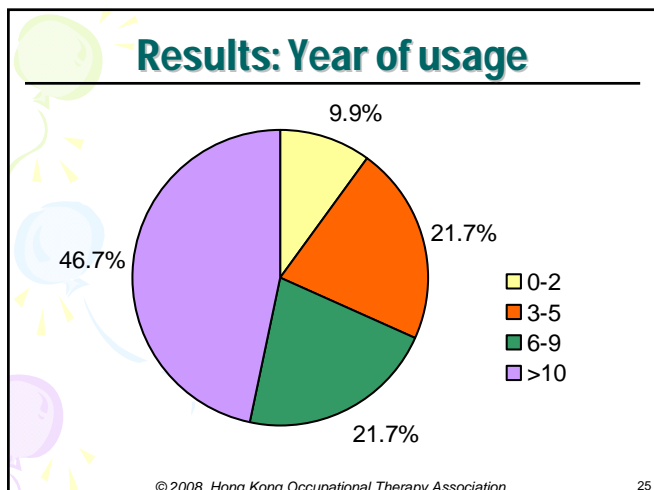
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Results

- sex
 - male: 52.8%
 - female: 47.2%
- age
 - 0-20: 13%
 - 21-40: 26%
 - 41-60: 48%
 - 61-80: 12%
 - >81: 1%
- year of usage
 - 0-2: 9.9%
 - 3-5: 21.7%
 - 6-9: 21.7%
 - >10: 46.7%
- chair type
 - attendant: 27.85
 - self-propel: 30.7%
 - power: 39.4%
 - others: 2.2%

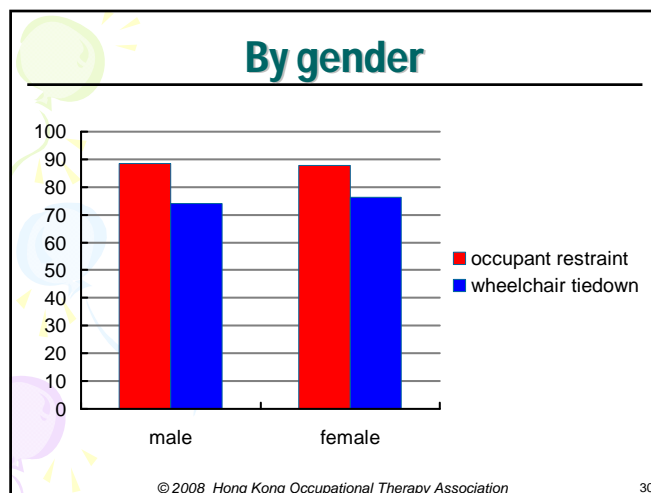
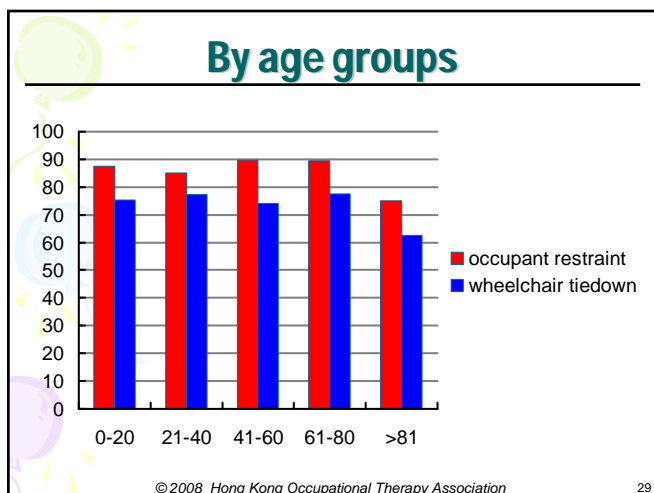
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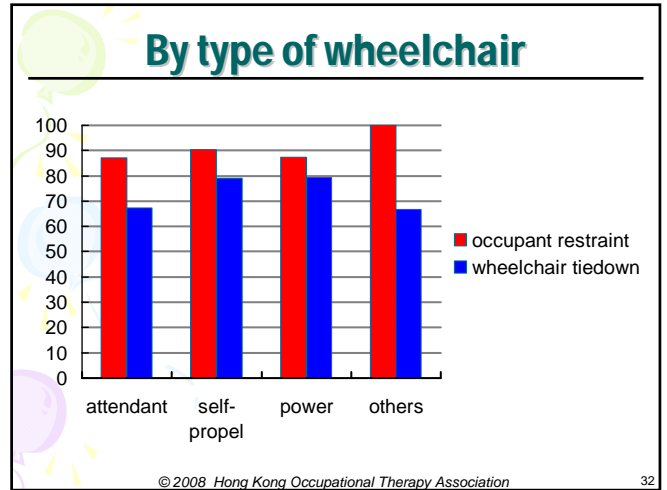
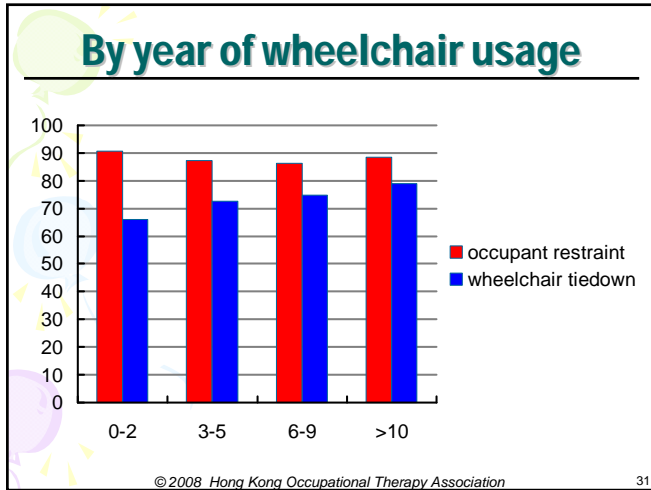




- ### People using wheelchair as seat
- frequently use Rehabus (74.0%), MTR (54.2%) and KCR (36.6%)
 - 22.3% reported <50% situations having wheelchair tiedown
 - 28.1% reported <50% situations having occupant restraint
 - 9.3% positioned in side facing orientation
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- ### Self-report knowledge & usage
- >70.0% respondents reported to have knowledge in & actual usage of wheelchair tiedown
 - self-reported usage of occupant restraint > wheelchair tiedown in all comparing groups
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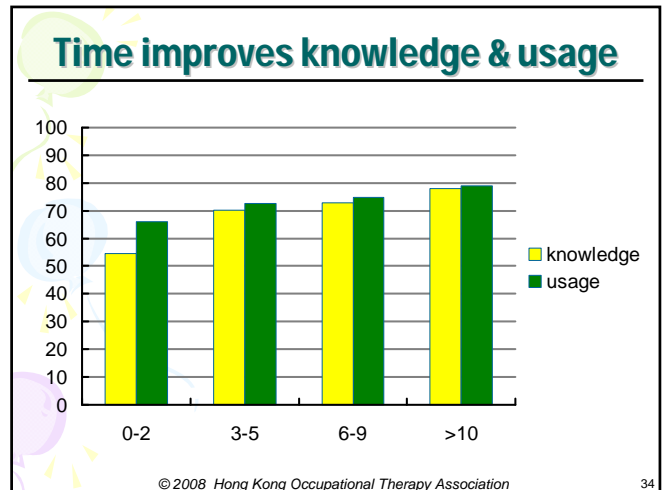




Safety awareness

- 24.6% (n=122) respondents did not use wheelchair tiedown
- 11.9% (n=65) respondents did not use occupant restraint
- year of wheelchair usage relates positively to
 - self-perceived knowledge
 - self-reported usage of safety equipments

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Discussion

- 24.6% respondents chose not to use wheelchair tiedown
- wheelchair tiedown & occupant restraint should go hand in hand
 - discrepancy in wheelchair tiedown & occupant restraint
- safety should not delay
 - positive relation between years in wheelchair and equipment knowledge & usage

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Discussion

- education should begin as early as people starts wheelchair training or prescription
- 9.3% respondent using wheelchair as seat during transportation were positioned in side facing orientation
- we are not looking for something special but equal protection for abled bodies & wheelchair users

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Acknowledgement

- Direction Association for the Handicapped
(路向四肢傷殘人士協會)
- Hong Kong Federation of Handicapped Youth
(香港傷殘青年協會)
- Hong Kong Neuro-Muscular Disease Association
(香港肌健協會)
- Hong Kong Rehabilitation Power
(香港復康力量)
- Paraplegic & Quadraplegic Association
(柏力與確志協會)
- Rehabilitation Alliance Hong Kong
(香港復康聯盟)
- Rehabus Service, The Hong Kong Society for Rehabilitation
(香港復康會復康巴士)

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Thank you

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Wheelchair Users Concern Group

- our concern
 - the needs of wheelchair users
- study
 - Users' Perception on Wheelchair Transport Services in Hong Kong (2004)
 - presented in the 'Transport for All' seminar
 - Users' Experience of Wheelchair Transportation Safety in Hong Kong (2008)
 - presented in 2008 International Occupational Therapy Conference
- training
 - Basics in Wheelchair Transportation Safety (2005)
 - occupational therapist & wheelchair suppliers

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Wheelchair Users Concern Group

- educational material
 - RideSafe (2004 & 2006)



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