

# VIDEO ETHOLOGY: TELEVISION AS A DATA BASE FOR CROSS-CULTURAL STUDIES IN NONVERBAL DISPLAYS

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**ABSTRACT:** This demonstration study attempts to indicate how live television programming might provide an economical and easily-accessed source of material for cross-cultural investigation. This study compared the nonverbal displays of emotion for American and Canadian television game show contestants. Results suggested that although Americans and Canadians did not differ significantly in the types of emotions displayed, Americans were rated as being significantly more expressive in their emotional display. In addition, Americans differed from Canadians in their forms of nonverbal display. American females were seen as using their hands more than the Canadian females. American males were seen to smile more than their Canadian counterparts. Discussion explored how methodology introduced in this study could be conveniently expanded to more conclusively explore culturally determined display rules. Consideration of current video cassette technology facilitating this form of investigation was discussed.

Conventional definitions of ethology usually contain, as part of their explanation, the idea that ethology attempts to examine behavior in a natural as opposed to laboratory setting. In past, ethologists have sought to observe their subject matter in its original context, frequently travelling to some of the more exotic locales on this globe (e.g., Ekman and Friesen 1971, Eibl-Eibesfeld 1979). In these current times, economic restraint places severe limitations on this traditional paradigm for cross-cultural research.

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New approaches to this research focus appear to be in order. The argument is posed here that live television programming may hold promise in providing subject matter previously gathered 'in the field.' It is suggested that live television programming is a valid reflection of a society's nature on many levels. Gerbner and Gross (1976) perhaps best express this sentiment in their evaluation of American television programming. They state, "We begin with the assertion that television is the central arm of American Society . . . its function is, in a word, enculturation." (p. 175)

Gerbner and Gross imply that television cannot only provide an accurate reflection of a given culture but also, in doing so, provide enculturation role models which perpetuate themselves in the given culture. Given this theoretical argument, one can pose the empirical question as to whether examination of television programming from two cultures might permit isolation and identification of differences between the two cultures. It is suggested here that an initial basic research posture vis-a-vis any such differences might examine live television programming for any differences in *nonverbal behavior* that exist in the two cultures. Why the focus on nonverbal behavior? Nonverbal research (e.g., Ekman 1973, Izard 1980) strongly suggests that major cultural differences are invested in our nonverbal behaviors. To be more specific, Ekman (1973) suggests that every culture has its specific set of 'display rules' as to how and when its members may express themselves. For example research indicates that individuals of an Hispanic background may stand closer to their conversational partner and touch them more frequently than do Anglo-Americans (Hoffer and Santos, 1980). On the other hand, traditional Japanese culture suggests that two individuals stand no closer than that distance that would permit the customary bow (Kunihiro 1980).

Based on this investigator's geographic location primarily, it is proposed here to examine American and Canadian television programming for any differences in nonverbal displays.

Canadian and American cultures pose an interesting cross-cultural problem. There are many areas of common development, similar heritages, shared ideologies and religions, similar immigration influences, and of course, massive cultural diffusion as American media continues to influence Canadians. Yet the general lay concept speaks to Canadians somehow being different from Americans. Rather than idle contemplation of what these differences might be, it is suggested that a basic starting point for this

examination could be the exploration of live television programming from the two cultures to ascertain which nonverbal behaviors communicate differences between the two nations.

This specific study employs live television game shows as a promising data base for the examination of differences in nonverbal cues for emotional leakage (Waxer, 1977) that arise in the two cultures. Television game shows exist in both societies with great similarity of format. Thus they provide a common context within which behavioral differences can be more readily attributed to cultural differences. In the excitement and tension of a game show, one would anticipate the emergence of appropriate emotional displays such as apprehension, happiness, excitement, disappointment and so on. At the same time, culturally defined display rules should influence just how emotionality is displayed, leaked or masked. Conventional wisdom suggests that Canadians might be more contained and masked in this context. However, this remains an empirical question to be examined in this study.

Earlier studies demonstrate the feasibility of employing television as a data base for the study of nonverbal behavior. For example, Tankard, McCleneghan, Ganju, Lee, Olkes and DuBose (1977) examined television newscasters' nonverbal displays and reported that raised eyebrows were systematically perceived by raters as signs of bias in the communication of the news. Similarly, Friedman, DiMatteo, Robin and Mertz (1980) demonstrated significant differences in the rating of the positiveness of facial expressions of broadcasters talking about different political candidates. There is some modest amount of literature focussing on the use of television to examine cross-cultural differences. For example Kraus, Curran and Ferleger (1983) asked Americans to identify emotions on Japanese soap operas and Japanese to do likewise for American 'daytime dramas.'

As a demonstration study endeavouring to show the feasibility of live television programming as a data base for cross-cultural studies in emotional display, three main experimental questions have been posed in this study. First the study explores which of the two cultures compared permits the greater degree of emotional expressiveness, American or Canadian. Second, the study examines which body areas are perceived by raters as instrumental in communicating such expressiveness and how these body areas convey such information. Lastly, raters are asked to identify emotions they perceive as occurring in the video samples.

From these ratings, the study attempts to explore whether there are any significant differences between the two cultures in the emotions seen in the context of the television game show.

## METHOD

### *Preparation of Videotape Materials*

A number of American and Canadian television game shows broadcasted in this investigator's viewing area were sampled for material. Some sampling decisions were made in an effort to standardize presentation material. Most readers are aware that all game shows, American and Canadian, employ a process of contestant selection and warmup<sup>1</sup> instructing contestants to be expressive and excited when they win and attentive at other times. Some shows specifically coach contestants just how to 'emote' dramatic response on winning. To avoid such nonexperimental influence, video samples were edited from intervals other than when contestants were informed of their wins or losses. Contestants sampled at times other than the win-loss moment, are argued to be less aware of being 'on camera' and signs of emotionality at such times hold potential for being less staged, less artificial. Using similar reasoning, this study did not employ particular zany game shows such as 'Let's Make a Deal' where contestants are frequently selected on dimensions such as displayed histrionics, eccentricity or exhibitionism. Rather game shows showing some form of skill contest as opposed to theatrics were selected.

There was an attempt to sample a wide range of American and Canadian game shows to balance the high payoff game shows such as the 'The Price is Right' with more modest productions. The concern in this instance was the rather obvious one that contestants on shows with much bigger prizes might understandably be more excited by the prospects of winning than contestants on more modest reward shows. With these restrictions in mind, 6 American shows (i.e., 'Family Feud,' 'The \$10,000 Pyramid,' 'The Price is Right,' 'The Newlywed Game,' 'Concentration,' 'Tic Tac Dough') and 5 Canadian shows (i.e., 'Super Pay Cards,' 'The Mad Dash,' 'Just Like Mom,' 'Definition,' 'It's Your Move') were sampled.

In an effort to standardize the stimuli that people showed, video segments were selected showing contestants facing the camera, (camera distance providing good resolution of facial detail along with clearly visible torso and hands). All contestants were recorded engaging in the

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<sup>1</sup>In consultation with a regional television director for such programming who is American born and trained, it was reported that the procedures of the Burbank Television studios are employed as the standard for this type of show, both in Canada and the United States.

same activity, talking for at least ten seconds as they answered a question based on their skills or knowledge in a given area. For the purpose of this sample, all contestants were Caucasian.<sup>2</sup> Only contestants alone were video recorded. No segments showing a contestant and game show host together were used. Effort was taken to minimize video segments with telltale signs of a given show's identity, such as backdrops or props. All such steps were taken to reduce information by which raters might be able to decide contestants' nationality or the country of origin for the game show on which the contestant appeared. Fifty samples of each contestant type (i.e., American male and female, Canadian male and female) were drawn from the 6 American game shows and 5 Canadian game shows. To offset any potential selection bias by the experimenter in his selection of contestants seen in the final videotape, 15 segments were drawn at random from each contestant category pool of 50 segments. Thus a final video sample of 15 American females, 15 American males, 15 Canadian females and 15 Canadian males were generated. These 60 video segments were then placed in a 4 stimulus Latin square design for final presentation. The final experimental videotape presented the 60 samples for 10 seconds each, followed by 10 seconds of blank tape, during which time raters would complete their evaluations. All video segments had the sound edited out. This last tape was 12 minutes long.

### *Apparatus*

Video samples were recorded from 'on air' game shows by use of a Sony SL5101 video cassette recorder. The unit was used in conjunction with a Sony SL2000 to edit and prepare video segments for test presentation. The Sony SL5101 and a Sony Profeel Monitor were utilized in the presentation of the experimental tape to raters.

### *Rating Materials and Raters*

74 seniors at a Canadian University were asked to rate 60 video segments in terms of 3 areas. First, raters were asked to indicate on a 10-point scale, how expressive they felt each contestant to be, (scale points ranged from 1—not expressive at all to 10—very expressive). Next raters were asked to indicate which of 6 body areas communicated the expressiveness of contestants. Raters were asked to briefly indicate how a

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<sup>2</sup>Both United States and Canada have citizens designated as Caucasian who might possess culturally distinctive nonverbal displays (e.g., Hispanic-Americans, French-Canadian, newly-arrived Europeans). All such groups were excluded from this sample in an effort to arrive at two groups of English-speaking Caucasian North Americans whose sole difference was the American-Canadian citizenship distinction focused upon in this investigation.

given body area conveyed such information. The body areas employed were eyes, mouth, head movement, neck, hands and an open category, others. Lastly, raters were asked to indicate which of 5 emotions they detected in a given video segment. The emotions listed were excitement, apprehension, happiness, disappointment and other. Actual administration of video material for rating found raters requiring an initial learning period. Thus interval lengths between the first 3 segments were 20 seconds, and 15 seconds for the next 3 segments. By this time, raters had developed sufficient acquaintance with the testing protocol to proceed with the 10 second interval already edited into the test tape. Last there were some differential influence on ratings due to this learning period, raters were run in two different groups. The first group rated contestants 1 to 60, the next group rated contestants 30 to 60, then 1 to 30. In all, 160 ratings were collected but due to incomplete or ruined protocols only 74 complete sets of ratings were finally obtained. Both groups of raters were third year abnormal psychology students, solicited from different sections of the same course.

## RESULTS

The first experimental question posed in this study was whether Americans or Canadians were rated as showing more expressiveness. To prepare data for this analysis, scores were averaged across the 74 ratings made on each contestant. Thus the mean value of the 74 ratings was derived for the 15 contestants in each of the conditions of the study (i.e., American male, American female, Canadian female, Canadian male). Mean values for these 4 conditions were seen in Table 1 below.

**Table 1: Mean of 74 ratings for degree of expressiveness**

	Female	Male
American	94.35	80.00
Canadian	75.33	70.80

From mean values for each contestant, sums and sums of squares for each experimental condition were calculated for inclusion in a  $2 \times 2$  ANOVA. Results of this analysis indicates significant nationality and sex differences. From Table 1 it can be readily perceived that Americans were rated more expressive than Canadians ( $F = 11.34$ ,  $dfs = 1,56$ ,  $p < .01$ ), and females were rated as more expressive than men, ( $F = 5.08$ ,  $dfs = 1,56$ ,  $p < .05$ ).

The second experimental question posed in this study asked which body areas were perceived as instrumental in the communication of emotional expressiveness and whether there existed any experimentally-

based differences among body areas. Data preparation for these analyses once again saw averaging of the 74 ratings for each contestant, this time across the 6 body areas (i.e., eyes, mouth, hands, head movement, back and other) for the 4 experimental conditions. Inclusion of these scores in a repeated measures MANOVA indicated that sex differences were at a significant level for multivariate tests (i.e., Pillai's trace value = .43700, approximated F values = 3.234, F significance = .017, Hotellings trace value = .77621, Wilks Lamda value = .56300, all other approximated F values equal to Pillai's values)<sup>3</sup> Univariate F-tests for sex effect yielded significant differences for mouth ( $F = 8.3305$   $dfs = 1,30$ ,  $p < .007$ ) and hands ( $F = 6.1978$ ,  $dfs = 1,30$ ,  $p < .019$ ). Post Hoc Scheffes for mouth ratings indicated American males smiled more than Canadian males ( $F = 8.699$ ,  $F'.05 = 8.10$ ,  $dfs = 3,56$ ). Post Hoc Scheffe tests for hand ratings indicated that American females used their hands more than Canadian females in this sample ( $F = 8.18$ ,  $F'.05 = 8.10$ ,  $dfs = 3,56$ ) while Canadian males in this study were seen as using their hands more than American males ( $F = 10.76$ ,  $F'.05 = 8.10$ ,  $dfs = 3,56$ ).

Multivariate analysis of sex by body area effects yielded a significant approximated F value of .029 for Pillai's, Hotellings and Wilks tests with, once again mouth and hands yielding the same significant differences in univariate F-tests as found for the sex effect analyses.

Although multivariate analyses failed to yield a statistically significant F-value for nationality effect (e.g., Pillai's approximately F significance = .262), one univariate F-test was significant in this data set. There was a significant univariate difference for Neck ( $F = 6.111$ ,  $dfs = 1,30$ ,  $p < .019$ ). The identical values for neck were found in the analysis of the 3 way interaction by sex by nationality by body area. It is left to the reader to decide how much weight a significant univariate results carries in the absence of parallel multivariate findings. However, to report this one finding, post hoc Scheffes indicated that Americans were rated as moving their necks more than Canadians (Males  $F = 8.76$ , Females = 8.42,  $F'.05 = 8.10$ ,  $dfs = 3,56$ ).

The third experimental questions in this study examined whether any significant differences existed between Americans and Canadians in the type of emotions (i.e., excitement, apprehension, happiness, disappointment and other) for the 4 experimental conditions. Inclusions of these scores in a repeated measures MANOVA yielded no significant differences for the emotions rated amongst any of the experimental conditions (i.e., approximated  $F = .905$ ,  $p = .470$  for all multivariate criterion statistics. Similarly, none of the univariate F tests were significant (e.g., excitement  $F = .262$ , happy  $F = .024$ ). Only one emotion, disappointment,

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<sup>3</sup>This investigator would like to acknowledge the able assistance to Mr. B. Kowalchuk in the preparation of these data for SPSS computer analyses.

had an F value greater than unity (i.e.,  $F=1.412$ ,  $p=.24$ ). The lack of significant univariate results offsets any concern that results in this area of analysis reflect Type 1 error based on multivariate analysis alone.

## CONCLUSIONS

Summarizing findings of this study, results suggest that Americans and Canadians do not differ significantly in the types of emotions they display in an exciting context such as a television game show. Theoretically, this result fits well within Izard's (1980) argument for emotion as a form of "transcultural language" with strong cultural universality. Izard suggests,

... the similarity between personality and sociocultural phenomenon will increase, the more the phenomena are simple, direct functions of one of the fundamental emotions. (p. 260)

Although there was no evaluation in this study of the emotions conventionally cited as primary emotions (i.e., fear, anger, sorrow, joy, disgust, surprise), the reader might appreciate the overlap between the five primary emotions and the emotional states rated in this study (i.e., excitement, apprehension, happiness and disappointment). Given the similarity in the two sets of emotions, the argument is here offered that Izard's position of cross-cultural similarity for primary emotions is a useful theoretical explanation for the absence of difference in emotions displayed by Americans and Canadians in this study.

Although these two cultures may have shown similar emotions in the common setting of a game show, results of this study suggest Americans are perceived by Canadian raters as more expressive than Canadians in the use of such emotions. This finding fits best within the concept of 'display rules' discussed by Ekman (1973) in his consideration of a 'neurocultural' theory of emotional expression. Once again, Ekman suggests each culture provides guidelines for its members as to when and how emotions may be expressed. Within the context of this study, it appears that American display rules permit (encourage) greater expressiveness of emotion than more staid Canadian display rules. This conclusion must be evaluated of course within the usual constraints of generalizability. Although this study endeavoured to match the Canadian and American contestants on as many dimensions as



possible, there remains the problem that in spite of many commonalities, by definition, Canadian game shows are not American game shows. Thus no absolute claim to identity of stimulus context can be made. In addition there is the issue of degree of generalizability within the contestants sampled. There is, quite likely as much divergence in nonverbal display between a Bluenose New Englander and a Texan, as examples of two American stereotypes, as between the Americans and Canadians sampled in this study. Similarly, an Albertan wheat farmer is not a Quebecois. Thus, while results of this study tend to support the general cultural stereotype of Canadians being more contained, less expressive than Americans, in no sense is it suggested that this containment is a cultural universal for the complex mosaic of Canadian society.

In a similar sense, perception of cultural differences is not only influenced by differences in behaviour displayed, but also by who does the perceiving. It is conceivable that American raters viewing the material provided by this study might attend to behaviour not perceived as salient by this study's current group of Canadian raters. This investigator invites any American investigators so inclined to present a copy of the material used in this study to American raters to explore whether differential perceptions arise.

Some small beginnings on differentiating body areas involved in emotional display have been offered in this study. American males were seen to smile more than Canadian males. American females used their hands more than their Canadian counterparts while the reverse held for males sampled in this study. One finding supported by univariate test only, suggested that Americans moved their necks more than Canadians.

In overview, there is no question that more extended investigation of this area of research must attend to the methodological considerations discussed above and provide greater stringency than can be afforded by this demonstration study in the issues of sub-cultural variation, commonality of context in which data is gathered cross-culturally, possible cultural differences in raters and other variables readers will likely perceive as pertinent. In general, all these factors speak to the problem of establishing the equivalence of stimulus material contrasted between two cultures, so that difference detected by investigation can be ascribed to cultural difference as opposed to factors

alluded to above. In spite of these problems this study hopefully suggests a framework within which more exhaustive research could be economically explored. The use of video cassette recorders provides a convenient automated method of data collection that can be ongoing while the researcher devotes time to other responsibilities. Samplings of selected television subject matter can then be reviewed and edited at the investigator's convenience. Current technological capacities of videorecorders permit sampling of a number of different events over time periods of up to 3 weeks. Current cable and satellite capacities in most urban settings provide a wide range of multicultural programming holding potential for examination of numerous cross-cultural issues. Current legislation in both United States and Canada suggest free access and recording of all such material is permitted for educational and research purposes. A researcher can thus rapidly generate large experimental samples at quite modest costs both in terms of finances and expenditure of time. It is hoped this study has provided one example of how such research might proceed.

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