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## Nonverbal correlates of social status.

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NONVERBAL CORRELATES OF SOCIAL STATUS

A Thesis Presented

by

ERIK J. COATS

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

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Psychology

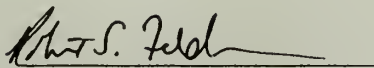
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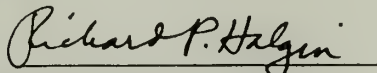
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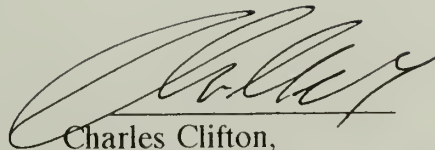
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ABSTRACT

NONVERBAL CORRELATES OF SOCIAL STATUS

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Previous attempts to find the theoretically predicted association between nonverbal communication skills and social status have been inconsistent, especially among adults. In order to address this inconsistency, the social status and nonverbal sending and receiving skills of 146 men and women were assessed. Results show that women were better able to encode happiness but men were better able to encode anger. Additionally, the ability to encode happiness predicted the social status of women, while the ability to encode anger predicted the social status of men. Together, these results suggest that happiness and anger play different roles in the social lives of men and women, with happiness being more relevant in female friendships and anger being more relevant in male friendships.

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# CHAPTER I

## INTRODUCTION

Social interactions are based on communication. While verbal language provides a medium for much of this communication, nonverbal channels such as tone of voice, body posturing, and facial expressions also play an important role. For example, when we hear someone say, "can you believe that the Cowboys won another superbowl," the semantics of the words communicate certain facts (e.g., that Dallas won at least two superbows), but it is the way the words are spoken that communicates how the speaker feels about those facts. As this example implies, facts are communicated primarily through linguistic channels, but affect is communicated largely through nonverbal channels.

Nonverbal behaviors are especially good messengers of emotion for a variety of reasons. Because facial responses to basic emotions are sub-cortical and are part of our "hard-wiring," they are difficult to suppress (Rinn, 1991). The sub-cortical nature of nonverbal expressions also makes them difficult to accurately mimic (Ekman, 1984). Further, because nonverbal communication is likely to have been present in our phylogeny prior to verbal communication, the former is likely to require less effort on the part of both the observer and the producer (Izard, 1972; Zajonc, 1980). Finally, because nonverbal behaviors are more accessible to the observer than the producer, it is difficult for the producer to effectively manage even those behaviors which are controllable (DePaulo, 1992).

As communicators of emotion, nonverbal behaviors play an important role in social interactions. A primary goal of conversations among friends is to establish and maintain rapport. To this end, the communication of emotion may often be more important than the transmission of simple facts (Tannen, 1990). Additionally, the communication of emotions verbally has a reifying effect which can be embarrassing and uncomfortable. In such situations, communicating emotions implicitly via nonverbal behavior is more comfortable for both interactants (Erwin, 1993).

Because nonverbal communication of emotion is an important part of social interactions, individual differences in nonverbal communication skills may well be associated with social status. While such an association is predicted by multiple theories, empirical findings have been inconsistent. The current study was designed to investigate the relationship between nonverbal behavioral skills and social status. Drawing on previous theory and research in the area, it considers why there may be inconsistencies in earlier work, and explores how social status, nonverbal skills, and gender are related.

### Nonverbal Skills and Social Status - Theoretical Approaches

Several theories postulate that a positive relationship exists between nonverbal communication skills and social status, although the nature of this relationship differs among them. For instance, at least two theories suggest that social status affects the development of particular nonverbal skills. First, children

of low status may be engaged by others in relatively fewer social interactions. Deprived of the opportunity to hone the skills necessary to effectively encode (express) and decode (read) nonverbal displays, low status children may grow up to be ineffective nonverbal communicators (Edwards, Manstead, & Macdonald, 1984). Alternatively, if people of low social status are aware of their inferior social standing, they may experience anxiety during social interactions which may interfere with their capacity to engage in effective nonverbal communication (Christensen, Farina, & Boudreau, 1980).

In contrast, a third theory that predicts a direct relationship between nonverbal behavior and social status suggests that deficient communication skills are the cause, not a consequence, of lower social status. Many theorists view the ability to communicate emotions nonverbally as an important social skill, and consequently as affecting social status. Rubin (1980) identifies skills necessary for the development of friendships as including the ability to be sensitive, to be supportive, and to manage conflicts effectively. Certainly being sensitive would require the ability to accurately decode nonverbal expressions. Just as certainly, encoding emotions is an important way in which we show support for others. Finally, the ability to effectively decode and encode emotions should be valuable for avoiding and managing conflicts. For these reasons, nonverbal skills help fulfill self-presentational goals (DePaulo, 1992), and increase one's value as a friend (Erwin, 1993; Feldman, Philippot, & Custrini, 1991).

Apart from these suggested direct links between nonverbal skills and social status, an association between the two may be an indirect result of the influence of personality variables. One such variable is the self-monitoring construct. Although self-monitoring is often viewed as the extent to which individuals monitor their social environment, its original formulation focused primarily on the extent to which individuals monitored their expressive behavior, or "non-language behaviors, such as voice quality, [and] body motion," (Snyder, 1974, p. 526). Indeed, part of the original validation of the self-monitoring scale involved demonstrating that people who scored highly on it are more effective communicating emotions via the nonverbal channels of face and voice. Subsequent research suggests that high self-monitors are also more likely to have a higher social status than low self-monitors (Snyder, 1987). Being associated with both encoding skill and social status, the self-monitoring dimension may indirectly cause a correlation between the two.

### Prior Research and Controversies

Whereas almost all theoretical approaches predict a positive correlation between nonverbal communication skills and social status, empirical demonstrations have had only mixed success. Some researchers have found positive correlations between the two (e.g., Edwards, Manstead, & Macdonald, 1984; Jones, 1960; Philippot & Feldman, 1990; Rosenthal et al., 1979). Others have found no relationship (e.g., Christensen, Farina, & Boudreau, 1980; Coats &

Feldman 1994a; Thompson & Meltzer, 1964). At least one study found a negative correlation (Block, 1957).

Some of the inconsistencies in this literature may be the result of the different ways that concepts have been operationalized. Social status has been measured by parental reports (e.g., Custrini & Feldman, 1989), classmate surveys (e.g., Spence, 1987), peer evaluations (e.g., Rosenthal et al., 1979), teacher evaluations (e.g., Fabes & Eisenberg, 1992), and by self-reports (e.g., Christensen, Farina, & Boudreau, 1980). Still more diverse are the methods employed to assess nonverbal skills. Decoding has been evaluated within naturalistic social interactions (e.g., Christensen, Farina, & Boudreau, 1980), by viewing videotapes of other people's interactions (e.g., Kagan, 1978), by exposing subjects to slides of facial expressions for one-tenth of a second (e.g., Ekman & Friesen, 1974), by viewing a single sender over an extended period (e.g., Rosenthal et al., 1979), and by viewing multiple senders for short periods (e.g., Philippot & Feldman, 1990). Unfortunately, correlations between these different measures are frequently very small (Buck, 1984), leaving uncertain what set of skills or tendencies each is tapping.

As numerous as they are, the many approaches to measuring social status and decoding skill is not as great as the multiple methods used to measure encoding skill. While a few researchers have tried to record naturally-occurring emotions in field studies (e.g., Kraut & Johnson, 1979), most rely on laboratory manipulations. Techniques that have been employed to generate emotions in the

lab include having subjects discuss emotional memories (e.g., Tucker & Friedman, 1993), watch emotionally provocative films (e.g., Coats & Feldman, 1994a; Philippot & Feldman, 1990), or emotionally laden slides (e.g., Buck, Miller, & Caul, 1974). Other studies do not attempt to produce actual emotions, and instead ask subjects to merely behave as if they were feeling some particular emotion (e.g., Coats & Feldman, 1994a; Tucker & Friedman, 1993).

Furthermore, once facial expressions of emotions are encoded, they must be evaluated. One evaluation method requires one or more judges to attempt to identify which of a group of stimuli the sender was viewing as they encoded particular facial expressions (e.g., Buck et al., 1972). A second method employs judges to attempt to classify the emotion the sender was experiencing as they encoding facial expressions (e.g., Tucker & Friedman, 1993). A third method require judges to evaluate facial expressions along specific dimensions, such as pleasant-unpleasant (e.g., Buck, Miller, & Caul, 1974).

One exceptional point of methodological agreement that emerges in the literature on nonverbal encoding is the distinction between spontaneous and posed encoding. Whereas spontaneous nonverbal displays are seen as occurring naturally in response to felt emotions, posed displays are disingenuous and occur when attempting to convey an emotion that is not being felt (Buck 1982; Morency & Krauss, 1982). Presumably, spontaneous expressiveness reflects more basic processes that are not easily controlled and so are considered more of an innate tendency than a learned skill. In contrast, posed expressiveness requires

more learning and so is considered more of a learned skill than an innate tendency (Buck, 1984).

### Resolutions: A Return to Theory

While some of the inconsistencies of previous investigations of the relationship between social status and nonverbal skills may result from differences in operationalizations, it is likely that the larger problem is one that must be addressed at a conceptual level. Specifically, the statement that expressive individuals should be more socially successful may be too broad and in need of qualification. Instead of asking whether or how nonverbal skills influence social status, the more appropriate research question should be for whom do they provide a social advantage and under what circumstances.

A careful examination of the literature suggests that the extent to which nonverbal expressiveness constitutes a social advantage may depend on the age and the gender of the population under consideration. Positive correlations between nonverbal skills and social status are common in studies of child populations (e.g., Edwards, Manstead, & Macdonald, 1984; Erwin, 1993; Jones, 1960; Philippot & Feldman, 1990). However, when adult populations are considered this association often vanishes or reverses (e.g., Block, 1957; Christensen, Farina, & Boudreau, 1980; Thompson & Meltzer, 1964). Rather than representing conflicting findings, perhaps these studies illustrate that nonverbal skills are more important in child than adult friendships.

Should we conclude, then, that nonverbal skills are relatively unimportant in adult friendships? It seems unlikely that the skills necessary for social success at one age would completely fail to be so at another. Rather, it seems more likely that children's skills undergo refinement and become more specific as they grow up, and that these more specific skills remain important for social success. For children, who have relatively little control over their nonverbal expressions (Feldman, Jenkins, & Popoola, 1979; Feldman & White, 1980), being globally expressive of emotions may be sufficient for social success. But in the more complex social world of adults, communicating emotions may not always add to the quality of social interaction. For adults, the appropriateness of communicating emotions often depends on the social norms and roles of a given situation. Social status among adults may therefore depend on communicating emotions only when consistent with social norms and roles.

One type of role that is especially important to consider is gender. Gender roles are pervasive in many aspects of our culture (for a review see Unger & Crawford, 1992), but perhaps nowhere else in social psychology do gender difference figure as prominently as in studies of nonverbal encoding and decoding skills. The idea that men and women both experience and express emotions differently is as old as it is pervasive in psychology. Gordon and Floyd Allport believed that gender was the single largest influence in emotional life (F. Allport, 1924; G. Allport & Vernon, 1933), an intuition that has subsequently been borne out in hundreds of studies (Hall, 1978, 1984; Wagner, Buck & Winterbotham,



1993). The literature is consistent in showing that women almost universally feel and express more emotions more frequently, with the exception of outer-directed negative emotions such as anger (Brody & Hall, 1993).

Furthermore, it now appears clear that the observed differences in the nonverbal skills of men and women are the result in large part of learned gender roles (Brody & Hall, 1993). One line of evidence for this view comes from studies of very young children, who do not show the gender differences that are so common in adult studies (Buck, 1984; Hall, 1984). A second line of evidence emerges from studies on parenting and on direct measures of gender norms. Stereotypes in the United States hold that emotional expressiveness is more typical for women than for men, with the exception of anger (Birnbaum & Croll, 1984; Johnson & Shulman, 1988). Because of the belief that expressing emotions is more appropriate for women, they are encouraged to be more emotionally communicative. These stereotypes influence the ways that parents treat their children (Malatesta et al., 1989), and the ways that peers interact (Tannen, 1990). Such differential treatment results in daughters being raised in more emotional environments than sons. Finally, a third suggestive finding comes from studies that directly demonstrate an association between the strength of people's gender roles (e.g., femininity) and their expressiveness. The influence of gender roles affects the expressiveness of both men and women, and may be stronger than the influence of biological sex (Brody, Hay, & Vandewater, 1990).

## Conclusions

Findings regarding which specific emotions are encouraged in boys and girls are almost perfectly congruent with finding regarding which specific emotions are best expressed by men and women (Brody & Hall, 1993). Anger is the single emotion that is more encouraged in males than females (Brody & Hall, 1993; Grief, Alvarez, & Ulman, 1981; Tannen, 1990) and is also the single emotion that is better communicated nonverbally by males (Birnbaum & Croll, 1984; Wagner, Macdonald, & Manstead, 1986). And while it appears that females are exposed to most other emotions more frequently than are males (and so should be more familiar with the nonverbal expressions of most emotions), the literature points to happiness as the single emotion most encouraged in females (Brody & Hall, 1994; Tannen, 1990). Consistent with this, females are consistently reported to be better nonverbal communicators of happiness (Birnbaum & Croll, 1984; Tucker & Friedman, 1993; Tucker & Riggio, 1988).

Because gender roles encourage women to be more expressive than men of most emotions, it is not surprising that adult women are in fact better at expressing most emotions than men. Furthermore, because the socialization of women encourages the expression of happiness but not anger, their social status should depend on how well they can communicate happiness, but should not depend on how well they can communicate anger. Conversely, because the socialization of men encourages the expression of anger but not happiness, their

social success status should depend on how well they can communicate anger, but not on how well they can communicate happiness.

Consequently, any study that treats both genders and both emotions interchangeably is likely to come to the conclusion that encoding ability is not correlated with social status. On the other hand, by examining genders and emotions separately, we should observe that the expression of anger is important for the social status of men, while the expression of happiness is important for the social status of women.

#### Overview of the current study

In order to test this prediction, the current study examined the nonverbal behavior of men and women of different levels of social status. The ability to decode nonverbal displays was investigated, as was the ability to encode emotions in both spontaneous and posed conditions. Three emotions were selected for investigation: anger, happiness, and sadness. These emotions are among those that are considered the most basic (Ekman & Friesen, 1971), and are among the most frequently expressed in social interactions (Coats & Feldman, 1994b). Additionally, previous research shows that each of these emotions has a different association with gender, with happiness expressed better by women and anger better by men. Sadness represents an emotion for which gender differences in the experience and expressions are incongruent. Although sadness is considered more stereotypic of and is experienced more by females (Brody & Hall, 1993), gender

differences in the encoding of sadness are inconsistent. Studies sometimes show that men communicate it better (e.g., Wagner et al., 1986), sometimes that women communicate it better (e.g., Wagner, 1990), and sometimes that neither gender holds an advantage (e.g., Birnbaum & Croll, 1984; Tucker & Friedman, 1993; Tucker & Riggio, 1988).

In order to assess the social success of subjects, samples were chosen in which subjects knew one another. Under such circumstances it is possible to calculate a measure of the relative popularity of each subject (sociometric status or SMS). SMS was chosen as the most appropriate measure of social status for two reasons. First, this measure has been used successfully in many previous studies and in different labs (Feldman, Philippot, & Custrini, 1991). Second, the use of SMS allows for the resolution of a previously confounded situation. Because this measure requires a pool of subjects who know one another, it has been used almost exclusively with grade school children who are classmates. Finding an adult sample in which people know one another is difficult, and so this measure has not been used in investigations of adult friendships. Therefore, when attempting to summarize previous research the operationalization of social status is confounded with the age of the population under consideration. It is possible that the failure to find an association between social status and encoding ability among adults is due to less precise operationalizations of social status. The use of SMS in the current study allow for an untangling of these two variables.

Consistent with previous research, males and females were predicted to exhibit different nonverbal strengths and weaknesses. Women were expected to be better able to decode nonverbal displays, with the possible exception of anger. With respect to encoding emotions, women were expected to be better communicators of happiness and men were expected to be better communicators of anger. No gender differences were expected in the communication of sadness.

Furthermore, gender differences in the relationship between nonverbal skills and social status were expected. Because the expression of anger is more socially acceptable for men, their ability to encode and decode anger was predicted to correlate with social status. Because the expression of sadness and happiness is more socially acceptable for women, their ability to encode and decode these emotions was predicted to correlate with social status.

## CHAPTER II

### METHOD

#### Subjects

Two fraternities and two sororities on the University of Massachusetts campus were solicited to take part in this study. Each organization was paid \$3.50 for every member who participated. Thirty-five members of Alpha Delta Phi (fraternity 1), thirty-five members of Delta Upsilon (fraternity 2), thirty-seven members of Alpha Epsilon Phi (sorority 1), and thirty-nine members of Sigma Delta Tau (sorority 2) participated, creating a sample of 70 males and 76 females.

#### Procedures

Upon arriving for their experimental session, subjects were greeted by a same-sex experimenter. An informed consent explained that they were being asked to participate in a study on emotions in which several types of recording devices would be used, including a video-camera, tape recorder, and pencil and paper measures. Thus, although they were not aware when video recordings would be taken, subjects did agree to the use of such recordings prior to their participation, which subsequently proceeded in four phases.

The first part of the experiment was designed to capture subjects' facial expressions as they spontaneously expressed emotions. This was achieved by having each subject discuss three emotional memories with the experimenter. Subjects were first asked, in paraphrase, to "tell a story about a time that you were

angry. Describe what it was that made you angry, how you reacted, and how or whether the situation was resolved." Subjects were then asked to tell a similar story about a time when they were sad, and finally about a time when they were happy. Experimenters were trained to be attentive to subjects as they discussed their memories, but not to display any facial expressions of emotion. A hidden camera positioned behind the experimenter recorded subjects facial expressions during this interaction.

The second part of the experiment was designed to record subjects' posed facial expressions of emotions. In order to accomplish this, a second video camera was placed just to the side of the experimenter. Subjects were given a short paragraph and were asked to read it aloud to the experimenter as if they were feeling one of three emotions. That is, subjects were first asked to read the paragraph as if they were feeling angry, then as if they were feeling sad, and finally as if they were feeling happy. As subjects did this, the same hidden camera that had recorded spontaneous facial expressions continued to operate and record posed facial expressions. This procedure ensured that the position of subjects was the same during the recording of all facial expressions.

After recording their spontaneous and posed facial expressions, subjects completed a decoding task. Twenty facial expressions of emotion were presented to subjects on a television screen. Each expression appeared for five seconds, and was followed by a ten second pause during which time subjects made their judgement about the expression. These expressions had been recorded as four

stimulus people (two male and two female college students) viewed and reacted to five emotion-provoking scenes from popular movies, each of which elicited a different emotion. The five emotions expressed by stimulus people and estimated by subjects were anger, disgust, fear, happiness, and sadness. However, because this investigation was concerned only with anger, happiness, and sadness, subjects decoding scores for disgust and fear were not analyzed. This decoding task has been used successfully in previous research (Custrini & Feldman, 1989).

The final task completed in this session required subjects to report how much they liked each of their fellow fraternity/ sorority members. Using 13-point Likert-type scales anchored at "Not at all" and "Extremely", subjects reported: (a) how much they enjoyed spending time with each other member, (b) how close their friendship to each other member was, and (c) how likely they would be to invite each other member to join them in social events.

Upon completion of these four tasks, subjects were completely informed about the nature of the experiment and their participation in it, including the use of a hidden video-camera. Subjects were given the option of having all video recordings made of them during the study erased; none chose to do so. A written release of these video recordings (without sound) was obtained from all subjects, who were then thanked and dismissed.



## Measures

Posed expressiveness was measured using the videotapes of subjects while they were reading the neutral paragraph in an emotional manner. The five seconds during which subjects were attempting to express each emotion was excerpted from the hidden camera's recording. Spontaneous expressiveness was measured using the videotapes of subjects while they discussed emotional memories. Five-second excerpts were taken from the hidden camera's recording of subjects exactly ten seconds after they began discussing each memory.

Equipment failure resulted in the loss of one or more facial expressions for 17 males and 4 females, leaving a pool of six facial expressions for 53 male and 72 female subjects. In order to assess the communication effectiveness of these 750 nonverbal displays, master tapes were created. Each facial expression was randomly assigned to a position on one of ten tapes.

Master tapes were shown to small groups of male and female college students who acted as judges. Each tape was viewed by fifteen to twenty judges who attempted to identify which of the three emotions was being expressed by each face, indicating their choice by circling the appropriate emotion label on judgment forms. For any given facial expression, the percentage of viewing judges who correctly identified which emotion was being expressed constituted our measure of the clarity of that facial expressions. The result of this procedure was to provide six measures of encoding effectiveness for each subject (three emotions under two conditions).

Subjects' sociometric status was calculated by averaging the scores given to them by their fellow fraternity/sorority members on the SMS questionnaires. The correlations among the three SMS measures ranged from .61 to .88 and averaged .77. These measures were therefore combined into a single measure. Subjects' SMS ratings ranged from 9.6 to 30.7 and has a mean of 23.5 and a standard deviation of 4.28. Because the average sociometric status score differed among the four organization who participated in this study, SMS scores were standardized by organization in z-score transformations.

## CHAPTER III

### RESULTS

#### Encoding

Encoding clarity scores were analyzed in a 2 (gender) x 2 (SMS: high or low) x 3 (emotion: anger, sadness, happiness) x 2 (type: posed, spontaneous) mixed design analysis of variance. For this analysis, subjects were divided by SMS on the basis of a median split into low SMS and high SMS groups. In this analysis gender and SMS served as between-subjects variables, while emotion and type were within-subjects variables.

This analysis revealed simple main affects for the two within-subjects variables of emotion and type, as well as two interactions. Replicating a common finding, subjects were more effective in communicating posed than spontaneous emotions. As displayed in Table 1, posed encoding scores were higher than spontaneous encoding scores for each emotion, resulting in a main effect for type of encoding,  $F(1,117) = 36.28, p < .001$ . This main effect was qualified by a significant type x emotion interaction,  $F(2,234) = 5.78, p < .01$ . The right-hand column of Table 2 shows that the relative advantage of posed over spontaneous was greatest for anger (19.7%) and least for happiness (3.5%).

**Table 1 - Encoding Success by Type**

	Posed	Spontaneous	Difference
Anger	51.3%	31.6%	19.7%
Happiness	59.3%	55.8%	3.5%
Sadness	59.5%	46.7%	12.8%

A main effect for emotion was also observed,  $F(2,234) = 8.56, p < .001$ . As shown in Table 2, encoding scores were highest for happiness ( $M = 57.6\%$ ) and lowest for anger ( $M = 41.4\%$ ). Tukey pairwise comparisons revealed that encoding scores for anger were significantly lower than scores for either sadness or happiness. This main effect for emotion was moderated by subjects' gender, resulting in a significant gender x emotion interaction,  $F(2,234) = 7.76, p < .001$ . As predicted, planned comparisons showed that women were more successful encoding happiness than were men ( $M = 66.7\%$  vs.  $45.6\%$ ;  $t(123) = 3.93, p < .001$ ); that women were marginally less successful encoding anger than were men ( $M = 38.0\%$  vs.  $45.5\%$ ;  $t(123) = 1.78, p < .08$ ); and that both were equally successful encoding sadness ( $M = 51.8\%$  vs  $55.7\%$ ;  $t(121) = .96, ns$ ).

**Table 2 - Encoding Success by Gender**

	Anger	Happiness	Sadness
Men	45.5%	45.6%	55.8%
Women	38.0%	66.7%	51.8%
Average	41.4% <sub>a</sub>	57.6% <sub>b</sub>	53.1% <sub>b</sub>

### Decoding

Decoding scores were analyzed in a 2 (gender) x 2 (SMS: high or low) x 3 (emotion: anger, happiness, sadness) mixed design analysis of variance. Gender and SMS served as between-subjects variables while emotion served as a within-subject variable. This analysis revealed a main effect for emotion as well as a near-significant main effect for sociometric status, but did not reveal the expected gender main effect or an emotion x gender interaction. Tukey pairwise comparisons show that subjects were able to decode happiness ( $\underline{M} = 99.0\%$ ) better than sadness ( $\underline{M} = 77.3\%$ ), and sadness better than anger ( $\underline{M} = 31.8\%$ ),  $F(2,278) = 560.25, p < .001$ . Unexpectedly, the average decoding score of high SMS subjects were slightly lower ( $\underline{M} = 67.8\%$ ) than the average decoding score of low SMS subjects ( $\underline{M} = 71.0\%$ ),  $F(1,139) = 3.26, p < .08$ .

**Table 3 - Decoding Success by Gender**

	Anger	Happiness	Sadness	Average
Men	30.8%	99.5%	75.0%	68.3%
Women	32.8%	98.5%	79.5%	70.3%
Average	31.8% <sub>a</sub>	99.0% <sub>c</sub>	77.3% <sub>b</sub>	

Sociometric Status

Sociometric status was predicted to correlate with men's ability to decode and encode anger and with women's ability to decode and encode happiness and sadness. Bivariate correlations were therefore computed between SMS and these nonverbal scores. Correlations with decoding scores, presented in Table 4, were disappointing. None of these correlations were significant and many were not in the expected direction.

**Table 4 - Correlations Between SMS and Decoding**

	Anger	Happiness	Sadness
Men	-.12	.05	-.10
Women	-.12	-.08	.04

Correlations between SMS and measures of encoding success are presented in Table 5. These correlations clearly show most of the predicted pattern of correlations between social status and encoding scores. For males but not

females, the ability to encode anger predicted social status. The correlation between SMS and encoding scores for anger was positive and significant for men ( $r = .35, p < .05$ ), but was not significant for women ( $r = -.08, ns$ ). Also as predicted, the ability to encode happiness predicted social status for females but not males. The correlation between SMS and encoding scores for happiness was positive and significant for women ( $r = .28, p < .05$ ), but was not significant for men ( $r = .02, ns$ ). However, the encoding of sadness did not show the predicted association with SMS for females. Encoding scores for sadness were not correlated with SMS for either men or women ( $r = .01$  and  $-.07$  respectively,  $ns$ ).

**Table 5 - Correlations Between SMS and Encoding**

	MEN	WOMEN
ANGER	.35*	-.08
Posed	.07	.10
Spontaneous	.35*	.08
HAPPINESS	.02	.28*
Posed	.15	.26*
Spontaneous	-.08	.22
SADNESS	.01	-.07
Posed	-.09	.00
Spontaneous	-.05	-.19

## CHAPTER IV

### DISCUSSION

#### Encoding

These results are clear in showing gender associated advantages in the encoding of anger and happiness. In the case of happiness, women's facial expressions were more easily understood by judges than were men's. Women were better able to communicate the emotion happiness via both posed and spontaneous displays. In the case of anger, men's facial expressions were more easily understood than were women's. With regard to encoding sadness, neither gender exhibited an advantage.

The observed female advantage in encoding happiness is consistent with the bulk of findings reported in the literature, and has been observed using multiple operationalizations of encoding, both posed and spontaneous. One reason for this advantage may be that women are more practiced than men in expressing happiness. Compared with men, women report feeling happiness both more frequently (Balswick & Avertt, 1977) and more intensely (Allen & Haccoun, 1976). Having experienced happiness more often and more intensely may have prepared women better for communicating this emotion. Alternatively, it is possible that the happy memories of the women in this sample were actually more intense than those of men, causing their resulting facial expressions to be more readable. However, this possibility would not explain the observed female advantage for posed expressions of happiness.



The hypothesis that more practiced emotions are encoded more clearly is less useful in explaining the encoding patterns observed for anger and sadness. Although findings of male advantage in encoding anger are not uncommon (Brody & Hall, 1993), there is little evidence suggesting that adult men experience anger more frequently than women (Frost & Averill, 1982). A case for the practice hypothesis could be made if it were found that men and women responded to inquiries regarding emotionality with different biases, with men tending to underreport more than women. However, there is no evidence to suggest that this is true.

The encoding pattern of sadness, which revealed no gender bias, is even more difficult to explain employing a practice hypothesis. As with happiness, women report feeling sadness both more frequently (Balswick & Averitt, 1977) and more intensely (Allen & Haccoun, 1976) than men. Furthermore, women may display nonverbal cues of sadness (e.g., crying) when experiencing distinctly different emotions, such as anger (Frost & Averill, 1982). Of the two genders, women certainly have more experience feeling sad, as well as with its nonverbal display.

It therefore appears that the practice hypothesis is generally deficient in explaining the findings observed here and elsewhere in the literature, suggesting that other influences must be involved. One alternative explanation stems from the use of same-gender experimenters. Because all subjects interacted with an experimenter of the same gender, subjects' gender is confounded with that of the

experimenters. This may be no trivial concern. Brody (1993) has shown that men express more positive emotions towards women than men, and that women express anger more if the target is male rather than female. By focusing on the gender of the experimenter instead of the subject, the observed pattern of results mirrors Brody's finding: subjects interacting with men were better encoders of anger, and subjects interacting with women were better encoders of happiness.

However, this experimenter-gender hypothesis is less compelling as an explanation of previous research. As discussed earlier, research on encoding ability has employed a wide variety of measures and manipulations, only a very few of which require that subjects interact with another person. Because women are better encoders of happiness even when alone watching slides (e.g., Buck, Miller, & Caul, 1974), something more universal regarding expressivity must be operating. Nevertheless, experimenter-gender effects may have magnified the observed differences in the current study, and it would be interesting in future studies to control for this confound by utilizing both same- and mixed-sex pairings.

A third explanation for the observed pattern of encoding success is possible by drawing a sharper distinction between emotions (subjective experience) and their nonverbal display (behavior). For example, although anger and aggression are related phenomena, they are nonetheless different. Similarly, perhaps anger and nonverbal displays associated with anger are not as closely related as has generally been assumed. It may be that nonverbal displays of anger are more indicative of aggression than of anger. In other words, people may sometimes use

their facial expressions not to communicate anger per se, but as a form of aggression or a threat of aggression.

Focusing on the behavioral aspect of nonverbal behaviors may help explain the observed gender differences in encoding success. Although men have not been reported to experience anger more frequently than women, there can be no doubt that men are more aggressive than women, at least in terms of direct, physical aggression (Björkqvist, Österman, & Kaukiainen, 1992; Goodenough, 1931; Maccoby & Jacklin, 1974). Consequently, perhaps men make a point of displaying angry facial expressions when angry, while women may make a point of not displaying them. This is precisely what Frost & Averill (1982) found in an analysis of men and women's self-reports of angry experiences. The male advantage in encoding anger may reflect not a gender difference in feeling anger, but a gender difference in expressing aggression. The female advantage in encoding happiness may reflect an opposite but similar self-presentational concern.

Although a definitive explanation of the current findings remains elusive, it does not appear that the relative encoding strengths and weaknesses of men and women can be explained by their amount of experience with different emotions. By adulthood, men and women have both had many happy, sad, and angry experiences. It is more likely that during these many experiences, men and women have developed different styles of coping with emotional interactions, and that these styles influence the encoding of emotions in different ways.

## Decoding

In contrast to the clear pattern of encoding results, the expected female advantage in nonverbal decoding did not emerge, a fact that is not easily explained. In a review of 75 studies of nonverbal decoding, Hall (1978) reports that 51 (68%) found a female advantage, 10 (13%) found a male advantage, and 14 (19%) found no differences. Yet this review does offer a possible insight into why the current study failed to find gender differences. According to Hall (1978), studies in which both auditory and visual nonverbal cues were available reported significantly larger gender effect sizes than studies in which only one cue was available. By providing subjects with only visual cues, the current study may have limited women's decoding advantage.

As unexpected as the lack of a gender effect was, the analyses performed on decoding scores were surprising for another reason as well. As a group, subjects classified as low SMS showed a near-significant advantage over subjects classified as high SMS. While it is difficult to imagine why decoding skill would carry with it a social deficit, it is possible to postulate why low social status individuals would be especially motivated to be accurate decoders. According to Fiske (1992; Dépret & Fiske, 1993), people who hold social power are less motivated to pay attention to those over whom they hold power. On the other hand, low power people are very motivated to attend to others in order to form accurate impressions of them. If subjects classified as low SMS were in the habit

of paying close attention to others, this might explain their heightened sensitivity to nonverbal emotional cues as measured by our decoding procedure.

### Sociometric Status

Although sociometric status was not found to be significantly correlated with either global decoding ability (see above discussion) or global encoding ability, significant correlations with encoding ability were observed when the two genders and three emotions were analyzed separately. Specifically, the ability to encode anger predicted SMS for men but not women: the ability to encode happiness predicted SMS for women but not men.

Of these two findings, it is perhaps easier to explain why women in our sample who were better able to communicate happiness were more popular within their sorority. Being friendly towards peers has shown expected correlations with popularity (Erwin, 1993). Indeed, expressing happiness may be a component in two of the most robust determinants of interpersonal attraction: reciprocity and attractiveness. According to the reciprocity hypothesis, people tend to like those who like them (Sachs, 1976). Because expressing happiness is often a sign of friendship or attraction, it may also communicate liking, thereby predisposing others to like us back.

Regardless of how much another likes us, people show a considerable tendency to like others who are physically attractive (Bercheid & Walster, 1974). This is important for the current discussion because some evidence suggests that

women are perceived to be physically more attractive when they are expressing happiness (Cunningham, 1986). Because women who smile more often may be perceived as more physically attractive, they may also be more interpersonally attractive.

On first reflection, it is difficult to imagine why the males in our sample who were most expressive of anger were also the most popular within their fraternity. Shouldn't the same logic suggesting a positive correlation between SMS and expressing happiness also predict an opposite correlation with expressing anger? Indeed, evidence suggests that children who are more physically aggressive are likely to be rejected by their peers (Dodge, 1983; Lemerise & Dodge, 1993).

However, a closer look at this research reveals support for a link between SMS and the nonverbal expression of anger. Specifically, it appears that children have several alternative responses when they become angry. While children often express their anger through verbal or physical aggression, a common alternative is to communicate their anger in a non-aggressive way to the person with whom they are upset (e.g., by telling the other person that they no longer want to play with him or her). Whereas the former approach has been associated with low social status, the latter has been associated with higher social status (Fabes & Eisenberg, 1992). If we assume that expressing anger and disliking requires successful encoding of nonverbal signs of anger, the ability to communicate anger nonverbally becomes a social asset. Therefore, the ability or tendency to encode clear signs of anger may help people deal constructively with hostile interactions.

A second explanation for why high social status men were observed to encode anger better than low status men can be derived from an ethological perspective. Such a perspective holds that stable dominance hierarchies help minimize social conflict and thus contribute to social cohesion. Knowing one's place in a social "pecking order" allows each group member to anticipate and avoid severe social aggressions (Strayer, 1980). Just as subhuman social species (especially males) have evolved processes that allow high status members to communicate dominance without inflicting severe physical harm, humans may use angry facial expressions to communicate dominance. Interestingly, this is precisely the conclusion reached by Charles Darwin in his seminal work on facial expressions (Darwin, 1872). Whatever the reason, at least for school aged children, dominance is closely associated with popularity (Erwin, 1993).

An ethological interpretation of the current data is possible if we assume that fraternities have well defined social hierarchies. In this case, high social status is the root and not a consequence of the ability to encode clear signs of anger. Because expressing anger is only permissible towards lower status members, high SMS subjects should express anger more freely (and frequently) in the course of their everyday interactions. This style may carry over into their non-fraternity interactions, such as the encoding procedure in the current study.

With respect to the third emotion, sadness, encoding ability was not associated with social status for men or women. While some evidence suggests that expressing sadness is more socially acceptable for women than men (Brody &

Hall, 1993), there is no evidence that the encoding of sadness is important for either gender's social success. Indeed, of the three emotions investigated in this study, sadness may be the least "social" emotion. Whereas both anger (Averill, 1982) and happiness (Kraut & Johnson, 1979) appear to have important social functions, the social value of sadness is unclear (Stearns, 1993). People who are feeling sad very often seek solitude and avoid others. Furthermore, of the three emotions investigated in this study, nonverbal expressions of sadness are the least frequently displayed in everyday social interactions (Coats & Feldman, 1994b). While the existence of nonverbal displays of sadness may have some adaptive or other importance, such advantages do not appear to be primarily social in nature.

### Conclusion

The findings of the current study are consistent in suggesting the importance of expressing happiness in female friendships and anger in male friendships. Not only were men better able to express anger, but the extent to which they could express anger predicted their popularity. And not only were women better able to express happiness, the extent to which they could express happiness predicted their popularity. The third emotion investigated, sadness, showed no gender effects.

It is likely that the most parsimonious explanations for the pattern of results for both encoding ability and its correlation to social status resides in gender differences in social norms, specifically norms of friendships. Women, in



both childhood and adulthood, tend to have smaller and more intimate social networks while men tend to have larger but less intimate networks (Brody & Hall, 1993; Erwin, 1993). These different types of networks may require different types of behavior to maintain. For example, women tend to be more concerned with establishing rapport, and avoiding disruptive conflicts (Tannen, 1990). Tannen reports that to this end, women utilize such nonverbal skills as turn-taking, body orientation, and eye-gazing. Although she does not discuss facial expressions of emotions, nonverbal displays of happiness can easily be seen as important for communicating support and understanding, in short for establishing rapport.

For men, however, establishing rapport with others is less important. Intimacy for men is more often expressed in conflicts and contests (Tannen, 1990). In childhood, boys most often engage in games that are conflictual and hierarchical (Brody & Hall, 1993). This does not necessarily imply that men are less concerned than women with establishing friendships, only that they go about it in different ways. Because men tend to prefer social activities that are conflictual, they should become more skilled in dealing with angry interactions. Because verbally reporting anger can disrupt social networks, the importance of communicating anger nonverbally becomes extremely important in dealing with anger within friendships (Erwin, 1993).

It does not appear that friendships for either men or women are closely related to the ability to express sadness nonverbally. This may be partially due to

the non-social nature of sadness (Stearns, 1993). Both anger and happiness are expressed primarily in social settings (Averill, 1980; Coats & Feldman, 1994b; Kraut & Johnson, 1979). Although it may be true that misery loves company, it does not appear that the miserable do.

### Limitations

While the current study contributes to the previous research by showing that nonverbal skills can be important in adult friendships, we cannot know how generalizable these effects are. College friendships may differ in numerous and important ways from friendships in later life, and friendships within sororities and fraternities may be especially unique. For example, the social pecking order that exists in fraternities is well defined. Perhaps male friendships in less hierarchical organization would not be as dependent on successfully communicating anger.

Similarly, the dynamics that make the communication of happiness important for social status within a sorority may be less relevant in other types of friendships. Future attempts to replicate the current findings in other social groups will tell us whether the phenomena observed here are typical of adult friendships in general or are specific to a limited class of college friendships.

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