

## VARIATION AMONG EUROPEAN AMERICANS IN EMOTIONAL FACIAL EXPRESSION

JEANNE L. TSAI  
YULIA CHENTSOVA-DUTTON  
*Stanford University*

The authors examined whether European Americans (EA) several generations removed from their ancestors varied as a function of their countries of origin by comparing the emotional facial expressions of EA originally from Scandinavian countries (EA-S), who value emotional control, and those from Ireland (EA-I), who value emotional expression. EA-S were less expressive than EA-I while reliving various emotions, especially happiness and love, suggesting that in this domain, EAs continue to be influenced by their cultural heritages.

**Keywords:** European Americans; White; Scandinavian; Irish; emotion; facial expression

**Social scientists use the terms *European American* (EA) or *Anglo American* to refer to White, non-Hispanic individuals whose families have spent several generations in the United States and whose ancestors originally emigrated from Europe. Many social scientists view today's EAs as a homogeneous group of individuals who represent mainstream American values, norms, and practices. Therefore, researchers often focus on EAs' awareness of their majority status or their views of other racial and ethnic groups rather than their cultural ideas and practices (e.g., Dovidio, Kawakami, & Gaertner, 2002; Helms & Carter, 1991). There are several scholars, however, who would argue not only that there is considerable cultural heterogeneity among EAs but also that this variation can be traced to their different European countries of origin (Giordano & McGoldrick, 1996; Greeley & McCready, 1975). These scholars argue that although many EAs may be less aware of the ways in which they are influenced by their countries of origin, they still retain ideas and practices that originate from those cultures. These ideas and practices may be transmitted through the family as well as through local institutions without being explicitly labeled as cultural (Greeley, 1979). For example, Greeley and his colleagues found that although many EAs of Irish and Italian descent no longer identified explicitly with Irish and Italian cultures, their views of the family were consistent with Irish and Italian cultural norms, respectively (Greeley, 1979, 1981; Greeley & McCready, 1975).**

In a study that compared the emotional responses of EAs and Hmong Americans (Tsai, Chentsova-Dutton, Friere-Bebeau, & Przymus, 2002), we made three observations that led us to suspect that the EAs in our sample represented different cultural heritages: (a) the variability of emotional responses in the EA sample was greater than that of the Hmong

---

**AUTHORS' NOTE:** We thank Eric Klinger for directing our attention to differences among European Americans, Paul Ekman for his consultation regarding the use of the Facial Action Coding System, and Bill Iacono, Brian Knutson, and Hazel Markus for reading earlier versions of this article. This study was funded by NIMH Grant No. MH59051. Correspondence concerning this article should be directed to Jeanne Tsai, Department of Psychology, Stanford University, Bldg. 420, Jordan Hall, Stanford, CA 94305; e-mail: jtsai@psych.stanford.edu.

JOURNAL OF CROSS-CULTURAL PSYCHOLOGY, Vol. 34 No. 6, November 2003 650-657  
DOI: 10.1177/0022022103256846  
© 2003 Western Washington University

American sample; (b) while describing their cultural beliefs about emotion, some EAs emphasized emotional control, whereas others emphasized emotional expression; and (c) the occurrence rates of facial expressions in our EA sample were lower than were those reported for other EA samples from other regions of the United States using a similar task (Rosenberg & Ekman, 1994). Thus, we suspected that this variation might be associated with the unique cultural heritages of the EAs in our sample, which included Scandinavian (Norway, Denmark, Finland, and Sweden) and Irish cultures. Ethnographic accounts suggest that these particular cultures differ in their norms regarding emotional expression.

Specifically, Scandinavian cultural contexts are described as encouraging emotional moderation and control and as being more emotionally inhibited than other European cultures (Midelfort & Midelfort, 1982; Pennebaker, Rime, & Blanksenship, 1996; Rodnick, 1955). For example, Midelfort and Midelfort (1982) and Rodnick (1955) described Norwegian culture as minimizing the expression of “excessive” anger or other negative emotions because “expressing them would interfere with neighborly relationships” (Rodnick, 1955, p. 14). The same holds true for the experience of pleasure and other positive emotions (Erickson & Simon, 1996). In contrast, Irish culture has been characterized as placing a greater value on emotional expression. That is, Irish culture has been described as being more accepting of expressions of suffering and tragedy and as more encouraging of the use of laughter and humor to convey one’s feelings (Greeley, 1979, 1981; McGoldrick, 1996).

In this study, we examined whether these ethnographic accounts accurately described the emotional facial expressions of EA of Scandinavian (EA-S) and Irish descent (EA-I) when these facial expressions were measured using the Facial Action Coding System, a well-established method for coding facial muscle movements (Ekman & Friesen, 1978).

## HYPOTHESIS

Based on ethnographic descriptions of Scandinavian and Irish norms regarding emotional expression, we predicted that EA-S would be less emotionally expressive than EA-I.

## METHOD

*Participants.* EAs were recruited to participate in a larger study of emotion (Tsai et al., 2002). Participants were undergraduates from colleges and universities in Minnesota and were recruited through announcements in newspapers and flyers distributed across campuses as well as through general psychology participant pools. For this study, we selected EAs who either (a) reported having a parent or grandparent who was Scandinavian (Norwegian, Danish, Scandinavian, Finnish, or Swedish) but none that were Irish or (b) reported having a parent or grandparent who was Irish but none that were Scandinavian. A total of 14 EA-S and 11 EA-I met these criteria. The mothers, fathers, and grandparents of all participants were born in the United States; mothers, fathers, and grandparents of EA-I and EA-S varied only in the cultural heritage of their ancestors. For the EA-I group, 6 reported Irish heritage on their mother’s side only, 1 reported Irish heritage on their father’s side only, and 3 reported Irish heritage on both sides (1 EA-I was uncertain which parent was of Irish heritage). For the EA-S group, 4 reported Scandinavian heritage on their mother’s side, 2 reported Scandinavian heritage on their father’s side, and 8 reported Scandinavian heritage

on both sides. Because most participants were of mixed ancestry, we conducted chi-square analyses to examine whether there were group differences in the other heritages reported (e.g., German, English, French, Polish, Italian, and Welsh); no significant group differences emerged. Therefore, we were confident that the groups differed in Scandinavian and Irish ancestry but not in any another European heritage.

One-way analyses of variance revealed no significant differences between EA-S and EA-I in their age (EA-S = 19.50,  $SD = 1.34$ ; EA-I = 20.18,  $SD = 2.52$ ) and year in college (EA-S = 2.43,  $SD = 1.22$ ; EA-I = 2.18,  $SD = 1.25$ ), and chi-square analyses revealed no significant differences in their employment status (percentage employed: EA-S = 50.0, EA-I = 72.7) or sex (percentage female: EA-S = 35.7, EA-I = 54.5).

*Relived emotion task.* The relived emotion task has been shown to be an effective elicitor of emotional responding in previous studies and has been widely used with both clinical and nonclinical samples (e.g., Levenson, Carstensen, Friesen, & Ekman, 1991; Oliveau & Willmuth, 1979). For each relived emotion, participants were provided with a label for the target emotion (e.g. "happiness") as well as a description of the target emotion (e.g., "a time when you did something or something happened that you wanted very much, so that you felt very good") based on Lazarus (1991). Participants were asked to relive six target emotions (happiness, pride, love, anger, disgust, and sadness). The order of the emotions was randomized to avoid order effects. For each emotion, participants were asked to (a) recall and describe a time in their lives when they felt the target emotion very strongly, (b) focus on the moment at which they felt the target emotion, and (c) relive the target emotion. Participants were asked to press a button on a handheld switch to indicate when they were able to feel the emotion. They pressed the button as long as they were able to feel the emotion or until they were told to stop after 2 minutes (relived emotion period). Immediately following the relived emotion period, participants were asked to rate how intensely they felt the target emotion while they tried to relive the emotion using a 9-point Likert-type scale (0 = *not at all*, 4 = *moderately*, and 8 = *the most in my life*). Participants were also asked to rate how able they were to relive the target emotion on a 9-point Likert-type scale (0 = *not at all*, 4 = *moderately*, and 8 = *extremely*).

The effectiveness of the relived emotion task in eliciting changes in facial expression and skin conductance response has been reported by Tsai et al. (2002) and was replicated in the present subsample with two exceptions. In the larger study, which included a more diverse sample of EAs and Hmong Americans, the relived emotion task did not elicit significant changes in facial behavior during anger compared with baseline. In this sample, however, significant changes in anger were observed, whereas significant changes in facial behavior during sadness were not. Thus, we do not discuss participants' emotional responses during relived sadness further in this report.

*Questionnaires.* To ensure that the groups did not differ in their orientation to American culture, participants completed the General Ethnicity Questionnaire–American version (Tsai, Ying, & Lee, 2000), which assessed orientation to mainstream American culture in specific life domains including social affiliation (e.g., "Now, my friends are American"), activities (e.g., "I engage in American forms of recreation"), attitudes (e.g., "I am proud of American culture"), exposure (e.g., "I was raised in a way that was American"), food (e.g., "At home, I eat American food"), and language ("How fluently do you speak English?"). Participants rated 38 items on a 5-point Likert-type scale (from 1 = *very much* to 5 = *not at all*). The alpha reliability estimate for this measure was .89. To ensure that the groups did not

differ in trait affect, participants also completed a shortened version of the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), in which they are asked to rate how much they felt 14 affective states “on average.” Alpha reliability estimates were .87 for positive (excited, determined, alert, enthusiastic, proud, strong, active, interested, and attention) and .72 for negative affect terms (hostile, scared, afraid, guilty, and jittery). Because analyses of variance conducted on orientation to American culture and trait affect did not reveal significant group differences, observed differences in facial expression could not be attributed to these variables.

*Procedure.* A trained female interviewer greeted the participants upon their arrival to the laboratory. Participants completed several questionnaires, including a demographic questionnaire and the cultural orientation inventory. Sensors measuring skin conductance were attached to participants’ nondominant hands. Participants were then instructed to be silent and relax for 3 minutes to provide baseline measures of their facial behavior and skin conductance response. Before beginning the relived emotion task, participants underwent a practice trial during which they were asked to recall and relive a past episode of surprise. Participants were allowed to ask questions about the relived emotion task at this time. Participants were then asked to relive and recall one of the target emotions. Between each emotion, participants rested for several minutes. They completed the Positive and Negative Affect Schedule at the end of the session to reduce the likelihood that the assessment of trait affect would contaminate previous assessments of emotion.

*Facial expressive behavior.* Remotely controlled color video cameras recorded the participants’ facial behavior during the study. Lavalier microphones clipped on participants’ clothing were used to record their verbal responses. Cameras were hidden from participants’ view behind darkened glass on a bookshelf. Three trained and certified coders scored participants’ facial behavior using the Facial Action Coding System (FACS; Ekman & Friesen, 1978). The coders were blind to the emotion that the participants were reliving, and they coded the video segments without sound. FACS identifies visually distinguishable and anatomically based units of facial muscle movements or action units (AUs). AUs were grouped into specific emotion configurations (anger, contempt, disgust, smiles, and general negative expressions) on the basis of previous empirical findings (as cited in Tsai et al., 2002) and personal communications with Paul Ekman (May 4, 2001).

Although all AUs were coded during each emotion episode, the “target” emotional facial expressions that we examined differed for each relived emotion depending on what behavior one would expect to see during the emotional event (e.g., smiles during happiness, pride, and love) and the actual occurrence of the expressions. Thus, the behaviors included in our analyses were (a) smiles (AU6 + AU12, bilateral AU12) during happiness, pride, and love; (b) expressions of general negative emotion (AU 4) and contempt (unilateral AU10, AU12, and AU14) during anger; and (c) expressions of general negative emotion and disgust (AU9 and AU10) during disgust. To demonstrate that the target emotional facial behavior occurred more frequently than did all other possible emotional facial behaviors, we conducted chi-square analyses testing each target AU combination against the other emotion-related AU combinations; these analyses revealed that the “target” emotional facial behavior occurred significantly more often than did the other emotional facial behaviors. To establish interrater reliability, three raters coded the emotional behaviors during each emotional episode of 20 participants from the larger study. The mean agreement ratio was 0.97 (range = .70 to 1.0).

*Physiology.* To ensure that hypothesized differences in facial expression were not due to differences in physiological activity, a device passed a small, constant voltage between electrodes attached to the palmar surface of the middle phalanges of the first and third fingers of participants' nondominant hands to obtain continuous measures of skin conductance. Change in skin conductance levels was calculated by subtracting mean levels of skin conductance during baseline from mean levels during the relived period.

## RESULTS

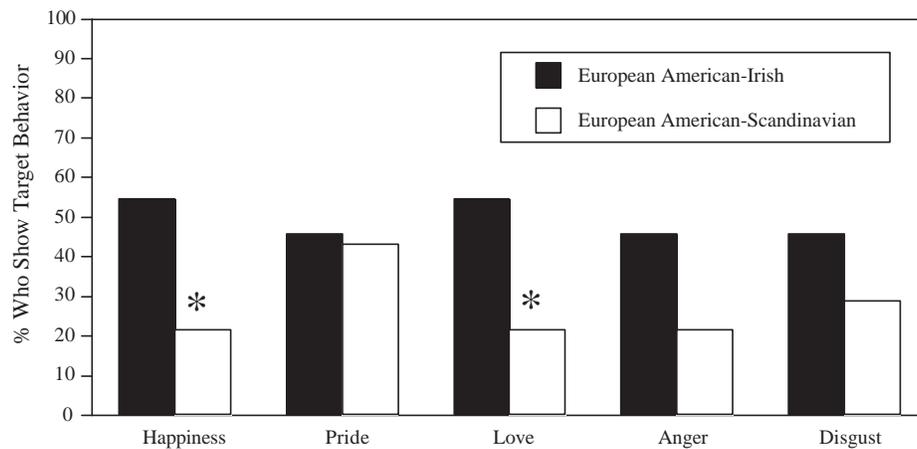
### MANIPULATION CHECK: REPORTED EMOTIONAL EXPERIENCE, ABILITY TO RELIEVE EMOTIONS, AND EVENTS RECALLED

To ensure that participants experienced the target emotion during the relived task and that they were able to relive their emotions, we conducted separate multivariate analyses of variance on reports of emotional experience during the relived event as well as on participants' reported ability to relive each emotion, treating Group as a between-subjects factor. There were no significant group differences for either variable. Our task was effective in eliciting moderately intense emotions (happiness:  $M = 4.78$ ,  $SE = .28$ ; pride:  $M = 4.55$ ,  $SE = .32$ ; love:  $M = 5.41$ ,  $SE = .35$ ; anger:  $M = 4.18$ ,  $SE = .32$ ; disgust:  $M = 4.34$ ,  $SE = .34$ , where 0 = *not at all*, 4 = *moderately*, and 8 = *the most in my life*), and participants of both groups reported being able to relive their emotional episodes (happiness:  $M = 5.72$ ,  $SE = .39$ ; pride:  $M = 4.91$ ,  $SE = .39$ ; love:  $M = 5.40$ ,  $SE = .31$ ; anger:  $M = 4.86$ ,  $SE = .32$ ; disgust:  $M = 5.44$ ,  $SE = .39$ , where 0 = *not at all able*, 4 = *moderately able*, and 8 = *extremely able*).

To ensure that the types of events participants recalled were similar for the two groups, events were coded for content based on a system developed by Scherer and colleagues (see Ellgring & Banninger-Huber, 1986, for a detailed description of the coding system). Chi-square analyses revealed no significant differences in the types of events recalled for any of the emotions, with the exception of happiness events,  $\chi^2(2, 25) = 8.09$ ,  $p < .05$ ). The majority of participants in both groups recalled disgust events that involved another person's actions (EA-I = 72.7%, EA-S = 50%), anger events that involved another person's failure to conform to social norms (EA-I = 54.5%, EA-S = 61.5%), love events that were related to relationships (EA-I = 90.9%, EA-S = 92.9%), and pride events that were related to success in achievement situations (EA-I = 72.7%, EA-S = 78.6%). Whereas the most common (endorsed by 50% of EA-S) type of happiness event recalled by EA-S had to do with new experiences (e.g., "Parents bought me a new truck"), none of the EA-I reported such happiness events. Instead, the most common happiness event recalled by EA-I (endorsed by 72.7%) concerned success ("Found out I got the lead in the play").

### GROUP DIFFERENCES IN EXPRESSIVE BEHAVIOR

Given our small sample size and the directional nature of our hypotheses, we used a one-tailed test of significance at the  $p < .05$  level to test our hypotheses. To examine whether the two EA groups differed in their facial behavior, we conducted nonparametric chi-square analyses on expressive behavior (these data were categorical). Analyses revealed a significant difference in smiles during happiness,  $\chi^2(1, N = 25) = 2.93$ , one-tailed  $p < .05$ , and love,  $\chi^2(1, N = 25) = 2.93$ , one-tailed  $p < .05$ . As predicted, fewer EA-S smiled during relived happiness and love than did EA-I (see Figure 1). To ensure that the differences in facial



**Figure 1: Percentage of Participants Who Show Target Emotional Behavior During Each Relived Emotion**

NOTE: EA-I = European Americans of Irish descent ( $n = 11$ ); EA-S = European Americans of Scandinavian descent ( $n = 14$ ).

\* $p < .05$ , one-tailed.

expression during happiness were not due to differences in the types of events recalled, we conducted the same analyses excluding participants who reported “new experiences” ( $n = 8$ ) and found that the group difference in smiles remained significant. There were no other significant differences in expressive behavior between the two EA groups, although an inspection of the odds ratios suggests that the differences were in the direction of EA-S being less expressive than the EA-I (likelihood that EA-S show less behavior compared with EA-I, happiness = 4.40, pride = 1.11, love = 4.40, anger = 3.06, and disgust = 2.08). These differences emerged against a backdrop of no differences in skin conductance levels, as revealed by nonparametric Mann Whitney tests.

## DISCUSSION

In this article, we argue that there is significant variation in the emotional expressive behavior of EA-I and EA-S, variation that is consistent with ethnographic accounts of emotion in Scandinavian and Irish cultures. EA-S showed less expressive behavior than EA-I across all of the emotions, although the differences reached significance only for happiness and love. These results are consistent with those of other studies in which cultural differences in emotional behavior appear to be more pronounced during positive than negative emotional events, although cultural norms would suggest differences in emotional behavior during both types of events (e.g., Matsumoto, 1990; Matsumoto, Takeuchi, Andayani, Kouznetsova, & Krupp, 1998; Tsai & Levenson, 1997). These findings suggest that what people would ideally like to express (or not express) may not map directly onto what they actually express.

Our study was limited in several ways that should be addressed in future research. Our sample size was small; therefore, it is possible that there were other differences that we did not have the power to detect. Our data neither address the specific ideas (e.g., beliefs about

emotional expression) and practices that are responsible for these differences nor demonstrate how these ideas and practices are transmitted across generations born and raised in the same cultural context. For example, such transmission may occur via family socialization and/or via contact with local institutions. It is also unknown whether we would observe differences among EAs of other countries of origin living in different regions of the United States. Finally, our study cannot speak to the generalizability of our findings to other behaviors. It is possible that only behaviors that can be transmitted via family contact—such as emotional expression—persist across generations.

Despite these limitations, our findings do provide evidence that in the realm of emotional behavior, EAs cannot be viewed as a culturally homogeneous group. It is our hope that these results will inspire researchers to consider the diverse cultures that EAs represent and to examine whether such heterogeneity can account for variation in psychological and social functioning in this group.

## REFERENCES

- Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology, 82*, 62-68.
- Ekman, P., & Friesen, W. V. (1978). *Facial action coding system: A technique for the measurement of facial movement*. Palo Alto, CA: Consulting Psychologists Press.
- Ellgring, H., & Banninger-Huber, E. (1986). The coding of reported emotional experiences: Antecedents and reactions. In A. B. Summerfield (Ed.), *Experiencing emotion: A cross-cultural study* (pp. 39-49). Cambridge, UK: Cambridge University Press.
- Erickson, B. M., & Simon, J. S. (1996). Scandinavian families: Plain and simple. In J. K. Pearce (Ed.), *Ethnicity and family therapy* (2nd ed., pp. 595-608). New York: Guilford.
- Giordano, J., & McGoldrick, M. (1996). European families: An overview. In J. K. Pearce (Ed.), *Ethnicity and family therapy* (2nd ed., pp. 427-441). New York: Guilford.
- Greeley, A. M. (1979). The American Irish: A report from Great Ireland. *International Journal of Comparative Sociology, 20*, 67-81.
- Greeley, A. M. (1981). *The Irish-Americans*. New York: Harper & Row.
- Greeley, A. M., & McCready, W. C. (1975). The transmission of cultural heritages: The case of the Irish and Italians. In D. P. Moynihan (Ed.), *Ethnicity: Theory and experience* (pp. 209-235). Cambridge, MA: Harvard University Press.
- Helms, J., & Carter, R. T. (1991). Relationships of White and Black racial identity attitudes and demographic similarity to counselor preferences. *Journal of Counseling Psychology, 38*, 446-457.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.
- Levenson, R. W., Carstensen, L. L., Friesen, W. V., & Ekman, P. (1991). Emotion, physiology, and expression in old age. *Psychology and Aging, 6*, 28-35.
- Matsumoto, D. (1990). Cultural similarities and differences in display rules. *Motivation and Emotion, 14*, 195-214.
- Matsumoto, D., Takeuchi, S., Andayani, S., Kouznetsova, N., & Krupp, D. (1998). The contribution of individualism vs. collectivism to cross-national differences in display rules. *Asian Journal of Social Psychology, 1*, 147-165.
- McGoldrick, M. (1996). Irish families. In J. K. Pearce (Ed.), *Ethnicity and family therapy* (2nd ed., pp. 544-566). New York: Guilford.
- Midelfort, C. F., & Midelfort, H. C. (1982). Norwegian families. In J. Giordano (Ed.), *Ethnicity and family therapy* (pp. 438-456). New York: Guilford.
- Oliveau, D., & Willmuth, R. (1979). Facial muscle electromyography in depressed and nondepressed hospitalized subjects: A partial replication. *American Journal of Psychiatry, 136*, 548-550.
- Pennebaker, J. W., Rime, B., & Blanksenship, V. (1996). Stereotypes of emotional expressiveness of northerners and southerners: A cross-cultural test of Montesquieu's hypothesis. *Journal of Personality and Social Psychology, 70*, 372-380.
- Rodnick, D. (1955). *The Norwegians: A study in national culture* (1st ed.). Washington, DC: Public Affairs Press.
- Rosenberg, E., & Ekman, P. (1994). Coherence between expressive and experiential systems in emotion. *Cognition & Emotion, 8*, 201-229.
- Tsai, J. L., Chentsova-Dutton, Y., Friere-Bebeau, L., & Przymus, D. E. (2002). Emotional expression and physiology in European Americans and Hmong Americans. *Emotion, 2*, 380-397.

- Tsai, J. L., & Levenson, R. W. (1997). Cultural influences on emotional responding: Chinese American and European American dating couples during interpersonal conflict. *Journal of Cross-Cultural Psychology, 28*, 600-625.
- Tsai, J. L., Ying, Y., & Lee, P. A. (2000). The meaning of "being Chinese" and "being American": Variation among Chinese American young adults. *Journal of Cross-Cultural Psychology, 31*, 302-322.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

*Jeanne L. Tsai is an assistant professor in the Department of Psychology at Stanford University. Her research focuses on how cultural ideas and practices shape the experience and expression of emotion.*

*Yulia Chentsova-Dutton, a native of Russia, received her master's degree in psychology from the University of Minnesota. She is currently a Ph.D. student at Stanford University. Her research interests include cultural differences in emotional response among healthy, depressed, and anxious individuals.*

## **Request Permission or Order Reprints Instantly**

Interested in copying, sharing, or the repurposing of this article? U.S. copyright law, in most cases, directs you to first get permission from the article's rightsholder before using their content.

To lawfully obtain permission to reuse, or to order reprints of this article quickly and efficiently, click on the "Request Permission/ Order Reprints" link below and follow the instructions. For information on Fair Use limitations of U.S. copyright law, please visit [Stamford University Libraries](#), or for guidelines on Fair Use in the Classroom, please refer to [The Association of American Publishers' \(AAP\)](#).

All information and materials related to SAGE Publications are protected by the copyright laws of the United States and other countries. SAGE Publications and the SAGE logo are registered trademarks of SAGE Publications. Copyright © 2003, Sage Publications, all rights reserved. Mention of other publishers, titles or services may be registered trademarks of their respective companies. Please refer to our user help pages for more details: <http://www.sagepub.com/cc/faq/SageFAQ.htm>

**[Request Permissions / Order Reprints](#)**