

# A qualitative approach using the integrative model of behaviour change to identify intervention strategies to increase optimal child restraint practices among culturally and linguistically diverse families in New South Wales

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## ABSTRACT

**Objectives** To qualitatively explore barriers to optimal child restraint use using the integrative behaviour change model in culturally and linguistically diverse (CALD) communities in New South Wales (NSW), Australia.

**Methods** A semi-structured discussion was used to conduct 11 language specific focus groups in Arabic, Assyrian, Cantonese, Mandarin, Vietnamese and Turkish. Translated transcriptions were analysed using the major concepts of the integrative behaviour change model.

**Results** Restraint use intent among CALD community carers is related to perceived safety of their children and complying with the law. While most participants appreciated the safety benefits of correct and appropriate use, a minority did not. Child restraint legislation may positively influence social norms, and enforcement appears to increase parental self-efficacy. However, concerns over child comfort may negatively influence both norms and self-efficacy. There are clear deficits in knowledge that may act as barriers as well as confusion over best practice in safely transporting children. Large family size, vehicle size and cost appear to be real environmental constraints in CALD communities.

**Conclusion** Determinants of intent and deficits in knowledge in this diverse range of CALD communities in NSW Australia are similar to those reported in other qualitative studies regardless of the population studied. This indicates that key messages should be the same regardless of the target population. However, for CALD communities there is a specific need to ensure access to detailed information through appropriate delivery strategies and languages. Furthermore, practical constraints such as cost of restraints and family size may be particularly important in CALD communities.

## INTRODUCTION

Vehicle occupant injury is a leading cause of death and disability in most western nations.<sup>1</sup> In Australia, approximately 70–80 child passengers die and 1500 are injured each year.<sup>2</sup> Approximately 20% of the Australian population speak a language other than English<sup>3</sup>; children from this sub-population are more likely to incorrectly and inappropriately use restraints,<sup>4 5</sup> and these practices increase injury risk.<sup>6</sup> Studies have suggested the higher occurrence of sub-optimal restraint in these

groups may be due to inadequate knowledge,<sup>7 8</sup> however behaviour change theories suggest that knowing best practice may not be enough to change behaviour.<sup>9</sup>

Recently introduced legislation in New South Wales (NSW) requires children up to 7 years to use an appropriate child restraint.<sup>10</sup> Post-legislation observation of child restraint practices in low socioeconomic areas of NSW demonstrated that lower optimal restraint use in families from non-English language backgrounds (Brown *et al*, unpublished data) continues. This has also been reported in minority groups in North America.<sup>11</sup>

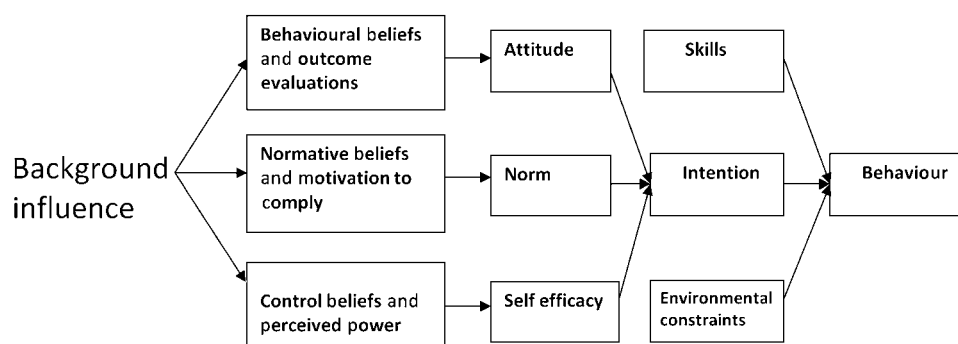
Fishbein's integrative behaviour change model (IBCM) combines key variables from several behaviour prediction theories, and indicates that a person will likely adopt a behaviour if they have a strong intention to perform the behaviour, have the necessary skills and abilities to perform the behaviour, and there are no constraints preventing behavioural performance (see figure 1).<sup>9</sup>

We aimed to use this framework to qualitatively explore barriers to optimal child restraint among families from culturally and linguistically diverse (CALD) communities in NSW for the purposes of intervention development.

## METHODS

Focus groups were chosen to elicit data on existing knowledge and experience as well as underlying beliefs and motivations from a number of different CALD communities where little subject relevant information is available. Eleven focus groups were conducted in the three local government areas (LGAs) in Sydney with the highest proportion of residents who speak languages other than English at home. In each LGA one group was conducted in each of the LGA's most common non-English languages. Languages were Arabic, Assyrian, Cantonese, Mandarin, Vietnamese and Turkish.<sup>2</sup> Multiplication of some language groups occurred as they were common in multiple LGAs. To ensure groups comprised CALD community members, community organisations assisted with recruitment. Except for the Arabic language groups, these were language specific women's groups. For this reason and to remove potential inhibition, groups were single gender. Ten groups were female-only and one Arabic-speaking group was male-only.

**Figure 1** Integrative model of behaviour change; adapted from Fishbein and Cappella.<sup>9</sup>



Using existing community groups for recruitment also increased homogeneity within groups, and ensured participants were in comfortable and familiar settings to encourage free discussion. Participants were recruited using advertisements in the target language through the community group and by direct invitation from community group leaders. Participants had to: (1) speak a language other than English at home; (2) be aged over 18 years; and (3) have travelled in a car with at least one child between 3 and 8 years old in the last 6 months.

Focus groups were held over a 2-h period during morning or afternoon weekdays. Demographic information was collected using a standardised questionnaire, once informed consent had been obtained using translated information statements.

Each group was led by a trained community leader or professional translator using a semi-structured discussion that allowed examination of IBCM variables (see figure 1.) At least one researcher attended all groups. A discussion guide, developed to allow interrogation of the IBCM constructs, was used to ensure discussion covered intent, skills and abilities and environmental constraints. The guide also included prompts for discussion of perceived risk of injury and crash involvement, parental attitudes to child safety, beliefs and knowledge about travelling in cars and using restraints, and cultural and socioeconomic issues. The guide was not modified throughout the data collection process and was provided in English. In groups facilitated by a professional translator, the moderators' and participants' comments were translated in real time for discussion purposes. Moderator training involved instruction from an experienced focus group researcher and instruction on overall study aims.

All groups were audiotaped, and tapes transcribed and translated by moderators or interpreters. This study was approved by the UNSW Human Research Ethics Committee.

### Data analysis

Content analysis using major IBCM concepts was conducted using model constructs to sort and code discussion elements into

relevant categories. This involved repeated transcript reading to search for patterns of meaning related to determinants of intention, skills and abilities, and environmental factors by a single researcher. This was repeated by a second researcher and two other researchers reviewed the final assignment of discussion elements to the model constructs. Behavioural beliefs and outcome evaluations, normative beliefs and motivation to comply, and control beliefs and perceived power were investigated as determinants of intention. In the context of this analysis, 'knowledge' of how to optimally transport children in cars was interpreted as the necessary skills and ability to enact the behaviour, and environmental constraints were interpreted as practical barriers to optimal restraint (see figure 1). No attempt was made to capture non-spoken communication.

### RESULTS

Demographic data for 71 participants is provided in table 1. All participants were parents or grandparents.

#### Intention

Figure 2 shows the frequency that issues relevant to intent were discussed.

There was a common belief across groups that it was 'dangerous' for children to travel unrestrained, although there was little elaboration on what the dangers were. Only the Cantonese group mentioned crashes: 'not safe due to the potential for accidents'. Some groups talked about restraint benefits in restricting child movement. These discussions related to safety—'A single push on the brakes. The kids can easily fly anywhere in the car'—and removing driver distractions.

Mention of size-appropriate or correctly used restraints was rare, although some participants were concerned about seat belts 'hurting' younger children:

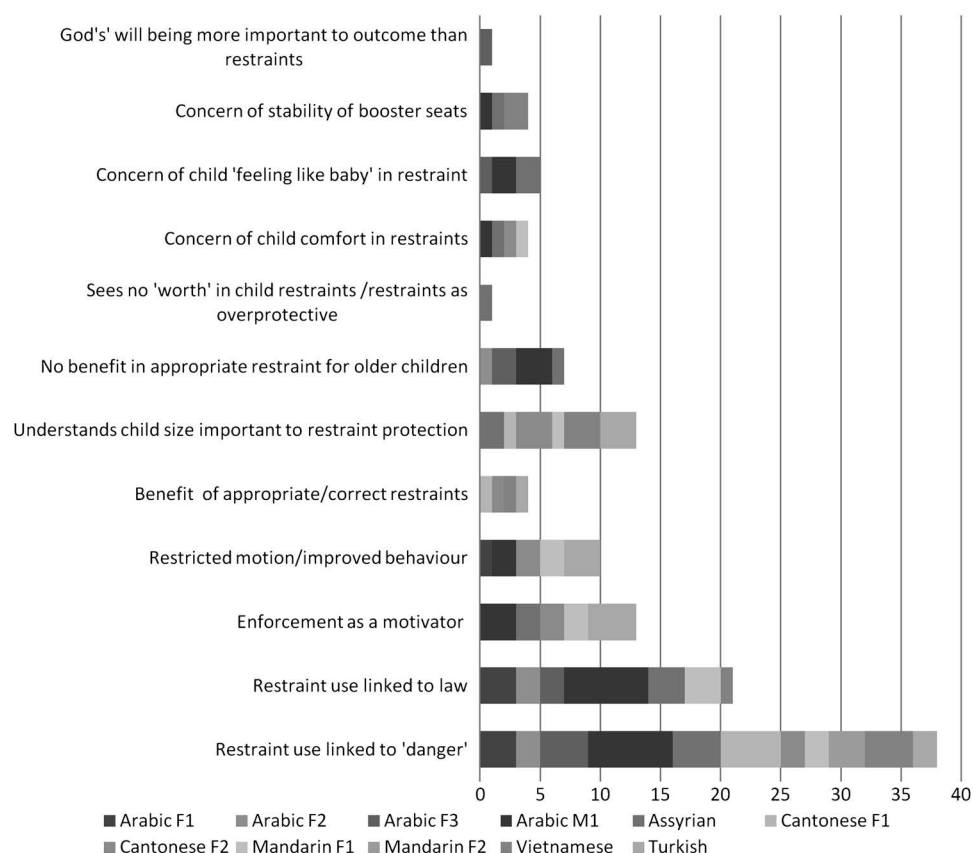
"Normal seat belts are not good enough for little kids. It is too high actually, so they don't like it, they easily remove it. My daughter

**Table 1** Participant summary

	Arabic 4	Assyrian 1	Cantonese 2	Mandarin 2	Turkish 1	Vietnamese 1
No. of groups						
No. of participants	30	13	9	9	4	6
Reports speaking English	14	10	4	1	1	2
Age (years)						
Minimum	34	33	32	31	29	30
Maximum	72	78	75	60	41	39
Mean	48	43	45	41	34	34
Years in Australia						
Minimum	3	1	1	8	7	6
Maximum	56	26	31	27	20	17
Mean	20	11	12	19	11	10

F, female; M, male.

**Figure 2** Issues discussed within and across groups related to intent. Frequency counted as '1' every time the issue was discussed, and does not necessarily reflect the number of participants within groups involved in each discussion. F, female; M, male.



says it hurts her neck actually. In an accident, it actually just hurts the neck, doesn't protect them."

In one group some participants felt child restraints 'are not worth it', that Australians place 'too much focus on safety' and the use of booster seats is 'overprotective'. However these statements precipitated robust debate.

Child comfort was raised as an issue potentially outweighing perceived safety:

"Sometimes when the kid's on the restraint actually crying a lot, crying like crazy, and at that moment if you cannot stop him crying, especially on a long journey, why isn't that not alright for the mum to go to the back seat and have him in their arms? That would be a solution actually..."

Participants also voiced concerns about older children using booster seats:

"8 year old may be offended by putting them in a baby seat as they consider themselves adults."

"The child complains that he is not a baby anymore and not willing to sit in the booster."

Some participants also talked about comfort issues for younger children:

"Younger child doesn't like car seats because they don't feel free."

Concerns over booster seat stability and their ability to provide good protection were also raised:

"While driving in the roundabout the booster was moving, I have to stop and adjust the booster properly...the chair is safer than the booster."

Keeping children 'safe' was linked to 'love' by some participants, with some indicating their child's safety was more

important than their own safety. However, this 'love' was also linked to unsafe behaviours: "we love our kids more... so we want to hug them", which was clarified to mean "hold them on our laps in cars".

Complying with the law was also an important motivator and the law was viewed as a guide to how children should be restrained. Participants cited the police as a tool to assist them:

"We are quite soft for the kids. The police as a third person, is quite tough and then a total stranger, so this is why it is easier for the kids to obey the police..."

However, in the male-only Arabic-speaking group there was a view that dedicated child restraints were not necessary from about 4 years of age and laws requiring longer periods of use were unnecessary.

Religious influences were also raised:

"I believe God will save them."

"We didn't use it before and we didn't have any problem, God saves them not the seat belt."

### Deficits in knowledge

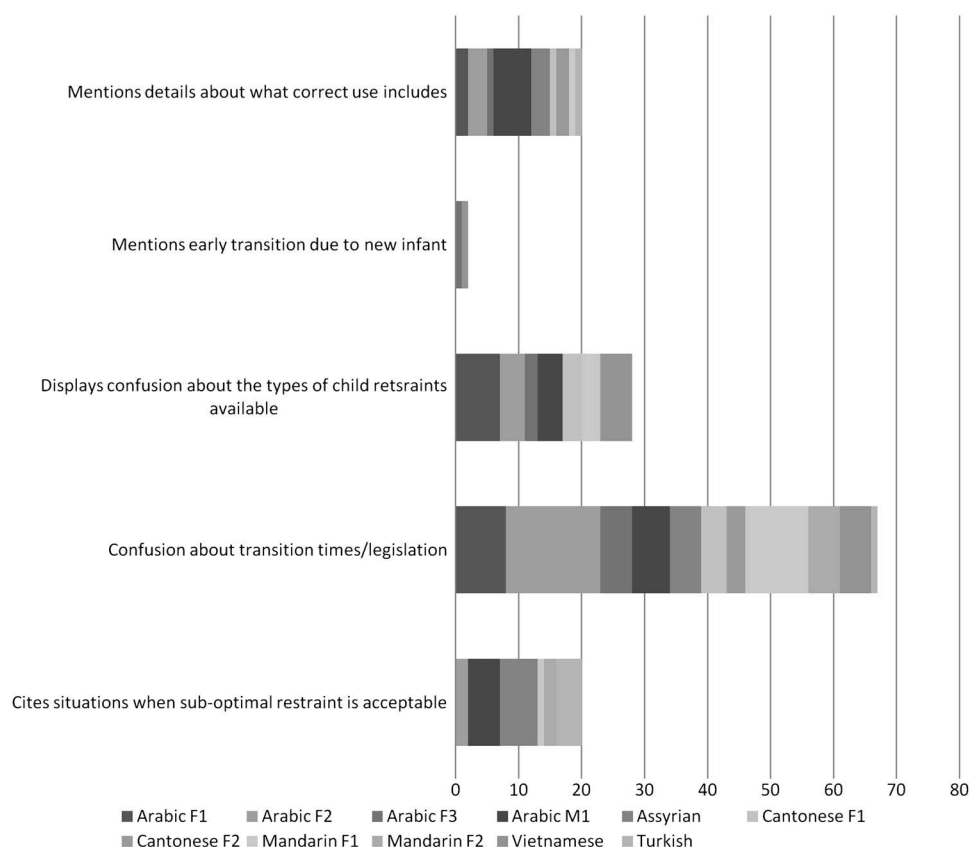
The frequency with which knowledge deficits were observed is shown in figure 3.

Some participants had good knowledge of best practice, but knowledge deficits relating to correct transition times were common across most groups. Early transitions were also discussed as occurring when a seat was needed by a second child.

While most participants understood there were different types of child restraints and a law requiring their use, there was confusion about specifics.

A number of participants talked about checking restraints but did not elaborate on what needed to be checked. Detailed

**Figure 3** Deficits in knowledge discussed within and across groups. Frequency counted as '1' every time the issue was discussed, and does not necessarily reflect the number of participants within groups involved in each discussion. F, female; M, male.



discussion generally centred on the buckle being engaged correctly, for example, “you know restraints are being used correctly when you ‘hear a click’ and make sure it is fitted correctly by looking and checking the lock of the baby restraint”.

Despite the common belief that non-restraint use was dangerous, a common view expressed by participants in close to half of the groups was that it was acceptable for children not use car seats on ‘short trips’, for example quick drives to friends, shopping, from school to home, car pooling, when in a hurry, or in unplanned circumstances.

### Environmental constraints

Figure 4 shows the environmental constraint discussion.

In the Arabic and Assyrian groups, larger family size was common and there was uncertainty over how larger families could comply with the law. Solutions discussed centred on large families not travelling together and walking short distances, but this raised debate about the balance between convenience and safety. Use of larger vehicles was also discussed. Premature graduation from booster seats was also linked to problems fitting multiple restraints in small cars.

In the Cantonese-speaking group, family size discussions focused on the difficulties of buying a bigger car. In the Mandarin- and Vietnamese-speaking groups the focus was on restraint cost.

Most participants saw child restraints as expensive, and financial issues were raised as a barrier to choosing the right restraint and/or complying with the law:

“If the child is already 6 years old it isn’t worth it to buy a new one.”

“Some parents just buy the biggest one just to save money.”

There was a common view that there was a need for more affordable restraints. As one participant explained:

“Keep the prices a bit lower than the current level to make it easier for everyone to get it because it’s a mandatory thing...like there is no way out, you have to have it...because not everyone has the same amount of money, and the companies simply use the situation because they know people have to have it.”

Borrowing restraints was discussed as a potential solution and there was general consensus among Arabic-speaking groups that secondhand restraints were “ok if I got it from a close relative”. The source was less important to others, however there was a clear aversion to secondhand restraints for hygiene reasons among some participants.

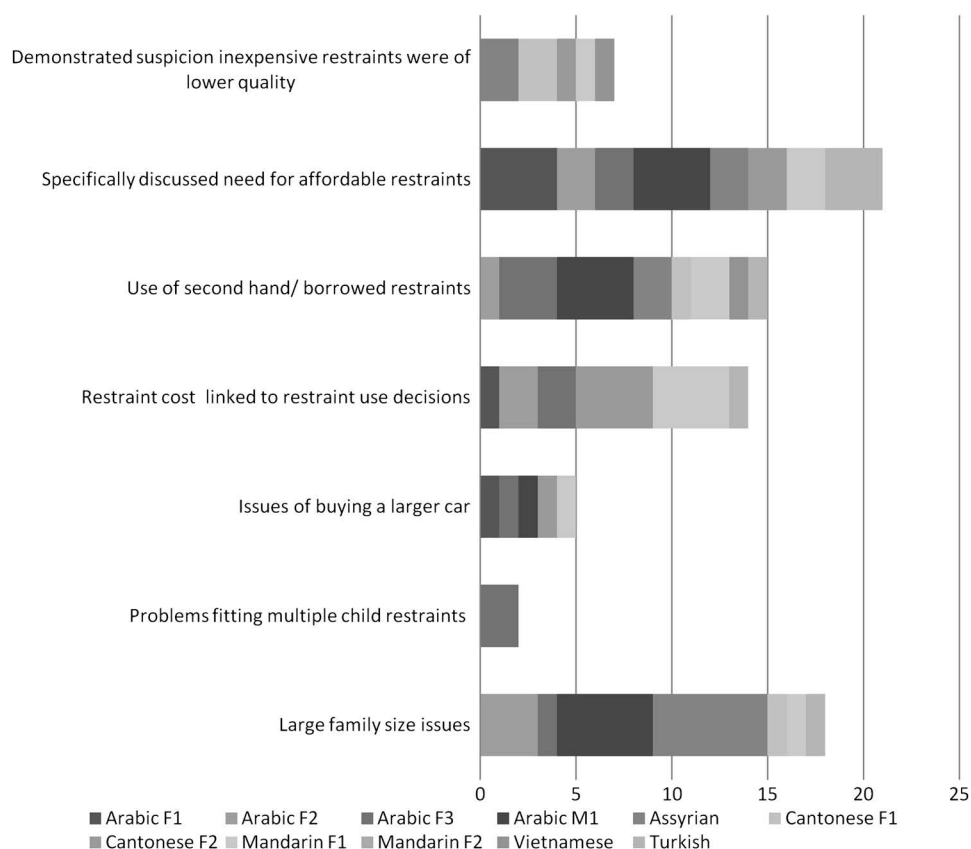
Restraint hire schemes were generally perceived to be poor value and there was suspicion among some participants that inexpensive restraints were of a lower quality than more expensive restraints.

### DISCUSSION

These results suggest that beliefs determining restraint use among the CALD community participants are related to their children’s safety and complying with the law. On the whole, participants acknowledged the safety benefits of restraints and complying with legislation. However, a minority did not see these benefits. Interventions need to target these underlying beliefs and couch messages in terms of specific ‘dangers’ to the child and clearly link correctly using size-appropriate restraints to keeping children ‘safe’. This aligns with Bruce *et al*’s<sup>10</sup> findings that understanding of injury prevention benefits of booster seat use was the best predictor of booster seat use intent.

For self-efficacy, the observations suggest that the law, and the police as an enforcement agency, increase parental ability to comply with best practice. However, the balance between perceived comfort and safety must be addressed to increase parental power to always comply.

**Figure 4** Environmental constraints discussed within and across groups. Frequency counted as '1' every time the issue was discussed, and does not necessarily reflect the number of participants within groups involved in each discussion. F, female; M, male.



Interestingly, the determinants of intent in this diverse range of CALD communities are very similar to those reported in other qualitative studies regardless of the population studied.<sup>12–16</sup> This suggests some universality in key messages may be warranted in interventions designed to improve child restraint practices. This is further supported by similarities in knowledge deficits and environmental constraints observed in different studies regardless of the population.<sup>12–15</sup>

However, there are some differences in our findings compared to a similar qualitative study using the IBCM framework among three low-income, multiethnic communities in North America.<sup>15</sup> Johnston *et al* reported a distinct absence of the law as a norm. However, the authors noted this may have reflected relationship problems between the police and the communities at the time of study rather than a 'universal distrust of law enforcement personnel'.<sup>15</sup>

The 'law' per se and enforcement generally has not been noted in studies among English-speaking groups in Australian and North America.<sup>15, 15, 16</sup> This could be a reflection of the timing of our study, conducted soon after implementation of mandatory appropriate restraint use laws for children <7 years. It could also be explained by a more external locus of control among individuals from more collectivist CALD communities. This culturally mitigated perception emphasises group goals over personal ones; it perceives external forces as ultimately in control of an individual's fate and motivation for choices and can be manifested through a more developed fear of and response to external authorities, including law enforcement and government agencies.<sup>17</sup>

Knowledge deficits exhibited in the groups studied confirm earlier findings,<sup>4, 5</sup> but highlight the need for access to *detailed* information about which type of restraint to use for which age and size, and how to use the restraints correctly. Equality of risk

in all trip types also needs to be reinforced. Access to detailed language-specific information should be a critical component of CALD specific interventions.

Interventions need to include strategies for dealing with safe travel practices in larger families. Solutions discussed differed markedly across groups and further work may be required to examine acceptable solutions in different communities.

Cost was discussed universally as a potential barrier. While cost has been raised in other qualitative studies of barriers to optimal restraint,<sup>13, 14</sup> quantitative analyses of population referenced samples in Australia<sup>4, 5</sup> have failed to demonstrate concern over cost as a predictor for inappropriate restraint. Cost may be a specific barrier in some sections of the community. Previous research has demonstrated that subsidised restraints can assist increasing appropriate restraint use,<sup>18</sup> and this might be one solution. Restraint hire schemes may not be acceptable for many CALD families, however secondhand restraints appear to be widely used, and providing a formal support structure to ensure their quality might be useful. Other options for assisting with costs of optimally restraining children need to be explored.

### Cross-group comparisons

According to Fishbein and Cappella,<sup>9</sup> the relative importance of IBCM variables vary with behaviour and population. Johnston *et al* noted that while many determinants of booster seat use in multiethnic groups were similar to those in other sub-populations, the relative importance of each varied across ethnic group.<sup>15</sup> We found generally similar levels of importance in determinants regardless of group, but did observe differences in the relative importance of some practical issues. This observation is based on frequency of discussion and the apparent importance placed on these discussion elements within the

groups; this may have been different to the method employed by Johnston *et al.*<sup>15</sup>

### Limitations

By recruiting through language-specific community groups, we hoped to recruit typical community members. However, representativeness of participants was not measured. As we constructed our sample on the frequency of language groups in local areas, we had an uneven distribution of language groups, with four Arabic language groups, two Cantonese language groups and single groups for the other languages. We believe we reached saturation of discussion topics in the Arabic language groups, but may not have reached saturation where we did not have multiple groups and male participants in the same language. The lack of male groups in all but the Arab-speaking group limits the findings. Potential variation in the determinants of the IBCM with gender should be explored in future cross-cultural studies.

Using a semi-structured discussion and constructs of the IBCM as an analysis method was chosen over a more traditional approach of allowing themes to develop from the discussion, as it provided a theoretical framework on which future behaviour change interventions might be developed. This allowed exploration relevant to our aims, but together with the need to use interpreters meant that emerging issues could not always be further explored. Furthermore, some information may have been lost in the translation process, particularly where there is no English word for ideas or concepts discussed in other languages. Due to project resource constraints and a lack of multilingual ability in the research team, there was also no external check on transcription translations, and errors in translation may have occurred.

### CONCLUSION

Non-English-speaking communities in countries like Australia and North America are culturally diverse, and because of this it might be assumed that there are different determinants of intent and barriers to optimal restraint of children in cars, but our findings suggest this is not necessarily the case. To encourage 'intent' to use optimal child restraint practices, there is a need to link correct use of age appropriate restraints to safety and to reassure parents of child comfort and the social acceptability of older children using child restraints. Deficits in knowledge about correct transition times, the need to be optimally restrained for all trip types and how to ensure restraints are used correctly also need to be addressed. Finally, the cost of restraints, family size and vehicle size need to be considered. These appear to be key messages and intervention components regardless of language or culture. CALD communities in Australia (and likely other countries) where English is the primary language appear to require better access to detailed information about optimal child restraint practices, and there is a need to ensure the level of

### What is already known on the subject

- ▶ Optimal child restraint use significantly reduces risk of injury in crashes.
- ▶ Children from families who report speaking a language other than English at home, in a country where English is the dominant language, are at greater risk of sub-optimal restraint use.

### What this study adds

- ▶ Using behaviour change theory as a framework, this study shows that determinants of intent and knowledge deficits for optimal child restraint are universal, regardless of language or ethnicity, but practical constraints may be particularly important in minority groups.
- ▶ Determinants of intent and deficits in knowledge in minority groups are generally similar to those reported in other qualitative studies, regardless of the population studied.
- ▶ Key messages should be the same, regardless of the target population.
- ▶ There is a need to ensure access to detailed information through appropriate delivery strategies and languages for minority groups.
- ▶ Practical constraints such as cost of restraints and family size may be particularly important in some minority groups.

detail supplied to these groups is the same as for speakers of the dominant language.

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**Data sharing statement** Any additional data from the study will be used by the authors only for the purposes of developing an education based intervention to increase optimal child restraint practices among children from CALD communities in Australia.

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