German Version of the Neighborhood Environment Walkability Scale (NEWS-G[ermany])

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Background
The 'ALPHA environmental questionnaire'(Spittaels et al. 2009) and the 'European Physical Activity Surveillance System' (EUPASS; Ruetten 2003; European Commission 2006) are currently available as self-reported questionnaires to assess environmental correlates of physical activity in German language. The ALPHA environmental questionnaire appears to have good reliability and predictive validity (Spittaels et al. 2010), also for the German context (Bucksch & Stahl 2009, 2010). However the ALPHA environmental questionnaire includes some items of the NEWS (Spittaels et al. 2009), it might be recommendable to use the NEWS for a more comprehensive assessment and to collect internationally comparable data of the physical environment. So far a German version of NEWS is not published.

Objective
The objective was to adapt the original US-American version of NEWS to German language and culture (NEWS-G[ermany]) by following an acknowledged guideline so that a comprehensive and internationally comparable examination of environmental perceptions and physical activity is applicable for Germany.

Method
NEWS-G was developed based on NEWS version 12/2002 (Sallis 2002) following the ISPOR's guideline (International Society for Pharmacoeconomics and Outcomes Research; Wild et al. 2005) for a cross-cultural adaption process. Nine out of ten steps which have been recommended by Wild et al. (2005) were applied. After (step 1) preparation, three independent (step 2) forward translations were carried out by German native speakers living in the target country. If items of NEWS, v12/2002 have been used within the ALPAH questionnaire, we additionally considered those items. Based on the (step 3) reconciliation of these four forward translations, two (step 4) back translations were conducted independently by English native speakers without any prior information of the questionnaire`s topic. In step No. 5 the different back translations were compared to the original in order to insure conceptual equivalence. Step No. 6 was omitted because the harmonization across different translations in case of conducting multilingual trials was not the intention of this translation process. Afterwards, comprehensibility and cognitive equivalence of the translated measure were assessed by Information-Retrieval-Probing (Groves et al. 2004; Bolton & Bronkhorst 1995) on a group of six respondents aged 65 to 79. Following this special type of (step 7) cognitive debriefing as a pretest, its review (step 8) and proofreading (step 9), the German Version of NEWS, called NEWS-G was finalized. According to the ISPOR´s guideline (Wild et al. 2005) the cross-cultural adaptation process has been documented; the full report (step 10) is available in German language only.

Results
The adaptation process made NEWS-G available, as a comprehensible and cognitive equivalent German translation of NEWS. Apart from the translation cultural adaptations and findings out of cognitive debriefing are highlighted as follows:

- As adaptations of 'Neighborhood' and 'Neighborhood Environment' we chose the German term 'Wohnumgebung' which was back translated as 'residential environment'. The literal translation of Neighborhood 'Nachbarschaft' was more likely to be associated with social live within residential areas by translators and respondents, than with its built/physical environmental factors.
- In section B, item No. 1 was adopted without translating 'convenience store' because all translators suggested, that this type of store (except kiosks) is uncommon in Germany. Instead, 'bakery' and 'butcher´s shop' were added in order to illustrate the meaning of small grocery stores as well as to highlight the distinction between small grocery stores and supermarkets.

- Cognitive debriefing in section B showed that respondents living in suburbs might have problems in answering adequately, if facilities are perceived as out of reach. Following clarification most respondents being unsure answered '31+ min' as logic. Assuming that adding a new answer or an additional instruction is beyond cultural adaptation process, the scale was adapted without any modification.

- In section D, item no. 3, the specification of 100 yards was not converted but replaced by 100 meters (~109 yards). In the same way the length of a football field was replaced by the length of a soccer field, because translators suggested that football is not yet common in Germany. The length of a soccer field is specified as ~100 up to ~130 yards whereas the length of a football field is 120 yards respectively 140 yards including end zones.

- In section G, item no. 3 and 4, the speed of traffic up to 30 mph was culturally adapted as 30 km/h (~20 mph) because the question refers to slow speed of traffic and 50 km/h (~30 mph) is the regular speed limit in German residential areas.

- Cognitive debriefing in section G showed, that pedestrian refuge islands could be included in items No. 6 and 7, because respondents highlighted the traffic islands while answering, whether crossing busy streets is easier using crosswalks and pedestrian signals. Assuming that this alteration is beyond cultural adaptation process, the items were adapted without any modification.

- The results of cognitive debriefing in section I indicated respondent´s ability to decode items as intended as well as to answer them adequately in their own words. Contrary, logic category selection failed because numbers to be filled in were chosen oppositional to the 5-point scale postulated in this section (e.g. filling in a '1' for 'strongly dissatisfied' after paraphrasing to be 'strongly satisfied' and vice versa). Therefore a mirrored 5-point scale (1 = strongly satisfied; 2= somewhat satisfied; 3= neither satisfied nor dissatisfied; 4 = somewhat dissatisfied; 5 = strongly dissatisfied) is used in section I of NEWS-G.

Summary and Perspectives

NEWS-G is now available for future research on environmental correlates of physical activity in Germany and is considered as a comprehensible and cognitive equivalent German translation of NEWS. Although cultural adaptation was conducted according to ISPOR-Guideline, the following variations and limitations have to be pointed out:

- The adaptation of NEWS-G followed ISPOR´s guideline as a comprehensive and highly acknowledged reference for cross-cultural adaptation. IPEN (2010) suggests the use of one out of tree different guidelines. In summary the ISPOR´s approach includes all of the criteria established in the different guidelines proposed by IPEN. As a methodological difference to these guidelines it has to be stated that a bilingual translation panel was not included in the adaptation process ending up in NEWS-G. However, a bilateral consultation with all translators and researchers was used instead.

- Neither in terms of forward translation nor back translation a professional translator has been involved as suggested by Wild et al. (2005). Instead, one more translation than necessary was provided by a native speaker. Involving 'laymen' is also recommended in additional translation guidelines (Acquadro et al. 2008).

- Respondents of cognitive debriefing were aged 65 to 79 years (in most cases women) and did not represent the German population.

To sum up, NEWS was adapted to German language and culture called NEWS-G(ermany). In a group of elderly people the NEWS-G was pretested. As no age specific adjustments are included in NEWS-G it should be used in populations aged 18 - 65 years only. Furthermore it has to be highlighted that NEWS-G should be tested for reliability and validity before using the German questionnaire in studies with large population groups. A study on NEWS-G in a convenience sample of students from the German Sport University Cologne and Bielefeld University is underway to examine the psychometric properties, the test-retest reliability and predictive validity (association with IPAQ-short). Afterwards formative research should be conducted in order to develop additional environment measures being appropriate to Germany and for use in older populations. The results of the cognitive debriefing summarized above should be considered as a first step for that purpose.

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