INTEGRATING ETHNOGRAPHY AND SURVEY METHODS FOR MULTI-ITEM SCALE CONSTRUCTION IN CROSS-CULTURAL RESEARCH

ІНТЕГРУВАННЯ ЕТНОГРАФІЧНИХ МЕТОДІВ ТА МЕТОДІВ ОПИТУВАННЯ ДЛЯ РОЗРОБКИ БАГАТОПОЗИЦІЙНИХ ШКАЛ В КРОС-КУЛЬТУРНИХ ДОСЛІДЖЕННЯХ

Maltseva K.S.
Doctor of Sociological Sciences,
Associate Professor,
Head of the Department of Sociology
National University
of Kyiv-Mohyla Academy

Although the role of sociocultural factors in many globally significant social phenomena is increasingly recognized in many academic fields, direct empirical assessment of their contribution is limited. While cross-cultural comparisons are embedded into research practice and training, the measurement equivalence concern in cross-cultural surveys is often mentioned but seldom addressed explicitly. Cross-cultural comparison is legitimized by the equivalence of metrics used to assess some attribute that is the focus on comparison. There is some debate regarding distinguishing real cross-cultural differences from bias in comparisons across different sociocultural groups. The use of cultural information to check the scale equivalence and thus enhance reliability and validity of measurement in the process of scale construction and adaptation has been proposed specifically through engaging ethnographic methods, based on the overlapping goals of survey methods and ethnography in understanding the patterns of culture. Ethnographic tools have gained attention as means of improving measurement in cross-cultural research, both in terms of metric construction and adaptation, as well as in relation to causal inference. The present publication argues for a more serious engagement with the concept of culture in explanatory models and measurement procedures, reviews methodological issues prominent in cross-cultural research, and outlines some possibilities for a founded integration of ethnographic and survey methods to achieve validity enhancement in cross-cultural research. More specifically, this publication examines the historical emergence and evolution of current views on the relationship between bias and equivalence in cross-cultural research, by aligning them with the established procedures for equivalence testing in cross-cultural comparisons, and outlines the possibilities offered by using ethnographic methods in scale adaptation and construction processes to ensure meaningful comparisons across different cultural groups.

Key words: *measurement; multi-item scales; scale construction; equivalence; validity; quantitative methods; ethnography; culture; cross-cultural research.*

Хоча роль соціокультурних чинників у багатьох глобально значущих соціальних явищах набуває дедалі більшого визнання в багатьох наукових галузях, прямі емпіричні оцінки їхнього внеску лишаються обмеженими. Тим часом як крос-культурні порівняння є частиною дослідницької практики та навчання, проблема еквівалентності вимірювання в міжкультурних опитуваннях часто згадується, але рідко розглядається напряму. Міжкультурне порівняння легітимізується еквівалентністю метрик, що використовуються для оцінки певної ознаки, яка є предметом порівняння. Існують певні дискусії щодо розмежування реальних крос-культурних відмінностей та упередженості в порівняннях між різними культурними групами. Використання культурної інформації для перевірки еквівалентності шкали та, таким чином, підвищення валідності та надійності вимірювання в процесі розробки та адаптації шкали рекомендується здійснювати через залучення етнографічних методів, виходячи з спільних цілей методів опитування та етнографії в розумінні закономірностей культури. Етнографічні засоби привернули увагу як способи покращення вимірювання в міжкультурних дослідженнях, як з точки зору розробки та адаптації метрик, так і стосовно причинно-наслідкових висновків. У цій публікації обґрунтовується необхідність серйознішого застосування поняття культури в пояснювальних моделях та процедурах вимірювання, розглядаються важливі для крос-культурних досліджень методологічні проблеми і окреслюються деякі можливості для обґрунтованої інтеграції методів опитування та етнографії для досягнення кращих показників валідності у крос-культурних дослідженнях. Більш конкретно, ця публікація розглядає історичне постання та еволюцію сучасних поглядів на взаємозв'язок між упередженістю та еквівалентністю у крос-культурних дослідженнях, узгоджуючи їх із рекомендованими процедурами перевірки еквівалентності у крос-культурних порівняннях, та окреслює можливості, що відкриваються шляхом використання етнографічних методів у процесах адаптації чи побудови шкал для забезпечення змістовних порівнянь між різними культурними групами..

Ключові слова: *вимірювання; багатопозиційні шкали; розробка шкал; еквівалентність; валідність; кількісні методи; етнографія; культура; крос-культурні дослідження.*

Relevance and research problem. Culture is an important consideration in the measurement of social phenomena. While cross-cultural comparisons are becoming gradually more embedded into the academic journals' interests and social science curricula, the measurement equivalence concern in cross-cultural surveys is still "more often mentioned than addressed" [11; 17; 26; 28]. This criticism blends into the ongoing general discussion and critical reviewing of research practices in social science [5]. The use of cultural information to check the scale equivalence and thus enhance reliability and validity of measurement in the process of scale adaptation has been proposed specifically through engaging ethnographic methods, based on the overlapping goals of survey methods and ethnography in understanding the patterns of culture [12, p. 412]. More recently, ethnographic tools have gained attention as means of improving measurement in cross-cultural research, both regarding metric construction and adaptation, as well as in relation to causal inference [13; 24].

Historically, cultural variables have been regarded as somewhat secondary considerations. Although the role of sociocultural factors in many globally significant social phenomena – such as vaccination attitudes, health disparities, leadership styles, beliefs about justice etc. – is increasingly recognized, direct empirical assessment of their contribution is limited. Furthermore, while the role of cultural influences in various domains is generally undisputed, the concept of culture remains insufficiently integrated into theorizing within the social and life sciences. Although there has been gradual progress, notably within the field of psychology, there is still room for improvement, as cultural factors continue to take a back seat and are rarely addressed explicitly. The discrepancy between the importance of the concept of culture and its theoretical and practical under-development in relevant areas has been consistently emphasized in cross-cultural and biocultural research. This neglect of the cultural component in health and stress research, for example, leaves a number of health inequality-related questions unanswered.

This incongruence further precludes, among other things, resolving the problem of interrelationship between collective and individual levels of culture (for a review of culture as a latent variable see discussions by Handwerker [9] and Kennedy [12]. It oversimplifies the interactions between the levels of culture by collapsing them into an indiscriminate whole, which potentially threatens the validity of the findings. Comparing cultural groups based on the individual-level values scales is as misleading as comparing individuals within a cultural group based on values scales developed for groups [6, p. 275]. Cross-cultural survey methods leave the relationship between individual and culture underdeveloped [2; 27]. Cultural influences should be operationalized and measured in a way that enables capturing the complexity of how the individual-level processes translate into collective phenomena. The present publication argues for a more serious engagement with the concept of culture in explanatory models and measurement procedures.

Review of current research and publications. Until recently it was not uncommon to think of survey methods and ethnography as methodological opposites. Indeed, a historical argument can be made that survey methods, emphasizing objective and reproducible findings, and ethnography that favors nuanced exploration of unique lived human experience, represent divergent epistemological paths in the history of science [13]. Social science methods literature traditionally abounds with accounts of ethnography as in-depth, holistic, immersive investigation of nuanced local cultural meanings while survey methods are viewed as more like fixed "snapshots" of social reality enabling generalizability, comparison and direct validation [13]. At the same time, it is worth noting that ethnography has not always been considered tied exclusively to an interpretative paradigm. Until the mid 20th century its mission aligned closely with the law-like explanations that are premises of positivist science (as can be seen in structuralist and functionalist accounts of culture seeking to produce universal pat-terns of social life grounded in systematic observation) [13]. The shift in focus occurred by 1960s when the foundational notion of interpretivism that "epistemological status of knowledge is necessarily subjective" came forward [4]. On the other hand, it should also be noted that ethnography is neither qualitative nor quantitative *per se* – there is a range of methodologies within the ethnographic realm, spanning from quantitatively-driven cognitive ethnographies (represented, for example, by James Boster's work on color lexicons in Latin America and the United States, or Roy D'Andrade's cross-cultural works on values and honor culture in the American South) to qualitatively-oriented ethnographic projects that explore lived human experience (where representative examples would be Lila Abu-Lughod's work on Bedouin women or Naomi Quinn's research on marriage in the United States).

The advent of mixed methods perspective has greatly contributed to reconciling the interpretative and positivist approaches in general, partly through the recognition of their shared goals and challenges, and partly by cultivating research practices that enable their mutual enhancement, e.g., in validity testing and the enrichment of the evidence base [7; 14; 19]. Using mixed methods can be beneficial for enhancing the following aspects of the study: (1) *triangulation*, to corroborate findings across methods; (2) *complementarity*, to enhance and clarify results; (3) *development*, where one method informs the other's design, (4) *initiation*, to uncover contradiction and new perspectives, and (5) *expansion*, to broaden the scope of inquiry [9]. These features are also among the most frequently mentioned incentives to introduce the element of mixing methods into the project. It is worth noting that similar tendencies are observed with respect to integration of survey methods and ethnography. For example, in a targeted scoping review of peer-reviewed studies in Web of Science, Google and Scopus databases the most prominent rationale for integration of the two methods aligned with the category of *development*. Specifically, ethnography was used to develop and administer a survey [13, p. 3]. The logic of *initiation* observed in the case of one study followed the same algorithm, unidirectionally pointing to the role of ethnography as means to understand the outliers and fine-tune the research instrument [13, p. 3]. The studies that emphasized *triangulation, complementarity*, or *expansion* highlighted the reciprocal benefits of combining survey research with ethnography [13, p. 3].

The expansion of multidisciplinary research teams that include ethnographers, as well as multi-site ethnographic projects spanning diverse topics has been another contributing factor in bringing ethnography into the forefront and highlighting the transformative value of its tools [18]. When researchers from different disciplines put their heads together it is often likely to result in more than generating new knowledge. Collaboration across academic boundaries helps cultivate an academic culture that teaches humility, openness, and respect to perspectives and skills that may be distinct from our own. The increasing interest in academic interdisciplinarity

has lent support to the growing claim of mixed methods as well as to the recognition of ethnography as one of its agents. In its turn, this encouragement of interdisciplinarity in scholarly collaborations has also increased the likelihood of teams of researchers adopting cross-cultural designs, thereby raising practical questions about measurement in cross-cultural comparisons.

The question of disentangling real cross-cultural differences from bias has been raised in cross-cultural psychology some time ago. More specifically, the systematic efforts in addressing the question of measurement issues in cross-cultural research go back to the South African psychologist Simon Biesheuvel, albeit the interest in cross-cultural comparisons goes further back in time [10]. While Biesheuvel's work remained relatively unnoticed in mainstream psychology, Poortinga [20] is credited with articulating the connections of equivalence to methods used and his works on the subject are more widely known and appreciated by the students of cross-cultural research methods [26].

One of the practical challenges addressed in the literature in the context of cross-cultural comparisons concerns a discrepancy between the recommended procedures for equivalence testing and actual research practices, as well as the tendency to focus equivalence checks on particular kinds of bias in the data rather than maintain a more balanced and comprehensive approach essential for robust equivalence testing [26]. **This publication aims to** (1) systematize current views on the relationship between bias and equivalence in cross-cultural research, by aligning them with the established procedures for equivalence testing in cross-cultural comparisons, and (2) outline the possibilities offered by using ethnographic methods in scale adaptation and construction processes to ensure meaningful comparisons across different cultural groups.

Using ethnographic methods to address measurement issues in cross-cultural research

Bias and equivalence

Cross-cultural comparison is legitimized by the equivalence of metrics used to assess some attribute that is the focus on comparison. If metrics are inequivalent, the comparison across cultural samples is ineffectual. Lack of equivalence, in the most general terms, ensues from bias in the data. Bias refers to the presence of nuisance factors [21]. Biased data lack overlap in the meaning across groups and are not suitable for cross-cultural comparison. Despite the fact that procedures for equivalence testing are developed, there is a discrepancy between the recommended practices and the actual practices that can be attributed to a number of reasons, from overcomplicated testing routine to the lack of conceptual development of distinction between real cross-cultural differences and bias. The taxonomy of bias recognizes *construct bias* (i.e. a lack of overlap in attributes or behaviors of the studied construct across groups) and *method bias* (where sources of bias can stem from the sample, research instrument (survey) or ways of its administration) [26]. *Item bias*, or differential *item functioning* refers to anomalies that occur at the item level – for example, when an item

does not perform equally well in different samples, suggesting that it does not measure the focal construct very well. Item bias is the most frequently addressed type of bias in the literature [26, p. 237].

As bias affects the comparability of test scores, there are different types of equivalence that are logically connected to the types of bias: *construct, structural* (or *functional*), *metrics* (or *measurement unit*) and *scalar* (or *full-score*) equivalence [26, p.238]. Construct inequivalence means that the two constructs lack shared meaning either due to the strong emic component that precludes cross-cultural comparison (as in ethnographic works carried out in historical-particularist tradition), or due to the construct's exclusive ties to one specific culture (as in the example of culture-bound syndromes) [26, p. 238]. Construct inequivalence can be partial or total. Structural (or functional) equivalence refers to isomorphism of nomological networks, e.g., correspondence of the elements of the factorial structures of the compared research instruments. Instruments show metric or measurement unit equivalence if their measurement scales have the same unit of measurement but a different origin (e.g., Celcius and Kelvin scales in temperature measurement) [26, p. 239]. Scalar or full-score equivalence assumes an identical interval or ratio scale across groups and is the fundamental requisite for a comparison between two cultures [26, p. 239–240].The detection of construct bias and construct equivalence usually requires an exploratory approach involving focus groups and in-depth interviews with members of the cultural community to establish the ethnographic context (values, belief or behaviors) potentially affecting the construct. Additional data collection may be needed to complement the survey. In its turn, structural equivalence employs closed procedures relying on data that is already collected and testing if the factual data structure matches the theorized one [26, p. 240].

With respect to multi-item scales, the question of equivalence gains additional importance. When single items are used to measure a construct of interest, each such variable contributes to the participants' reading of the question, reflecting his or her culture-specific understanding of the assumptions behind the construct. The multi-item scale use, in contrast, is premised on some underlying concept that infuses the scale with meaning. That aggregate meaning of the scale is constructed out of an agglomeration of relevant scale items which individually contribute to it to various degrees, but the meaning of the scale cannot be reduced to the meaning of any of its constituent items. Unlike single-variable measures, scales are compound and more complex in meaning; they can also be multidimensional and therefore more vulnerable to mismeasurement if the scale adaptation procedure is neglectful of semantics etc.

Benefits of ethnographic survey design

Using ethnography to develop and improve surveys is a widely discussed topic. Since the primary value of ethnographic fieldwork lies in its ability to grant access to first-hand information, integrating ethnographic methods into survey construction and scale development helps enhance construct validity

and improve the informativeness of individual survey items when necessary. Collection of supporting ethnographic data by means of semi-structured interviews involving survey items or via focus groups to discuss the results of free-listing can gain additional useful information enhancing ecological validity and efficiency of researcher's requests for information.

Ethnographic techniques such as free-listing can be used to refine the operationalization of research constructs. Free-listing is a simple and quick elicitation procedure based on collecting frequency counts and order of recall, computed from a pool of items obtained from multiple informants without the assumption of them being cultural experts. During this procedure the participants are asked to list features of the domain that come to mind, while the resulting lists allow insights into the local knowledge about the domain and its internal structure and variation. Free-listing is usually introduced at the initial stage of a project to help the investigator outline the salient features of the domain presumably unknown to them and to ensure the emic nature of the categories obtained in observations [23]. While free-listing collects qualitative information (e.g., words), it introduces the elements of quantification which is why there is some disagreement as to whether or not this is purely qualitative technique of extraction. Free-listing is an established, effective procedure that rests on three assumptions [22]: first, when participants engage in free-listing task, they list things in order of their familiarity/availability in recall. Such things are more focal and central with respect to other elements of the domain. For example, when asked what kinds of ice cream they know, individuals would list their favorite ice cream flavor first and then proceed with naming them in the descending order. Second, individuals who know more about the domain would list more terms than novices who know less about the domain. For example, an experienced gardener would know more about African violets and the pests that threaten them than someone who just walked into a flower exhibition; a ballet school student is likely to be more knowledgeable about ballet than a theatergoer of any age, etc. Third, items mentioned the most indicate local preference: for example, residents of Kyiv are more likely to list Kyiv cake as a kind of cake they know, compared to Yorkshiremen.

There are different ways of weaving free-lists into survey construction. It can be done by combining them with interviews and integrating their results to make scales [15]; or it can be used directly to construct survey items [1] or through presenting the results to focus groups first to gauge the degree of consensus [16]. This technique is also well-adapted for identifying shared similarities and collective priorities which makes it a useful tool for ethnographers working in the field with limited time resources [3].

The payoffs of integrating ethnography and survey methods capitalize on their complementarity. Ethnographic insights can be used to construct, adapt or improve a survey, as well as prepare it for administration. Ethnography can help design context-sensitive sampling strategies that ensure better coverage and lower non-response rates [25]. Finally, ethnographic perspective expands the scope of inquiry and allows designing better research questions. These practical advantages should be highlighted in teaching research methods, especially in the context of multi-item scale development where challenges can arise not only from how the item is constructed but also from its adaptation and translation.

Conclusions. Ethnographic fieldwork strengthens the design of survey instruments to produce meaningful results, especially in cross-cultural comparisons. It may also affect how the items in the survey are worded. Ethnographic insights help better understand how the research constructs are perceived by the studied population and also appreciate how distinct they can be from the informants' and from the researcher's points of view. The emic quality that ethnography adds to the research instrument further improves validity and informativeness of findings. It also opens possibilities for grounded theory building. All in all, this methodological synergy can help refine conceptualization of the focal research constructs and not only foster a more context-sensitive research design.

Ethnographic work also allows piloting a newly developed survey, which then can be revised, adjusted and refined based on the information procured from the field. Such pilots can also be helpful in identifying instances of measurement inequivalence due to phrasing – for example, when the informant starts laughing or looks uncomfortable in response to survey stimuli, it is a signal that the item is not adequately phrased for administration in its present condition and should be worked on some more.

Finally, ethnographic techniques of elicitation such as free-listing can help prioritize what to measure based on item salience. One of the benefits of these techniques is that they can be applied soon after the beginning of the project and do not require the researcher to have an extensive expertise in the studied domain.

Certain challenges remain to be addressed. More often than not in cross-cultural research more emphasis is put on the cultural than on the individual, leading to unidirectional notion of culture-individual relationship [2]. On the other hand, cross-cultural studies predominantly focus on items as sources of bias and inequivalence, while disregarding sample and other method-related issues, including response style in using scales which might be more significant for cross-cultural projects [26, p. 250]. Another conceptual issue to take into consideration would be that the degree of cultural distance is proportionate to the amount of bias, but at the same time the amount of differences in psychological tests also tends to increase with cultural distance, suggesting that real cultural differences need to be teased out from bias due cultural distance [26, p. 250–251].

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