

**Collecting Data Cross-Culturally: Methodological  
Challenges That Arise When Testing Non-WEIRD  
Populations**

Contributors: Carlota Batres, Martha L. Borrás-Guevara & David I. Perrett

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## Abstract

This case study will present several issues that arose when collecting data in-person in the countries of El Salvador, Argentina, and Colombia. We will pinpoint some of the key methodological challenges of cross-cultural survey research as well as present strategies that can be implemented to minimize such challenges. It is our hope that discussing the obstacles that we encountered as well as sharing how we dealt with such obstacles will allow other researchers to anticipate and mitigate potential difficulties and therefore promote cross-cultural testing.

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## Learning Outcomes

By the end of this case, students should be able to

- Gain a better understanding of the methodological challenges that arise from conducting research cross-culturally.
  - Recognize the complications that may arise with certain methodologies (e.g., Likert scales) when testing non-WEIRD (Western, Educated, Industrialized, Rich, and Democratic) participants.
  - Anticipate, and thus mitigate, potential difficulties before beginning cross-cultural testing.
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## Project Overview and Context

Previous face preference research has found that online and laboratory experiments yield similar results with samples from developed countries (e.g., Jones et al., 2007). In contrast, there is evidence that this pattern does not hold true when testing in developing countries (Batres & Perrett, 2014), where the majority of the population does not have internet access. For example, Batres and Perrett (2014) found multiple differences in facial preferences between people with internet access and people without internet access in El Salvador, where only 26% of the population has internet access (Percentage of Individuals Using the Internet, 2013). This suggests that online studies may provide a distorted perspective of the populations in developing countries, which affects not only face preference research (e.g., Brooks et al., 2011; DeBruine, Jones, Crawford, Welling, & Little, 2010) but also any study that employs online testing in developing countries (e.g., Hoerger, Quirk, & Weed, 2011). Thus, in-person testing is needed to gain representative samples of the populations in developing countries, but many methodological challenges can arise when testing non-WEIRD (i.e., Western, Educated, Industrialized, Rich, and Democratic; Henrich, Heine, & Norenzayan, 2010a; Henrich, Heine, & Norenzayan, 2010b) participants. This case study will describe six of the challenges that we faced while collecting data cross-culturally in order for future researchers to be able to mitigate

such difficulties.

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### Research Practicalities

The methodological challenges that will be described in this case study have been drawn from three separate research projects carried out between August 2013 and August 2016 (i.e., Batres & Perrett, 2014; Batres, Kannan, & Perrett, 2017; Borrás-Guevara, Batres, & Perrett, 2017). The first two projects were led by Carlota Batres who collected data in El Salvador and Argentina for her doctoral thesis. The third project was led by Martha Borrás-Guevara who collected data in Colombia also for her doctoral thesis. Both Carlota Batres and Martha Borrás-Guevara are fluent Spanish speakers and therefore conducted the projects in the native Spanish language of El Salvador, Argentina, and Colombia. All three projects were supervised by David Perrett who leads the Perception Lab at the University of St Andrews.

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### Research Design

All three research projects used surveys to collect data and were conducted without the use of computers, given that participants without internet access were expected to be less familiar with computers than participants with internet access. Using computers can also be inappropriate for cross-cultural data collections as electricity and internet access cannot be assumed. The questions were administered verbally by the experimenters and the participants' responses were recorded (on paper) by the experimenters given that some of the participants were expected to be unable to read and write.

The surveys were administered individually and took approximately 1 hr per participant. It is important to note that the administration of the survey in the rural areas, where much of the population was illiterate, required substantially more time than the data collection in the urban areas. Extra time was required to check the comprehension of rural participants, and they often took longer to make decisions compared with urban participants.

Participants were first presented with several laminated sheets which each contained a pair of faces. Participants were instructed to point at the face from each pair that they considered the most attractive. Following this visual preference testing, participants were presented with a 50- to 70-item questionnaire (e.g., questions on demographics, reproductive strategies, disgust sensitivity, and violence salience). Finally, participants were debriefed and compensated US\$5 for their time.

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### Practical Lessons Learned

### Language and Terminology

A key methodological challenge to cross-cultural studies lies in the translation of questionnaire items into the language of the population studied. This translation refers not only to the language but also to the idioms operating in the different cultures. The experimenters collecting the data were both native Spanish speakers, but even when the same language is spoken, it is absolutely necessary to take into account differences in meaning of expressions. For example, for the data collection in rural Colombia, new scales and questionnaires had to be created before the study could begin (these will be explained in the “Likert scales” section). This involved close collaboration with locals and community leaders who gave assurances that the language used in the questions meant what the researcher wanted to inquire about.

For the research conducted in Colombia, where rural and urban populations would be compared, the survey had to ensure equivalence. This process involved (a) verification that the construct of questions served the same function and (b) verification that the scales used represented the same categorical responses. Even with such attention to detail, there were still some unforeseen terminology issues that arose during our testing. For example, one of the basic demographic questions asked participants about their ethnicity. According to the U.S. Census Bureau, regardless of race, people from El Salvador, Argentina, and Colombia are all considered to be ethnically “Hispanic or Latino.” When asking this question in Argentina, however, we found that people were not sure which ethnicity they were. Some participants did not know the definition of ethnicity and answered “atheist,” believing the question pertained to their religious affiliation. When presented with examples of ethnicities, they would then answer “White” because most Argentinians are descendants from immigrants of either Spain or Italy. In Colombia, many rural and urban participants also identified themselves as “White,” possibly because “Hispanic” is a term not commonly used in Latin America. To be able to compare participants across countries, we coded responses via the country they were from rather than their reported ethnicity. This is also important to keep in mind when collecting samples online as research terminology might not be interpreted the same way cross-culturally.

### Sexual Orientation

Another demographic question asked about sexual orientation. In the case of rural participants in both El Salvador and Colombia, most participants did not understand the terms homosexual, bisexual, and heterosexual. When participants did not understand the terminology, the categories were explained (e.g., identifying as homosexual refers to being attracted sexually to members of your same sex). After the explanations, many participants still did not grasp the concept. In one instance, a participant answered that they had friends who were both male and female. After asking to confirm that these friendships were sexual in nature, the participant

answered “no” and stated confusion as to how a friendship with a same-sex person could be sexual.

In urban areas of El Salvador and Colombia, most people understood the terminology but seemed reluctant to provide any answer that was not “exclusively heterosexual.” One participant asked whether the results were completely anonymous after stating his first answer and then changed his response after being assured of his anonymity. It is therefore important to keep in mind that exposure to sexual orientation terminology, as well as sexual orientation fluidity, is less common in non-WEIRD populations. Moreover, those participants who do not identify as heterosexual may be more hesitant to say so given the conservative nature of their cultures. In the case of El Salvador, a poll revealed that it is one of the countries with the lowest support for legalizing same-sex marriage (Lodola & Corral, 2010). In several countries, homosexuality is illegal and in some even punishable by death (International Lesbian, Gay, Bisexual, Trans and Intersex Association, 2016). Therefore, it is important to take into account the stance on sexual orientation in the countries you are testing in.

### Likert Scales

Some of our questions were presented as Likert scales, a widely used instrument designed to measure a vast array of variables, such as attitudes. For example, we asked participants how in danger from violence they felt at home on a scale from 1 = *not at all in danger* to 7 = *very much in danger*. Although Likert scales are easily interpreted by WEIRD participants, they proved rather difficult for some of our participants, particularly those who were illiterate. In El Salvador, participants would ask for the anchor points to be repeated several times, and it was evident that it was challenging for them to visualize the scale in their minds if they could not see, read, and interpret the scale themselves.

Therefore, for the next project in Colombia, we incorporated visual aids for the interpretation of the scales. For instance, when asking participants how happy or sad a particular statement made them feel, with responses ranging from 1 = *very sad* to 7 = *very happy*, small cards with drawings of a scale where the anchor points were a sad face and a happy face were presented. This helped participants visualize the scale and allowed them to point to a tick mark if they were not comfortable providing a numeric response. Such an approach is often used in the assessment of children (e.g., Chambers, Giesbrecht, Craig, Bennett, & Huntsman, 1999) but should be considered for adults as well. In addition, even if the anchor points remained the same for several questions, it helped participants if they were restated for every question.

### Local Religion

There was an entire section of the survey devoted to assessing the potential relationship between reproductive strategies and facial preferences. Among the questions intended to measure reproductive strategies were “What would be your ideal age to have a first child?” and “What would be your ideal number of children?” In the rural areas of El Salvador, the majority of participants reported not wanting to answer such questions as it was “up to God.” This extended to other questions as well. For example, as a way to measure mortality salience, we were asking “Until what age do you think you will live?” Any question that involved answers out of their control was met with resistance. Even though the questions were phrased to ask about their “ideal” or their “opinion,” participants expressed that providing an answer would be “tempting God.” It is therefore important to keep in mind how local religion might influence answers when constructing questions.

### **Testing as an Outsider**

When collecting data in the field, a researcher’s main objective is to gather a heterogeneous and representative sample of the geographic region as a whole. Collecting data in the field from a population with diverse backgrounds, however, proved to be a challenge, as people living in rural areas were not open to being interviewed by strangers. In Colombia, for example, people were reluctant to sign up to complete the study as they did not understand why the researchers wanted to know so many things about them. To gain access to the local communities, local collaborators from the countries/towns of interest were contacted prior to starting data collection. Having a local contact provided further credibility to the project which also helped increase participation rates.

In addition, an age requirement had to be dropped in Colombia to gain more participants. Initially, only participants in their reproductive years were being recruited as the study was looking at sexual partner preferences. It was later discovered that many people in the rural communities were skeptical of participating because the elders were not being included. Therefore, the age requirement was lifted which allowed the experimenter to gain trust with the community and thus recruit more participants in the intended age range. The specific ages were later selected during analysis.

### **Providing Compensation**

Each participant was reimbursed the equivalent of US\$5 in their local currency for completing the study. It is important to note that US\$5 for a 1-hr study is lower, but still relatively close, to the minimum wage in developed countries. For example, the United States has a minimum wage of US\$7.25 per hour. On the contrary, in developing countries, US\$5 for a 1-hr study is an exuberant amount. For instance, the daily minimum wage in El Salvador for an agricultural job

is US\$3.94. Thus, participants were getting paid more than their daily minimum wage for just 1 hr. This amount was set through the University of St Andrews' Ethics Board as an appropriate amount as it was less than half the amount paid to participants recruited through the University for completing the same study. The first couple of participants were difficult to recruit in every country as the study was advertised by word-of-mouth. After word about the study spread, many people wanted to participate given the compensation amount. Although this may seem great in terms of recruiting participants, it also has its drawbacks.

The most damaging problem from providing such a relatively high compensation is that participants will try to lie to qualify for the study. For example, in El Salvador, we were recruiting participants between the ages of 18 and 25, but some people would try to participate even if they did not fit the criteria. The way that we went about safeguarding against this was to check identifications to verify age before starting to test each participant. It is an extra step but one that we believe necessary when providing such compensation in developing countries.

A second problem that arose from providing such high compensation was the desire of participants to give "correct" answers to be paid for the study. For instance, one of the first questions in the survey was whether or not the participant could read and write. In one case, a participant answered "yes," but for the final question of "Have you answered all questions truthfully?" she admitted to not being able to read and write. The participant explained that she had answered "yes" because she thought she would be disqualified from the study otherwise. Therefore, when compensating participants from developing countries, it is beneficial to explain to each participant before commencing the study that they will be paid regardless of their answers. In subsequent testing, we made sure to stress that there were no right or wrong answers and therefore to just answer truthfully. Regardless, including the question "Have you answered all questions truthfully?" at the end of the study helps to further protect the integrity of the data if for any reason the participant feels they did not adequately complete the study. We have found this to be the case for all studies, including those testing WEIRD participants.

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## Conclusion

Conducting meaningful cross-cultural survey research is prone to many challenges and complexities that have previously discouraged researchers from initiating cross-cultural inquiry in the first place. Despite this, there are different strategies that can be put in place to mitigate or eliminate these difficulties. Above all, cross-cultural research provides broad opportunities to increase our knowledge of human nature and behavior. We hope that identifying some of the key issues in cross-cultural research and showing how we have dealt with them will promote future research in this area.

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### Exercises and Discussion Questions

1. Compare the advantages and disadvantages of testing non-WEIRD participants in-person versus online.
2. How could you check the validity and reliability of your questionnaire when collecting data cross-culturally?
3. Identify alternatives to Likert scales for measuring the attitudes or opinions of participants who are unable to read and write.
4. What are some of the factors you should investigate regarding a potential country to collect data in?

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### Further Reading

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