

Brief report

From questionnaire to database: field work experience in the ‘Immigration, work and health survey’ (ITSAL Project)

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ABSTRACT

Objective: Despite the need for information in the area of migration and health, the available data are sparse. We describe the field work in a cross-sectional study on the health of immigrant workers in Spain. **Method:** A convenience sample of workers from Colombia, Ecuador, Morocco and Rumania in four cities was targeted, using a block-walking approach. The outcome rates of the American Association of Public Opinion Research were estimated.

Results: Of 6,504 persons approached, 71.4% were eligible contacts. Of these contacts, only 57.8% completed interviews. Response and cooperation rates were above 50%.

Conclusions: Block-walking enabled surveyors to access difficult-to-reach groups. The use of specifically trained surveyors with a background similar to that of the target population increased the effectiveness of our methods.

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De la encuesta a la base de datos: experiencia de trabajo de campo del estudio «Inmigración, trabajo y salud» (Proyecto ITSAL)

RESUMEN

Objetivo: A pesar de la necesidad de información sobre salud de las poblaciones inmigrantes, los datos disponibles son escasos. El presente estudio describe el trabajo de campo en un estudio transversal sobre salud de los trabajadores inmigrantes en España.

Método: Muestra de conveniencia de trabajadores procedentes de Colombia, Ecuador, Marruecos y Rumanía, por itinerarios, en cuatro ciudades. Se calcularon los indicadores de resultados propuestos por la American Association of Public Opinion Research.

Resultados: Se accedió a 6504 personas, de las cuales el 71,4% cumplían criterios de inclusión, y de ellos sólo el 57,8% completó la entrevista. Las tasas de respuesta y cooperación superaron el 50%.

Conclusiones: La estrategia de muestreo por itinerarios ha permitido a los encuestadores acceder a esta población. También ha sido beneficiosa la participación de encuestadores especialmente formados y con un perfil similar al de la población objetivo.

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Palabras clave:

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Introduction

In our globalized world, migration is a multifaceted and complex issue. Spain provides a contemporary example of the effects, challenges and opportunities that migration trends can pose for a state's population and institutions. Much remains to be clarified regarding the life and work experiences of foreign-born workers. Given Spain's relatively recent transition from a migrant-sending to a migrant-receiving country, data are sparse despite the pressing need for information on this issue¹. This gap is especially large when considering undocumented immigrants, an

often difficult-to-access population, representing approximately 6–8% of all foreigners, in which language, cultural barriers and fear of reprisals complicate the process of conducting quality research².

The Immigration, Work and Health [*Inmigración, Trabajo y Salud* (ITSAL)] Project, explores the occupational health conditions of foreign-born workers. Following extensive qualitative investigation in 2006, involving focus groups and in-person interviews³, we developed a 74-item survey instrument with sections on sociodemographic data, the migration process, occupational-employment conditions, health, prevention activities, participation in trade unions, and self-evaluation of immigrants' experiences in Spain⁴. In 2007, to optimize access to the study population, we conducted a pilot study (35 foreign-born workers), centering on language comprehension, time to completion and internal consistency.

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In light of the challenges generally facing studies of migrant populations, the present article describes and assesses the field work methods we used in the final survey, from completion of the survey design to the time the data file was received, with the aim of shedding light on an aspect of research that is seldom the focus of academic literature, namely the process behind collecting data among difficult-to-access populations.

Method

Our target was a projected convenience sample of 2,500 foreign-born residents working in four of Spain's larger migrant-hosting municipalities from four of the countries (Morocco, Ecuador, Romania and Colombia) with greatest representation in Spain. The detailed inclusion criteria are defined at the bottom of [figure 1](#).

Our sex target distribution was 50% for the entire sample, allowing for differences by country of origin depending on the group's sex distribution as reflected in 2007 municipal registers. The target distribution by city was 700 in Barcelona, Madrid and Valencia and was 400 in Huelva and included persons from the four nationalities in each city. We included both documented and undocumented workers, with a target proportion of 30% undocumented foreign-born workers. To optimize this number, we adopted a block-walking approach based on routes through neighborhoods with high proportions of foreign-born residents. We specified that initial contacts and subsequent interviews should be conducted in homes, cyber-

cafes/call centers, consulates or other administrative buildings, popular meeting places (bars or town squares), healthcare centers, and through non-governmental immigrant organizations.

The preliminary qualitative and pilot studies identified four important challenges: 1) completion of the survey in 30 minutes or less; 2) establishing an atmosphere of trust and confidentiality with respondents, especially given the sensitive nature of some survey items; 3) wording of questions likely to be perfectly understood by the respondent and the surveyors (most of whom had no prior specialized knowledge of occupational health issues); and 4) dealing with language or cultural barriers between surveyors and respondents.

These challenges indicated that the surveyors' role would be crucial to the success of the study and therefore we paid particular attention to their selection and training. We subcontracted an external survey company to perform the interviews in close coordination with ITSAL's researchers. We determined that preference should be given to the recruitment of foreign-born surveyors and that, prior to initiating the field work, training sessions would be held in each city to implement a standardized approach to the survey process and thus reduce systematic error. We also placed particular emphasis on dealing with language barriers, understanding and explaining specialized survey content (occupational tasks and sector, employment conditions, social security status, and exposure scales) and handling sensitive information, such as possession of a work permit. To foster trust and a comfortable environment from the initial contact, we instructed surveyors to present a signed letter from the participating institutions, confirming their commitment to the confidential nature of the survey. In keeping with the Declaration of Helsinki and Belmont Report principles, the purpose and procedure of the study were explained, an opportunity to ask questions was provided, and written informed consent was obtained from each participant. The ITSAL project was approved by the Ethical Committee of the Universitat Pompeu Fabra.

The survey company kept records on all contacts and responses used to calculate outcome rates according to American Association Public Opinion Research (AAPOR) standard definitions⁵.

Results

The field work took place between April and June 2008. Data quality was monitored through the combined efforts of the survey company staff (one director, one technician, five coordinators and four data supervisors) and the ITSAL research coordinator. The 6,504 persons approached resulted in 2,434 fully completed interviews; response and cooperation rates were consistently higher than 50% ([fig. 1](#)).

Most interviewers (85.5%) contacted respondents and conducted interviews in popular meeting points. However, this varied by municipality. For example, whereas most interviewers (66.7%) in Huelva interviewed respondents in their homes, only 20% of surveyors in Madrid did so. Equally, 50% of the Madrid interviewers indicated having worked through non-governmental immigrant associations, while in Barcelona and Valencia only 14.8% and 11.1% did so, respectively.

Further supervision was carried out by the ITSAL research coordinator, who was present at 30 interviews in each city (close to or at a distance from the surveyor). The research coordinator identified and corrected protocol deviations and reported them to the company quality assurance staff. When deviation from the protocol was extreme (e.g., when scales had been hastily or improperly read, or an environment of confidentiality had not been established), the survey company thoroughly reviewed the surveys in question, which were repeated via telephone ($n = 5$). Moreover, the staff worked to ensure the quality of interviews by recontacting 24.4% of random samples ($n = 615$) of respondents to confirm answers to

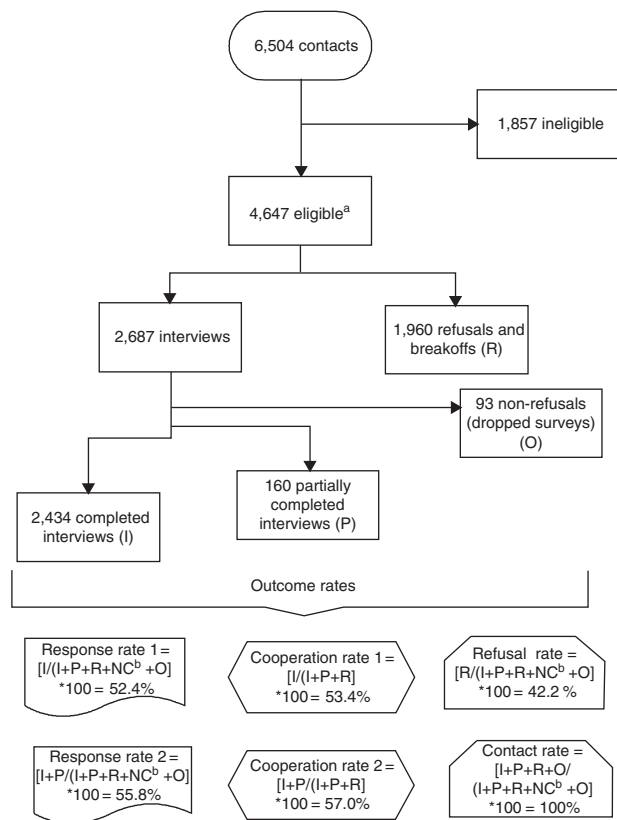


Figure 1. Study population sample flow chart. Outcome rates and disposition codes based on American Association for Public Opinion Research standard (AAPOR) definitions, 2008 (ITSAL Project, 2008).

^a Inclusion criteria: men and women who were not Spanish citizens, had not married a native Spaniard, and were not athletes, artists, graduate students, or high level executives. Respondents had to have been living in Spain for over 1 year, have worked in the country for at least three months with or without a contract, and have a sufficient level of Spanish to understand the survey.

^b All contacts were made in person, and not by telephone, eliminating the possibility of a non-contact according to the AAPOR's standard definitions.

Table 1
Surveyor characteristics, interview duration and study sample sociodemographics by municipality (ITSAL Project, 2008).

	Barcelona (n = 663)	Huelva (n = 437)	Madrid (n = 671)	Valencia (n = 661)	Total (n = 2,434)
Surveyor characteristics					
n (% female)	32 (61.1)	6 (56.3)	18 (66.7)	10 (60.0)	66 (59.1)
Age (mean years \pm SD)	28.3 \pm 7.3	22.7 \pm 2.3	33.9 \pm 10.1	41.3 \pm 11.8	31.3 \pm 10.0
Foreign-born ^a (%)	21 (65.6)	0 (0)	6 (33.3)	5 (50.0)	32 (48.5)
Primary occupation:					
Surveyor	18 (56.3)	3 (50.0)	4 (22.2)	9 (90.0)	34 (51.5)
Student	13 (40.6)	3 (50.0)	3 (16.7)	1 (10.0)	20 (30.3)
Survey experience (mean months \pm SD) (min., max.)	15.2 \pm 20.7 (0, 54)	7 \pm 9.6 (0, 24)	18.3 \pm 36.2 (0, 144)	95.4 \pm 82.1 (6, 180)	27.4 \pm 48.3 (0, 180)
Duration interview (mean minutes \pm SD)	22.7 \pm 7.9	31.3 \pm 10.	22.1 \pm 6.4	21.0 \pm 5.7	23.9 \pm 8.2
Study sample^b					
Undocumented					
n (%)	142 (21.4)	103 (23.6)	144 (21.4)	152 (23.0)	541 (22.2)
Sex					
Male	399 (60.1)	241 (55.1)	407 (60.6)	348 (52.6)	1395 (57.3)
Female	265 (39.9)	196 (44.9)	265 (39.4)	313 (47.4)	1039 (42.7)
Age (mean years \pm SD)	32.5 \pm 8.9	33.9 \pm 9.3	33.6 \pm 9.4	32.8 \pm 9.1	33.1 \pm 9.1
Spanish level n (%)					
Very good	468 (70.5)	206 (47.1)	421 (62.6)	414 (62.6)	1509 (62.0)
Good	146 (22.0)	176 (40.3)	178 (26.5)	125 (18.9)	625 (25.7)
Fair	50 (7.5)	55 (12.6)	73 (10.9)	122 (18.5)	300 (12.3)

^a Foreign-born surveyors came from the geographical areas of the immigrants (South America, East Europe and North Africa).

^b Study sample sociodemographics by country of origin (n; % females, % undocumented, mean age \pm SD): Colombia (n = 597; 54.8%, 21.1%, 32.5 \pm 8.9), Ecuador (n = 611; 48.6%, 8.7%, 33.9 \pm 9.3), Morocco (n = 625; 15.7%, 17.6%, 33.6 \pm 9.4) and Romania (n = 601; 52.7%, 41.9%, 32.8 \pm 9.1).

selected questions. In the event of a discrepancy (n = 46) or, if the repeat contact was unsuccessful (n = 47), that particular interview was excluded (n = 93).

Table 1 summarizes the characteristics of surveyors and the final sample and differences in duration by municipality.

Feedback provided by the surveyors revealed some differences by the respondent's country of origin in the likelihood of participation. For Colombian workers, 46.3% of surveyors felt women were more willing to collaborate than men. For Ecuadorians and Romanians, surveyors felt a slightly higher proportion of men were more likely to collaborate. Differences by gender were most marked for Morocco, with over 80% of surveyors noting that men were much more likely to participate. Most surveyors observed that younger workers, irrespective of country of origin, were more likely to participate than older workers.

There was also general agreement, regardless of municipality, that questionnaire items on employment conditions, including legal documentation status, were the most problematic part of the survey experience.

Discussion

To our knowledge, ITSAL is the first survey to collect detailed occupational health data on a large sample of foreign-born workers in Spain, including undocumented persons. The survey outcome rates denoted an acceptable quality of recruitment methods.

Our field work fell short of obtaining the targeted sex distribution, especially among Moroccan workers, which was probably due to a combination of factors, including a smaller Moroccan female pool nationally, a lower labor market participation of these women and lower Spanish language fluency. Moreover, interviewers noted that they would often be directed by the women to their husbands for completion of the interview, instead of responding themselves. Future studies including Moroccan women should enhance recruitment strategies so that all groups are equally represented.

Secondly, any inferences regarding the generalization of the study findings will need to be made cautiously, since the population was obtained through convenience sampling, a common method

among studies of immigrants and health⁶. Moreover, the requirement of a certain level of fluency in Spanish may have excluded workers who experienced other barriers and difficulties at work, precisely because of their limited ability to communicate.

Meaningful comparisons between this study and others involving foreign-born workers are limited and should be made carefully. Although some studies report AAPOR outcome rates, differences in study objectives, target populations and sampling methods restrict the usefulness of comparisons. Nevertheless, the results of our study appear to compare favorably. In the Los Angeles County Health Survey, the use of random digital dialing and computer-assisted telephone interviews in different languages achieved cooperation and response rates of 40% and 18%, respectively⁷. The Behavioral Risk Factor Surveillance found that all outcome rates including cooperation, contact, refusal, and response increased when bilingual interviewers worked the cases. These values averaged around 72%, 56%, 13%, and 41%, respectively⁸.

The strengths of our sample include its large size and composition and a large amount of detailed information on labor conditions and health⁴. Moreover, the relatively high numbers of undocumented workers (even considering the possibility of some underestimation) will serve to provide much-needed information on this vulnerable population, which may experience more difficult and/or unsafe working conditions than both Spanish-born workers and their compatriots with legal status⁹.

The favorable outcomes of our recruitment and data collection are likely due to the multiple modes and strategies built in to the study protocol at the outset. Block-walking enabled surveyors to seek out venues and identify otherwise difficult-to-reach collectives. The effectiveness of our methods was increased by the use of surveyors with a similar geographical background as the target population, whenever possible. These surveyors were able to use their intuition to identify respondents who might meet the selection criteria and were able to provide a feeling of proximity to the migratory experience in respondents.

Future studies could include additional measures to further benefit contact and response rates. These measures could include the use of surveyors with both cultural and experiential similarities

to the study population, including immigrant status, similar to the *promotoras* used in a previous study¹⁰. Furthermore, administration of the survey in multiple languages could serve not only to increase participation, but also to obtain information from foreign-born workers not fluent in Spanish.

Author contributions

F.G. Benavides, A.M. García, M.J. López, and E. Ronda designed the survey as part of the Immigration, Work and Health (ITSAL) project. C.E. Delclos was responsible for supervising the fieldwork. F.G. Benavides conceived the article. C.E. Delclos and F.G. Benavides wrote the first draft. All authors contributed ideas, interpreted the findings and reviewed previous drafts of the manuscript. All authors approved the final version. E. Ronda is responsible for it.

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Conflict of interest

No conflicts of interest.

References

1. Oliva J, Pérez G. Inmigración y salud. *Gac Sanit.* 2009;23 Supl 1:1–3.
2. Lepkowski JM. Sampling the difficult-to-sample. *J Nutr.* 1991;121:416–23.
3. García AM, López-Jacob MJ, Agudelo-Suárez AA, et al. Condiciones de trabajo y salud en inmigrantes (Proyecto ITSAL): entrevistas a informantes clave. *Gac Sanit.* 2009;23:91–7.
4. Agudelo-Suárez AA, Ronda-Pérez E, Gil-González D, et al. Proceso migratorio, condiciones laborales y salud en trabajadores inmigrantes en España (Proyecto ITSAL). *Gac Sanit.* 2009;23 Supl 1:115–21.
5. The American Association for Public Opinion Research, editor. Standard definitions: final dispositions of case codes and outcome rates for surveys. Lenexa (KS): AAPOR 2008.
6. Jasso G, Massey DS, Rosenzweig MR, et al. Immigrant health: selectivity and acculturation. In: Anderson NB, Bulatao RA, Cohen B, editors. *Critical perspectives on racial and ethnic differences in health in late life.* Washington (DC): Natl Academy; 2004. p. 227–65.
7. Los Angeles County Department of Public Health. Los Angeles County Health Survey: summary of survey methodology, 2008. [Cited November 2010]. Available from: <http://lapublichealth.org/ha/hasurveyintro.htm>.
8. Dayton J, Link MW, Pels R, et al., editors. *Improving survey response in Spanish-speaking households.* Alexandria (VA): American Statistical Association; 2006.
9. Sousa E, Agudelo-Suárez A, Benavides FG, et al. Immigration, work and health in Spain: the influence of legal status and employment contract on reported health indicators. *Int J Public Health.* 2010;55:443–51.
10. Ramos IN, May M, Ramos KS. Environmental health training of promotoras in colonias along the Texas-Mexico border. *Am J Public Health.* 2001;91:568–70.