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Developing and validating a cross-national cumulative scale measuring attitudes toward illegal immigrants

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The article reports the results of a Mokken Scale Procedure (MSP) developing a hierarchical cross-national scale gauging attitudes toward illegal immigration, and a subsequent qualitative cross-national assessment of this scale. Responses to a 20-item Likert-type-scale were collected in two national representative surveys in the Netherlands and New Zealand. The MSP analysis yielded a cumulative scale with the same four items for each with an acceptable 'scalability' in both samples, of $H > .40$. This cross-national four-item scale was evaluated by means of in-depth interviewing nine participants in the Netherlands and 15 participants in New Zealand. Analysis of the interviews shows that individually ranking the items of the scale is similar to the rank order generated by MSP, but the individual evaluation of the degree of negativity of items strongly depends on the way illegal immigrants are framed by subjects. The contribution of a mixed methods approach is discussed. It is suggested that the present quantitative measuring instruments measure a general average attitude, which may be likened to a measure of the average temperature of a country at a certain moment, while qualitative evaluations vary with the way illegal immigrants are framed by individuals, like variations in local temperature

Keywords: illegal immigration; attitude; measurement; Mokken Scale Procedure, cross-cultural, qualitative validation

Introduction

Illegal cross-border migration has become a matter of concern in many countries in many parts of the world. Economic dislocation, ethnic strife and fundamentalism in religion and in politics have stimulated an increasing number of people to migrate. Since options for legal immigration are limited in most countries, many seek security and a better life in the developed countries illegally.

Illegal immigration is a phenomenon that has so far received little research attention (Pettigrew et al., 1998). One reason may be that illegal immigration by definition is a breach of laws and therefore it may neither be surprising nor interesting that such behaviour triggers legitimate negative reactions. However, illegal immigrants may also pose a dilemma to society by challenging humanitarian and

egalitarian values which may lead to more emphatic attitudes toward illegal immigration (Ommundsen & Larsen, 1999).

Thus people in 'receiving countries' (nations with a net immigration rate) develop conflicting attitudes towards illegal immigrants and illegal immigration. These attitudes in turn may shape public opinion and the public debate on illegal immigration. The last years – in different countries – political parties that are opposed to immigration in general and illegal immigrants in particular, like the Dutch Freedom Party (PVV) led by Geert Wilders, and the New Zealand First Party led by Winston Peters, have entered the political arena; and illegal immigration became an important political issue. Therefore analyzing those attitudes seems highly relevant.

The challenge is to discover how these attitudes are structured and what measuring instruments can be developed. Since illegal immigration is a global phenomenon, it is important to develop instruments with cross-national utility in order to compare and monitor developments in different countries. Research has shown comparable attitudes toward illegal immigrants, irrespective of major cultural or historical differences between countries (Scheffer, 2011, p. 35).

Ommundsen and Larsen (1999) compared illegal immigration attitudes between Danish, Norwegian and the US undergraduate students with a 20-item Likert-type-scale as a result. Their idea was to develop a robust scale that reflects common meanings in various national samples. In addition, there was a need for a brief and more economical scale that could eventually be included in regular national omnibus surveys in order to identify predictors as well as monitoring development of attitudes toward illegal immigration across nations and time. At the same time, because of the brevity of such a scale, it was essential that it would reflect the major factors underlying the attitudes, still to be found in different national samples.

With this aim Ommundsen, Mørch, Hak, Larsen, and Van der Veer (2002) conducted a study that yielded a five-item Mokken cumulative scale in the four national samples, reflecting three underlying factors. The cost/benefit factor measured respondents' perception of the economic costs for society as well as the benefits immigrants may add to society. Factor 2 was labelled free flow/open borders for migration. Factor 3 was labelled human rights (Van der Veer et al., 2004).

While these results were encouraging in the search for cross-nationally valid cumulative scales, they were not definitive. The studies could be criticized for an overreliance on student samples rather than utilizing representative samples. The mere fact that the results of separate Mokken analyses in a student and a representative sample in New Zealand revealed the same three factors found in earlier studies (see Pernice, Ommundsen, Van der Veer, & Larsen, 2008) that does not preclude the need for comparing the results of national representative samples. Students tend to show less variability in variables (e.g. prejudice) that may mask relevant information (Ellsworth & Gonzales, 2007, p. 37). Therefore, the current study utilizes two available national representative samples from New Zealand and the Netherlands in which the 20-items Illegal Immigration Scale (Ommundsen & Larsen, 1999) was included to explore the underlying factors of attitudes toward illegal immigrants in order to develop a robust valid instrument to measure these attitudes.

In order to test for cross-national robustness one needs to conduct research in different cultural contexts. New Zealand and the Netherlands have very different historical patterns of immigration making them suitable for testing robustness. At

the same time, illegal immigration, political asylum and integration are issues of public debate and political consideration in both countries, and therefore highly relevant.

Roughly speaking there are two ways to assess attitudes. The first one is a quantitative approach using survey data (e.g. from representative national samples). This approach offers possibilities to develop a psychometric valid measuring instrument with external validity. The second approach is qualitative. According to this approach, a small sample is (in-depth) interviewed about the subject, in our case their attitude towards illegal immigrants. In an earlier cross-national study on xenophobia by Van der Veer, Ommundsen, Yakushko et al. (2011), we found discrepancies between the outcomes of the quantitative and the qualitative approach. The main finding was that among the respondents participating in the qualitative part of the study there was a great variety in the way respondents framed 'foreigners' and 'immigrants'. Nevertheless, we also found a near to perfect parallel Mokken structure of the quantitative xenophobia scale in the three national student samples. We reasoned this finding to be a strong evidence for cross-national equivalence of the psychometrically established scale. However, it is not immediately clear what conclusion to draw from finding such a quantitative/qualitative discrepancy, therefore such evidence deserved to be given thoughtful consideration when evaluating the validity issue.

In any case, our finding invited the conclusion that it cannot be taken for granted that the respondents use the same attitude object as the designers of the questionnaire. Qualitative inspection of a measurement instrument may for example lead to questioning any unfounded assumption that a statistically generated scale is streamlined and unproblematic when it comes to unidimensionality as well as what it measures (Van der Veer et al., 2011). Hence it seems advisable to include a qualitative study as a complementary method to assess the individual interpretation of a psychometric validated scale.

Although the use of subsequent qualitative assessment of a quantitative instrument may not be commonplace, it seems particularly appropriate if the instrument is to be deployed in cross-national studies. Even if a scale has been developed within one cultural context using for example, cognitive interviewing (see, e.g. Willis, 2005) to pre-test items, and to clarify the way respondents are framing an issue, equality of interpretation and cumulative ranking of items cannot be taken for granted outside this cultural context, but rather is something to be explored.

The aim of the present study is to develop a cross-cultural robust instrument to gauge attitudes towards illegal immigrants, to test the psychometric validity and to assess the conceptual equivalence (i.e. the symmetry of meaning of the items) of such an instrument within and across cultural contexts (see Van de Vijver & Leung, 1997). The ultimate aim is to have an instrument which combines brevity with acceptable reliability that could eventually be included in regular national omnibus surveys in order to identify predictors as well as monitoring development of attitudes towards illegal immigration across nations and time.

The first part of this study reports briefly the development and psychometric validation of an instrument measuring attitudes toward illegal immigrants with scale items from questionnaires distributed in the Netherlands and in New Zealand. The second part reports the results of investigating the interpretation of this instrument by qualitatively interviewing a small sample from the same population by means of a 'think-aloud' procedure.

In cross-national research also attention has to be paid to the structural equivalence of measures (see, e.g. Matsumoto & Van de Vijver, 2011). Although there are several methods for comparing the internal structure of measures between cultural groups (e.g. confirmatory analysis, multidimensional scaling), structural equality may be claimed if a measure can be demonstrated to have similar cumulative structure between groups. Cumulative scales have a number of advantages over other measurement models, for example by giving 'order of difficulty' of items (see, e.g. Van Schuur, 2003). It has been suggested that these types of measures will be used more frequently in the future (John & Benet-Martinez, 2000, p. 350).

Quantitative method

The Mokken Scale Procedure

The Mokken Scale Procedure (MSP) is a method for constructing cumulative attitude scales from Likert-type summated rating scales, and is essentially a probabilistic version of the Guttman scale (Dunn-Rankin, Knezek, Wallace, & Zhang, 2004; Mokken, 1991; Molenaar & Sijtsma, 2000; Sijtsma & Molenaar, 2002; Van der Veer et al., 2011). The aim of the MSP is to order subjects along a certain latent trait T. The probability P to give a positive answer on an item i ($P(X=1\,|\,T)$) is dependent on the amount of T a subject possesses. The item that most subjects agree upon is considered the 'easiest' item. The item that least subjects agree upon is considered the most 'difficult' one; one needs a high amount of T to agree with that item. The MSP has been successfully applied to the measurement of a wide variety of latent traits in the field of psychology and other social sciences (see, e.g. Sijtsma & Molenaar, 2002 for an overview).

The MSP and software program (Molenaar & Sijtsma, 2000) aim to locate these discriminatory items within sets of Likert-type items. This procedure computes a measure of scalability (indicated by Loevinger's H) for each single item and for sets of items. A high degree of homogeneity in the scale, indicated by Loevinger's H, means that all items measure the same dimension. In general, an item is considered part of a cumulative scale if it reaches or surpasses an H-value of .30. (Kingshot, Douglas, & Deary, 1998; Sijtsma & Molenaar, 2002, p. 60). In addition to the criterion of homogeneity a Mokken scale ideally should show unidimensionality (all items measure the same construct), local independence (item scores are stochastically independent), a monotone non-decreasing function, and the item response functions should not intersect (see Molenaar & Sijtsma, 2000, pp. 6–9 for further detail). A model satisfying all four assumptions is called a double monotonous set (Molenaar & Sijtsma, 2000, p. 9). The aim of this study is to come as close as possible to a double monotonous scale. Moreover, identifying such a scale sharing the same qualities in two (or more) national samples would amount to strong evidence for the structural equality of the instrument.

Firstly, the current study attempts to develop a cross-national cumulative (Mokken) scale measuring attitudes towards illegal immigrants with a small number of indicators, with maximum utility that incorporates maximum variance found in national representative samples of New Zealand and the Netherlands, and which meets criteria of statistical validity.

Secondly, the scale will be evaluated qualitatively using in-depth interviews with participants in two small convenient samples in either countries.

Table 1.   The 20-item Illegal Immigration scale (Ommundsen & Larsen, 1999).

1.	Illegal immigrants should not benefit from my tax money
2.	Our taxes should be used to help those residing illegally in NL (R)
3.	There is enough room in this country for everyone (R)
4.	Illegal immigrants are not infringing on our country's resources (R)
5.	Illegal immigrants are a nuisance to society
6.	There should be open international borders (R)
7.	Access to this country is too easy.
8.	Illegal immigrants should be excluded from social welfare
9.	NL should accept all political refugees (R)
10.	Illegal immigrants who give birth to children in NL should be made citizens (R)
11.	Illegal immigrants cost NL millions of Euro's each year
12.	Illegal immigrants should be eligible for social welfare (R)
13.	Illegal immigrants provide NL with a valuable human resource (R)
14.	The government should pay for the care and education of illegal immigrants (R)
15.	Illegal immigrants should not have the same rights as NL citizens
16.	Illegal immigrants have rights too (R)
17.	Taking care of people from other nations is not the responsibility of NL
18.	All illegal immigrants deserve the same rights as NL citizens (R)
19.	Illegal immigrants should be forced to go back to their own countries.
20.	Illegal immigrants should not be discriminated against (R)

This study takes as a point of departure the 20-items Illegal Immigration Scale developed by Ommundsen and Larsen (1999). These 20 items (see Table 1) were part of a questionnaire spread among two national representative samples in New Zealand and the Netherlands, respectively. All items were listed in the same random order in both surveys and were rated on a 5-point scale with anchors 1: Strongly disagree and 5: strongly agree. Twelve items were keyed in the positive direction, and eight were negatively keyed. Positively phrased items were subsequently reverse scored (R), and the overall attitude assessed by summing item scores. Higher scores reflect more negative attitudes toward illegal immigrants.

Samples

A national sample of 2500 persons was randomly selected from the New Zealand Electoral Roll, spring 2006 and of these 1280 persons participated in the study (female 53.6%, mean age = 49.3 and SD = 16.97). There were 1038 persons who were identified as New Zealand European or Pakeha and were born in New Zealand, 134 persons identified as Maori or as part Maori, 111 people considered themselves as European immigrants, 48 came from China or South East Asia, 39 people came from the Pacific Nations and 12 came either from India, the Middle East or Africa.

The data from the Netherlands were collected by the International Social Survey Programme (ISSP) in 2005/2006. Respondents were randomly selected to complete the questionnaire by mail. The Netherlands sample consisted of 1917 respondents (female 48.7%, mean age = 49.1 and SD = 15.59). There were 131 respondents who indicated that they were born abroad.

Mokken analysis

Since there is no clear theoretical concept upon which the 20-items Illegal Immigrants scale is based, the construction of a cumulative scale is carried out with a

search procedure, an exploratory procedure using small steps, where items are deleted from further analysis on the basis of a number of technical criteria.[1] The overall quality of the scale can be assessed by comparing the expected amount of Guttman errors based on chance with the observed amount of Guttman errors.

Items were deleted from further analysis one at a time as is recommended by Molenaar and Sijtsma (2000). The aim was to include items in the final scale, as long as these meet the criteria mentioned, arriving at the best possible double monotonous set of items.

In the analysis, 125 Dutch respondents and 216 respondents from New Zealand were excluded from the analysis because of giving either solely positive or negative answers to the original 20 items in the questionnaire. Since MSPWIN5.0 can only use 1586 cases for its analysis only 793 randomly selected cases from New Zealand and 793 from the Netherlands samples were used in further analysis.

Results

The Mokken scale analysis based primarily on the data from New Zealand yielded an 8-item Mokken scale incorporating all the items that were represented in the Mokken scale derived from the combined data-set (NL and NZ data put together). The analysis that was based on the Dutch data-set only yielded a four-item Mokken scale in which four items from the New Zealand analysis were excluded, mainly because of low item H values. So the final cross-national scale encompasses four items (see Table 2).

As Table 2 shows, the four-item Mokken scale satisfies all criteria set for a double monotonous set. In this case, item 16 is the 'easiest' item, and item 1 the most 'difficult' one. Furthermore, the two scales are highly comparable. After conducting an independent t-test, no significant differences were found among the means presented in the Table, except for the different means in item 16; the small difference was significant on the 95% level. Nevertheless, the average answers given in both data-sets are highly comparable, indicating that this scale has cross-national utility.

Another way of testing the utility of the cross-national scale is to assess the percentage of respondents that fit one of the response patterns dictated by the

Table 2. A four-item cross-national Mokken scale measuring attitudes toward illegal immigrants.

items	The Netherlands Mean (Item H)	New Zealand Mean (Item H)
1. Illegal immigrants should not benefit from my tax money	.13 (.53)	.14 (.32)
8. Illegal immigrants should be excluded from social welfare	.15 (.46)	.15 (.38)
17. Taking care of people from other nations is not the responsibility of NL	.46 (.40)	.41 (.36)
16. Illegal immigrants have rights, too	.56 (.44)	.59 (.36)
Scale coefficient H	.45	.35
Reliability (RHO)	.59	.54
% Fits model	75.6	80.2
	($n = 751$)	($n = 1027$)

cumulative scale. This scale assumes a certain pattern, in which respondents' answers to the four items can be predicted on the basis of the model. The data of New Zealand and the Netherlands show that roughly 80% follow the pattern of the cumulative scale that is predicted by the model.

On observation, the items seem to be highly complementary, since items 17, 16 and 1 and 8 seem to measure different dimensions related to the way the illegal immigrants are treated. Items 1 and 8 deal with the economic resources that should or should not go to illegal immigrants, item 16 deals with the political responsibilities of a nation in taking care of foreigners, and the easiest item 16 states a general notion that illegal immigrants have rights. So it seems that three different topics: economic resources, political responsibility and human rights, all of these three in connection to the treatment of illegal immigrants are covered by the four-item scale.

Qualitative method

Assessing the psychometrically tested scale

The method employed in this part of the study is the Three-Step Test-Interview (TSTI) developed by Hak, Van der Veer, and Jansen (2008; Hak, Van der Veer, & Ommundsen, 2006), but, because of practical reasons, only for the Dutch sample. Although this method is primarily designed for pretesting, in this study the method is used to gain a further insight in how questions are interpreted by Dutch respondents, and in what way different scores on these Likert-type items are to be interpreted. The three steps in this method include:

(1) Concurrent think aloud aimed at collecting observational data. The interviewer makes notes to be used in the second step.
(2) Focused interview aimed at remedying gaps in observational data.
(3) Semi-structured interview aimed at eliciting experiences and opinions. In this step, the respondent is asked to express and explain his/her response behaviour, reflect on his/her own position on illegal immigrants and give definitions that play a crucial role in answering the questionnaire.

For these test interviews, a list with six items was created (see Table 3). In addition to the four items belonging to the cumulative Mokken scale, two other items (items 18 and 20) that expressed a positive attitude towards immigrants were included. This addition was made in order to balance the statements for the respondents. Although our focus was on the four-scale items, also the information that was given about the two other items are used in the analysis.

Table 3.   Items used in TSTI.

Items	
1.	Illegal immigrants should not benefit from my tax money
8.	Illegal immigrants should be excluded from social welfare
17.	Taking care of people from other nations is not the responsibility of NL
16.	Illegal immigrants have rights too
18	All illegal immigrants deserve the same rights as NL citizens
20.	Illegal immigrants should not be discriminated against

While TSTI may be a sharp analytical tool to extract qualitative data it is not the only method to gain useful information.

In New Zealand we had to make with available less formalized interviews. Participants could comment on their understanding of items and explain their responses. However, they were not asked to rank the items from least to most negative.

Thus, the results of the qualitative Dutch study were, as far as possible, compared with the results of 15 in-depth interviews in New Zealand (Pernice, 2009) in which the TSTI format was not used.

Selection of respondents

Nine Dutch respondents were selected by snowball sampling according to three criteria: educational level, gender and age. The interviews were conducted in Amsterdam, January 2011. The 15 New Zealand interviews were conducted with respondents to the national survey who had indicated their willingness to participate in an in-depth interview. The interviews were conducted in Auckland and in a rural area in the North Island.

At the start of the interview, respondents in both countries were first asked what image they had about illegal immigrants. Hence, they were shown a description of the term and asked to keep that definition in mind when responding to the questions. This was done in order to control framing as much as possible.

The definition that was given to them was the same one as presented in both national surveys.

> Many people from other countries travel legally to the Netherlands/New Zealand on a tourist visa, or as a seasonal worker, as a business person or as an asylum seeker or refugee. However, we usually speak of illegal immigration if immigrants overstay their permitted time and start to work without a work permit, or if they disappear after receipt of the rejection of their asylum application, or the request to leave the country or the announcement that they will be removed from the country. There are also people who come secretly over the borders with false documents; they are not registered and they stay illegally and work.

All the interviews were recorded on tape. For the purpose of the analysis the interviews were partly transcribed and analyzed using procedures of discourse analysis. In discourse analysis, the objects of study are patterns of the way in which language is used. From this point of view, language is not seen as just a neutral tool that is used to represent the object reality, but language is considered a social construction. It plays an important role in creating and changing social reality (Phillips & Jørgensen 2002, p. 1). By analyzing and categorizing the way the respondents talk about illegal immigrants and illegal immigration, one gets insight in the way respondents look at this specific group of people, how they are categorized and what qualities are attributed to them.

The interviews in the Netherlands focused on two issues: the way illegal immigrants are framed by respondents, and the way the items belonging to the cumulative scale measuring attitudes towards illegal immigrants are ranked by them from most negative to least negative. The New Zealand interviews focused on framing and the way in which items were interpreted.

Results

Framing of illegal immigrants

Although the concept of illegal immigrants was deliberately explained to the participants at the beginning of the interviews, and they were asked to keep this description in mind while answering the questions, participants seemed to ignore or forget the definition given by the interviewers and continued to use their own images and frames when talking about illegal immigrants.

Multiple definitions and interpretations of the term 'illegal immigrants' were given during the interviews. Most of the participants talked about immigrants in general without distinguishing between illegal and legal immigrants. While doing so the Dutch participants made a difference between economic immigrants and immigrants that come to the Netherlands for political reasons. The attitude towards illegal immigrants who migrated because of political circumstances in their own country was more positive than the attitude towards illegal immigrants that migrated for economic reasons. The New Zealand in-depth interviews yielded comparable results.

> You know, there are different kinds of illegal immigrants, those with and those without a good reason. Gold-diggers do not have a good reason to come here, they just want to make more money and do not have as good a reason as the political refugees do. I think for the larger part illegal immigrants are the gold-diggers. (NL)

> Little sympathy, they use and abuse New Zealand, the little we have, we have no resources, they want a free ride, but we cannot afford to looking after the world and specially those who cheat and abuse us, no sympathy really, that's all. (NZ)

In the definition of illegal immigrants as mentioned above, the word illegal refers to legal and juridical aspects, law and order. It has to do with rules and the Dutch and New Zealand law about staying and working in 'our' country. However, the respondents frame the word 'illegal' in a different way. They framed illegal as 'being unwished for', 'being in the country with no good reasons'. It seems that many negative aspects about immigrants are associated with illegality.

> I think illegal immigrants are illegal, that is the crime, they go against the law. (NZ)

Another way of framing illegal immigrants is in terms of crime and safety.

> Why being somewhere in an illegal way? Do you have something to hide as an illegal immigrant? What have you done that cannot be brought to light? (NL)

Most of the interviewees in both the Netherlands and in New Zealand have no contact with illegal immigrants, which is not surprising because those immigrants hardly have any contact with society. Another reason is that whenever you do meet an immigrant, you usually do not know whether or not that person is here on legal grounds. Moreover, having no contact with illegal immigrants makes it more difficult to establish a clear image about them. Participants suggested that their attitudes were either based on what they knew of illegal immigration through the media, or on information they had received through other people and on their personal value system. In the group of participants there is one exception. It concerns a Dutch

participant who came here himself as an asylum seeker, and told to have lots of contacts with other immigrants. This person associated 'illegal immigrants' primarily with those immigrants that act illegally, for example working without paying taxes, while receiving social welfare.

All respondents agreed on the fact that illegal immigrants have rights. But their answers vary to what extent they have these rights. Most of them agree on the fact that illegal immigrants have human rights, like food and health care. You have to take care of people in need. But when it comes to rights on social welfare, for example the right to have a house, social benefits and pension funds, the answers of the respondents vary. When it comes to economic resources it is frequently argued that illegal immigrants only have rights when they also contribute to the system, for example by paying taxes. Hence, several interviewees found that political refugees who cannot go back to their own home country have more rights than people who come here for economic gain, or are associated with criminal practices.

> If they can go back to their country but want to stay in Holland, or get into crime, then they cannot benefit [from tax money, red]. But those people who do not have the possibility to return to their home country should be taken care for. (NL)

Some answers to the questions vary because of the interpretation of the terms, like 'social welfare', 'rights' and 'discriminated against'. One of the Dutch participants clarifies:

> Rights is too much of a general category to talk about, there are different forms of rights at play. NL)

Most participants in both New Zealand and the Netherlands agree on the fact that discrimination is never acceptable, so they agree that illegal immigrants should not be discriminated against. But a few respondents interpreted discrimination as 'making a difference between', and 'not using the same rules for every situation'. From this point of view the fact that Illegal immigrants should not have the same rights as legal residents can be seen as discrimination between legal and illegal immigrants, without moral objections. One of the respondents argues:

> When I think about discrimination I first think about the way gays, jews and negroes are being discriminated, which is awful. However, if you define discrimination as exclusion from certain rights, then this does apply for those illegal immigrants that have the opportunity to go back to their country. Illegal immigrants should not be discriminated in the way Moroccans or gays are being discriminated. (NL)

An important finding is thus that the subject matter itself, 'illegal immigrants', cannot be assumed to be interpreted homogeneously. The way respondents frame and define them varies a lot. For that reason the answers given in the quantitative (survey) part of this research cannot be argued to focus on a particularly well defined social category.

Another finding is that also other words in the questions can be interpreted differently by the respondents. This influences their answers to these questions, like different interpretations of the terms 'social welfare', 'rights', and 'discriminated against'. The implications of these findings will be discussed in the last section.

Giving meaning to the four-item Mokken scale

The last part of the interview with the Dutch participants aimed at finding out how the cumulative order of the items that emerged from the quantitative data is articulated and experienced by the interviewees. To this end, the participants were asked to put the six items in order ranging from items that in their opinion expressed the least anti-illegal immigration attitude to those that expressed the strongest anti-immigration attitude. Again the interviewees were asked to think aloud during this process and additional questions were asked afterwards to obtain a clear view on the cumulative scale as experienced by the participants.

Remarkably enough the Dutch participants ordered the items, with only minor exceptions, the same way as the items were ordered as a result of the quantitative item analysis with MSP (see Table 2). The exceptions were the items 1 (Illegal immigrants should not benefit from my tax money) and 8 (Illegal immigrants should be excluded from social welfare).

The think-aloud data connected to rank ordering the items show that the participants granted most rights to the group of illegal immigrants that do not have any other options but fleeing from their home countries. The other type of illegal immigrants, with economic motives to migrate, is often referred to as 'goldseekers', 'fortune-hunters' or 'profiteers', lacking basis to any rights other than the very basic human rights.

The extent to which participants experienced certain items as more negative and therefore difficult to agree with than others revolved around the difference between basic rights and extended rights that can be provided to illegal immigrants. In the view of most participants, the less negative items (the easiest items in the Mokken scale) articulated the provision of basic (human) rights such as food and shelter, for which tax money has to be spent. Items that were more difficult to agree with were experienced to give too many rights to the illegal immigrants, by giving them the exact same rights as other (Dutch) citizens.

Items that are more difficult to agree with concern rights that people need to acquire by working and making contributions, such as contributing to retirement funds and unemployment funds.

> It's all about humanity, only humanity is leading when ranking the items …. Some items represent the human values and rights and other items are about material things like tax money and policy. (NL)

The Mokken scale represents a cumulative pattern indicating how many rights and benefits, according to respondents, should go to illegal immigrants. It is according to both our Dutch participants in the TSTI and the New Zealand participants in the in-depth interviews, humane to argue that illegal immigrants should benefit to some extent from tax money, though people tend to disagree more easily with the statement that illegal immigrants should benefit from this tax money to the same extent as the Dutch and New Zealand citizens do.

Discussion and conclusion

While qualitative studies have explored how immigrants and asylum seekers have been framed and evaluated in social discourse (e.g. Goodman & Burke, 2011; Lyons, Madden, Chamberlain, & Carr, 2011) none, to our knowledge, has focused

on illegal immigration and immigrants, and neither how information derived from qualitative interviews relates to quantitative assessment of attitudes toward this category of immigrants. Our results show that the answers given by the respondents in the quantitative part of this research cannot be argued to focus on a single well-defined category of people. In her research on the validity of measurements in relation to attitudes, Carabain, (2007) states that variety in framing can influence the validity of research (Carabain, 2007, p. 114) in the following way: One respondent can keep in mind different groups of illegal immigrants when he or she is answering the questions. That means that this respondent can change and think of a different group, depending on the question he or she is answering. On the other hand, a respondent can answer a question and think differently about two social categories, for example people who are here because of political reasons and people who came for economic reasons. He or she can be very positive about one and very negative about the other category. That may lead to the decision to choose the moderate answer category. These two processes influence the way respondents answer the questions and influence the validity of the research. So people can have different references for one object and there is also a big variation among respondents. This has implications to the way the questions should be presented (see also Fevre, Robinson, Jones, & Lewis, 2010).

Fevre et al., (2010) discussing the poor overlap in results when peoples´ attitudes towards workplace bullying are assessed with regular quantitative scales and qualitative cognitive interviewing, come close to dismissing the validity of quantitative assessment methods, at least without a thorough qualitative pretesting. We endorse the need for qualitative testing of assessment instruments; however, using a qualitative method, as the final word when judging the validity of results obtained by quantitative methods may not always be warranted. Data collection in a think-aloud situation is different from responding by ticking off response alternatives in a survey questionnaire. The latter mode of responding is usually based on ´quick judgments' while the think-aloud situation allows for ´thinking twice´. More time to think may make other interpretations of scale items cognitively salient as well as other frames or ´measuring sticks´ to be applied when evaluating an issue.

Cognitive psychological studies by Wilson and Hodges (1992, p. 37) 'found that when people are asked to think about why they feel the way they do about something, they often change their attitudes'. However, such attitudinal evaluations may be temporary and not predictive of behaviour in other situations (e.g. Wilson, Lindsey, & Schooler, 2000). Hence, data derived from think-aloud procedures should not be given a master status when judging validity of a method to assess attitudes.

However, problems of interpretation of scale items can also arise while in the process of responding to a quantitative questionnaire, where participants afterwards report to have ticked off a response alternative on the basis of interpretations of an item that do not correspond to the intended meaning of this item by the researcher (Fevre et al., 2010). Clearly this poses a problem for interpretation of results from quantitative measurement instruments. But does this always invalidate a quantitative survey? When it comes to our own study we think not. The main reason is that in the present study we found parallel Mokken structure in two representative national samples.

There is no methodological arbiter to tell which complementary approach reveals the 'best' scale. However, our four-item Mokken scale covers the same three topics

(economic resources, political responsibility and human rights) related to the treatment of illegal immigrants in both national samples. In addition, these topics are rank ordered in the same way indicating structural equivalence as the Dutch and New Zealand national samples seem to base their attitudes toward illegal immigrants upon the same criteria. This finding invites further studies where this scale is being deployed in omnibus (national) samples together with a number of additional indicators.

If, in later studies the scale should prove to relate meaningfully to other established predictors of prejudice for example right-wing authoritarianism (Altemeyer, 1981) and social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994); one might reasonably conclude that this psychometric Mokken scale taps meaningfully into negative attitudes reflecting prejudice towards illegal immigrants on an aggregate level, but at the same time blurs the finer nuances on the level of individual respondents.

It is not possible to measure a complex concept such as 'attitudes toward illegal immigrants' in an optimal way. But when fine-grained assessment is not demanded the present brief and cumulative scale may yield useful information on an aggregate level. It is like monitoring the mean temperature in a country knowing that the temperature in different parts of the country may show much variation which forms the mean temperature.

Note

1. The rule of non-intersection (meaning that the IRFs should not intersect) is tested by looking at Rest score, Rest split and the P-matrix, and by erasing the weakest link in every step. Items where the indicator exceeds the level of 80 can be seen as worrisome, leading to a concern about the model assumption. Items with levels between 40 and 80 are questionable, and values lower than 40 can arguably be ascribed to sampling errors (Molenaar & Sijtsma, 2000, pp. 12–49, 74). Only the items with the highest critical value are deleted, one at a time. After deleting one item the critical non-intersection levels of all the other items will improve.In order to test homogeneity, a H value of < 0.3 is considered as unscalable, between 0.3 and 0.4 as representing a weak scale, between 0.4 and 0.5 a medium scalability and strong scalability when ranging from 0.5 to 1.0 (Molenaar & Sijtsma, 2000, p. 12). To decide about monotonicity (M): a summarizing value crit per item needs to be lower than 80, and preferably, lower than 40 (Molenaar & Sijtsma, 2000, p. 74).The scale reliability (RHO) $=> 70$ (Molenaar & Sijtsma, 2000, p. 15).

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