ONLINE READINGS IN PSYCHOLOGY AND CULTURE
International Association for Cross-Cultural Psychology

Unit 2 *Theoretical and Methodological Issues*
Subunit 2 *Methodological Issues in Psychology and Culture*

Article 3

8-1-2002

Levels of Analysis in Cross-Cultural Psychology

Peter B. Smith
University of Sussex, United Kingdom, psmith@sussex.ac.uk

Recommended Citation
Smith, P. B. (2002). Levels of Analysis in Cross-Cultural Psychology. *Online Readings in Psychology and Culture, 2*(2). https://doi.org/10.9707/2307-0919.1018

 ISBN 978-0-9845627-0-1

Levels of Analysis in Cross-Cultural Psychology

Abstract

Cross-cultural psychologists seek to understand the nature of culture, a concept that can only be understood at the collective, supra-individual level. In most areas of psychology, researchers treat each individual as a separate source of data. Cross-cultural psychologists therefore need a clear understanding of the relationship between individual-level and group or collective-level analysis. Selected studies are reviewed that illustrate the way in which research may yield results that differ at different levels of analysis. Indications are given as to how cross-cultural psychologists can best handle the complexities of culture-related measurements for individuals and groups.

INTRODUCTION

There are many methodological hurdles that are faced by those who try to do meaningful studies in the area of cross-cultural psychology. This paper focuses on just one of these, because it is one that troubles many people with a background in other areas of psychological investigation. The problem can be simply stated. Most psychology is focused upon variations within populations of individuals. Researchers sample a range of individuals either to compare the population mean with some other population mean, or to test some theory as to possible causes of variability within the range of individual respondents. Either way, the cases within the researcher's data are individuals.

Cross-cultural psychology treats culture as a key concept. There are many definitions of culture, but none of them suggests an individual has a culture of his or her own. Culture is something that is shared among people. Some researchers study the culture of teams, groups, or organizations, but cross-cultural researchers are mostly concerned with larger scale groupings defined by ethnicity or nationhood. Cultures are made up of individuals, and there are reciprocal influence processes between individuals and cultures. Individuals grow up within a particular culture and are socialized in ways that internalize key aspects of that culture. An accumulation of innumerable individual actions may well cause cultures to change over time. However, for any one individual, influence from culture to individual will be much more potent than the reverse.

It is for this reason that cross-cultural researchers attempted to classify the national cultures of the world. Researchers from Hofstede (1980) onward have initiated a research tradition of culture-level analysis. Culture-level analysis treats each nation or each ethnic group as a single case. Thus, although Hofstede surveyed 117,000 individuals from 53 nations and regions, his analysis is based upon just 53 cases. He characterized each of these 53 cases by averaging the survey responses to each question in his survey of all the individual respondents who came from that particular nation. Other researchers who undertake culture-level surveys have also typically used aggregation of individual responses to characterize nations. There are some variables that can be measured directly at the culture-level, such as gross national product, climate, and the latitude of the capital city, but most data of interest to psychologists need to be collected from individuals.

Why do Culture-Level Analyses?

If most culture-level data has to be aggregated from individual responses, then what do we gain from such a procedure? What we gain is a chance to escape from the individualistic assumptions that underlie much psychological theory. Over the past century, well-known psychological theories have mostly been developed by North Americans and to a lesser

extent, Western Europeans. Hofstede's research, among others, has indicated that the cultures of Northern America and Western Europe are distinctively individualistic. Members of these cultures mostly like to think of themselves as relatively free agents, who make choices about how to live on the basis of individual goals, values and beliefs. It is not surprising that many of the more popular psychological theories favor individualistic explanations of psychological phenomena. These explanations can be rooted in genetic inheritance, in personality, in information processing, and in individualistic explanations of social behavior, such as the fundamental attribution error, social loafing, and the internal locus of control.

Focusing on the culture-level enables researchers to characterize the broader environmental and social context within which individuals are socialized. A map of the world that is constructed not on the basis of geography, but on the basis of aggregated psychological data affords an opportunity to predict the types of socialization practices to be expected at particular locations. This should help to better understand why particular psychological phenomena prevail in some regions and not in others. However, it is important to look very closely at this issue, in order to see just how culture-level data can and cannot be used.

The Levels of Analysis Problem

The problem is one that occurs not only in cross-cultural psychology, but in many areas of investigation, and can be simply stated: There is no logical reason why the relationship between two variables at one level of analysis should be the same at another level of analysis. Take for instance the study done long ago in the U.S. deep south: over a period of about 50 years (1882-1930), the frequency of individual lynchings of African Americans was found to be correlated negatively with the price of cotton (Hovland & Sears, 1940). As the frustrations presumably caused by low income from cotton sales increased, so did lynchings. However, when analyzed county by county, lynchings were most frequent in the counties where there were fewest African Americans (Raper, 1933). At the individual-level, it appears that economic adversity encouraged certain individuals to act on their racist beliefs. At the aggregate-level, the presence of a visible and distinctive minority may have been what caused lynchings to be more frequent in some counties than others. Different causal agents are found to affect the same behaviour when its incidence is studied at different levels of analysis.

Turning to more recent studies, numerous examples can be found which illustrate the same point. Diener and Diener (1995) showed that at the culture-level, the richest nations in the world are the ones in which highest happiness, or as they define it, 'subjective well-being' is reported. However, when they subdivided their sample into richer and poorer nations, different predictors of subjective well-being are found. In the poorer countries, wealth is a significant predictor, while in the richer nations, satisfaction with home life is a stronger predictor (Oishi, Diener, Lucas & Suh, 1999). Consistent with this, within the U.S.A. it is not the case that very rich persons report greater life satisfaction than less rich persons. Individual-level analyses show that in rich countries life satisfaction is

predicted by the types of emotion that people are experiencing. In less rich countries, there is a stronger effect of norms about the appropriateness of expressing emotions (Suh, Diener, Oishi & Triandis, 1998).

In a similar way, the nations reported by Hofstede to be highly individualistic are the ones in which greater job satisfaction is reported (Hui, Triandis & Yee, 1995). However, in Hong Kong the individuals who espouse collectivist values rather than individualistic values are the ones reporting greater job satisfaction. How can these effects be explained? They are explicable because the variables that influence relationships between variables at different levels of analysis are not likely to be the same. Take the example of job satisfaction. At the culture-level, individualistic countries are the rich countries. Employees are rather well paid and receive a wider variety of resources with which to do their job than would be available to most people in less rich countries. However, at the individual-level, the availability of good pay and working conditions within a single nation will probably be much less varied than it is between nations. Other issues will be more important in determining job satisfaction. In Hong Kong, collectivist values proved to be a significant predictor, presumably because in that context it is particularly important to be in a harmonious relation with one's work colleagues. In fact, in a further study, Hui and Yee (1999) were able to show that in Hong Kong the workers with more collectivist values were only more satisfied than others if their work group climate was positive. In another region, the significant predictors might be different.

It is of course possible that in some studies, it will be found that the significant predictors of a particular effect are the same at both levels of analysis. Such a finding is not ruled out. To reiterate, the point is that there is no ***logical*** reason why the relationship should be the same at two different levels. So why does this matter to cross-cultural psychologists? It matters because many investigators and writers have fallen foul of what Hofstede (1980) calls the 'ecological fallacy'. This occurs when one takes a relationship that has been established between two or more variables at one level of analysis and then assumes that this proves something at a different level of analysis. Most typically, a culture-level characterization of a certain nation is used to explain the relationship between variables at the more familiar individual-level.

For instance, a researcher might draw on Hofstede's finding that Latin American nations score high on power distance and use it to predict that within a sample of employees the individuals with authoritarian attitudes would be the most satisfied. There are several ways in which such a prediction might well fail to be upheld. Firstly, the Hofstede score for each nation was based on a particular sample of IBM employees. Our hypothetical researcher would be well advised to check what are the values about Power Distance of the particular employees whom he or she is sampling. Secondly, there may be all sorts of variables affecting the experiences of the new sample that affect their job satisfaction. For example, it might be the case that the employees with more authoritarian attitudes get fewer promotions and are therefore less rather than more satisfied.

In conducting cross-cultural studies and in reading about studies conducted by others, we need to guard against the ecological fallacy. However, if there are so many problems in relating variables at different levels, why not stay with individual-level studies?

Many researchers will probably continue to do so, but there are several important ways in which links between individual and culture-level analyses will continue to play a key role in cross-cultural studies. Firstly, as communication between different parts of the world becomes easier, researchers find it easier to collect data from samples drawn from different nations. These data cannot be simply pooled and subjected to a 'pan-cultural' analysis. The data will vary in relation to numerous culture-level differences related to where they were collected, such as accuracy of language translations, matching of samples, extent of acquiescent response bias, familiarity with questionnaire surveys and so forth. The data from each sample must be analyzed at the individual-level separately.

As the results of individual-level studies accumulate, we begin to find that results of similar individual-level studies conducted within different nations either converge or diverge. For instance, values such as openness to experience are consistently found to be more frequent among younger and more highly educated respondents in many nations (Smith & Schwartz, 1997). Here we have a relatively well-established 'universal' relationship. However, the average qualities desired in a marriage partner vary greatly between nations (Buss et al., 1990). In this latter case, culture-level dimensions can then be used to test hypotheses as to the particular ways in which this occurs. As another instance, Bond and Smith (1996) made a meta-analysis of 134 published replications of the Asch conformity effect, conducted within 17 different nations. They were able to show that national differences in the rates of conformity obtained were predictable on the basis of culture-level value scores derived from the work of Hofstede (1980), Schwartz (1994) and others. However, neither the data on desired marriage partners nor on Asch conformity effects are truly individual-level studies: in both cases we have an aggregated score for each nation, not an analysis of how variables relate within each nation separately.

A second and more fruitful way of linking individual and culture-level approaches is to develop parallel sets of concepts applicable to each level of analysis. The prime exponent of this approach has been Schwartz (1992, 1994). Schwartz argues that we cannot arrive at valid culture-level measures until we have shown that the concepts used in constructing these measures have equivalent meanings in all parts of the world. For instance, many people may endorse a value such as 'freedom', but the ways in which this term is understood within different cultures could vary widely. The Schwartz Value Survey asks respondents to rate 56 briefly identified values as to their importance as a 'guiding principle in my life'. Data have been collected from students and schoolteachers in more than 60 nations. Schwartz (1992) conducted a series of individual-level analyses within data from separate single nations. In this way, he was able to establish which values were in fact consistently related to one another in replicable ways, and therefore could be assumed to have equivalent meanings at all locations. Consequently, he could then compute country-level scores for his samples, using only those values with consistent meanings (Schwartz, 1994).

Using these types of comparable individual and culture-level measures, Schwartz can demonstrate further instances of the way in which variables relate quite differently at each level of analysis. For instance, he shows that at the individual-level, persons who see

'authority' as a guiding principle in their life are not the same persons as those who see 'humility' as their guiding principle. Indeed, endorsement of the two values is negatively correlated. However, at the culture-level, nations in which authority is strongly endorsed are the same nations as those in which humility is strongly endorsed. In other words, there are certain cultures that contain an interlocking set of role relationships built around authority and humility to a greater extent than is found in other cultures. To think in this way gives us a more vivid understanding of cultures than is provided by simply describing them in Hofstede's (1980) terms as high Power Distance cultures.

As noted earlier, it will not always be the case that individual and culture-level analyses will yield contrasting results. Earley (1993) showed that individuals in U.S.A., Israel, and China espousing collectivist values were less likely to engage in social loafing, and that these effects were also strongest in the more collectivist cultures. Singelis, Bond, Sharkey and Lai (1999) showed that individuals with an interdependent (more collectivist) self-concept were more prone to embarrassment, and that these effects too were stronger among cultures with higher mean interdependence. Both Earley (1993) and Singelis et. al (1999) measured the values and self-concepts of the particular respondents in their sample, rather than relying on Hofstede's culture-level characterizations of the nations that they studied. This enabled them to draw valid individual-level conclusions without falling victim to the ecological fallacy, even though the guiding concept for both studies (collectivism) is a culture-level concept.

Conclusion

A culture comprises an amalgam of shared values, meaning and interpretations of behaviors. We cannot understand this adequately simply by studying samples of individuals. We need a conceptual framework that enables us to classify how samples differ. However, that framework must be constructed on the basis of concepts that are not simply derived from one culture and imposed on others. Thus our culture-level concepts must arise from parallel individual-level analyses. Once we have valid culture-level concepts, we can use them to interpret differences in culture-level phenomena. However, if we wish to interpret individual-level differences within two or more cultures, then we need to draw on measures of cultural orientation that are also available from the individuals whom we are studying. In this way studies can be made which can test for universal effects and also explain why those effects are sometimes reduced or even reversed in some locations.

References

Bond, R. A. & Smith, P. B. (1996). Culture and conformity: A meta-analysis of studies using Asch's (1952, 1956) line judgment task. *Psychological Bulletin, 119*, 111-137.

Buss, D. M., & 49 co-authors (1990). International preferences in selecting mates: A study of 37 cultures. *Journal of Cross-Cultural Psychology, 21,* 5-47.

Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology, 68,* 653-663.

Earley, P. C. (1993). East meets west meets mid-east: Further explorations in collectivistic versus individualistic work groups. *Academy of Management Journal, 36,* 319-348.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Hovland, C. I., & Sears, R. R. (1940). Minor studies of aggression: Correlations of lynchings with economic indices. *Journal of Psychology, 9,* 301-310.

Hui, C. H., Triandis, H. C., & Yee, C. (1995). The relationship between individualism-collectivism and satisfaction at the work place. *Applied Psychology: An International Review, 44,* 276-282.

Hui, C. H., & Yee, C. (1999). The impact of psychological collectivism and workgroup atmosphere on Chinese employees' job satisfaction. *Applied Psychology: An International Review, 48,* 175-185.

Oishi, S., Diener, E. F., Lucas, R. E., & Suh, E. M. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. *Personality and Social Psychology Bulletin, 25,* 980-990.

Raper, A. (1933). *The tragedy of lynching*. Chapel Hill, NC: University of North Carolina Press.

Schwartz, S. H. (1992). Universals in the structure and content of values: Theoretical advances and empirical tests in 20 countries. In M.P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 25, pp. 1-65). Orlando, FL: Academic.

Schwartz, S. H. (1994). Beyond individualism/collectivism: New cultural dimensions of values. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi, & G. Yoon (Eds.), *Individualism and collectivism : Theory, method and applications* (pp. 85-119). Thousand Oaks, CA: Sage.

Singelis, T. M., Bond, M. H., Sharkey, W. F., & Lai, C. S. Y. (1999). Unpackaging culture's influence on self-esteem and embarrassability: The role of self-construals. *Journal of Cross-Cultural Psychology, 30,* 315-341.

Smith, P. B., & Schwartz, S. H. (1997). Values. In J. W. Berry, M. H. Segall & C. Kagit‡ibasi (Eds.) *Handbook of cross-cultural psychology*, (2nd ed., Vol. 3, pp. 77-118). Needham Heights, MA: Allyn & Bacon.

Suh, E. M., Diener, E. F., Oishi, S., & Triandis, H. C. (1998). The shifting basis of life satisfaction judgments across cultures: Emotions versus norms. *Journal of Personality and Social Psychology, 74,* 482-493.

Questions for Discussion

1. People differ. How could it be useful to characterize whole nations as cultures?
2. In what sense can we say that a culture influences the individual? Isn't all influence individual to individual?
3. Why do variables sometimes relate to each other in opposite ways at different levels of analysis?

4. Why are rich nations happy, but not necessarily rich individuals?
5. If Hofstede's dimensions are applicable only at the culture-level, what relevance do they have to psychology?
6. In what ways do Schwartz's individual-level analyses advance cross-cultural psychology?

ONLINE READINGS IN PSYCHOLOGY AND CULTURE
International Association for Cross-Cultural Psychology

ISSN: 2307-0919

Levels of Analysis in Cross-Cultural Psychology

Peter B. Smith, *University of Sussex, United Kingdom*

Publication Date
8-2002

Abstract
Cross-cultural psychologists seek to understand the nature of culture, a concept that can only be understood at the collective, supra-individual level. In most areas of psychology, researchers treat each individual as a separate source of data. Cross-cultural psychologists therefore need a clear understanding of the relationship between individual-level and group or collective-level analysis. Selected studies are reviewed that illustrate the way in which research may yield results that differ at different levels of analysis. Indications are given as to how cross-cultural psychologists can best handle the complexities of culture-related measurements for individuals and groups.

Recommended Citation
Smith, P. B. (2002). Levels of Analysis in Cross-Cultural Psychology. *Online Readings in Psychology and Culture, 2*(2). https://doi.org/10.9707/2307-0919.1018

Enter text right here!

Comment as a Guest, or login: intensedebate WordPress.com

Name

Email

Website (optional)

Displayed next to your comments.

Not displayed publicly.

If you have a website, link to it here.

Subscribe to None

Submit Comment