

## EVALUATION OF BODY LANGUAGE BEHAVIOR IN A CLASS DEBATE

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The purpose of this study was to examine the degree to which students taking part in class discussions were affected by their fellow debaters' nonverbal behavior. Senior year Faculty of Education students were surveyed for the study. Data collection was done during class discussion sessions. Results showed that: (1) students were negatively affected by facial expression, gesture and physical appearance of other debaters and highly negatively affected by their intonation; (2) female debaters were negatively influenced to a greater degree by nonverbal behavior than males were; (3) four dimensions of nonverbal behavior all had significantly positive relationships with another; and (4) there was a significant relationship between the family environment in which students were raised and the degree to which they were affected by other debaters' intonation.

*Keywords:* discussion, body language, nonverbal communication, debater.

Individuals, particularly in face-to-face contact with each other, use not only words but also nonverbal means such as eye movement, intonation, gesture and other features of their physical appearance in conveying their thoughts and feelings to the other (De Ruiter, 2007). A host of researchers such as Alibali, Flevares, and Goldin-Meadow (1997), Goldin-Meadow (2004), Louwerse and Bangerter (2005), and McNeill (1992) insist that in order for interpersonal communication to be effective, verbal and nonverbal messages need to be consistent and complementary to one another. Goldin-Meadow summarizes the inseparable nature of these two channels of communication as follows: "...there

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is an undercurrent of conversation that takes place in gesture alongside the acknowledged conversation in speech" (p. 314). Investigating the relationship between verbal and nonverbal language, Alibali et al. note that their "results provide experimental support for McNeill's (1992) theoretical claims about the relationship between gesture and speech" (p. 190).

Some authors claim that nonverbal language is used more frequently than verbal communication (Goldin-Meadow, 2004; Kelly & Goldsmith, 2004; Schober, 1999; Warfield, 2001). In particular, children and persons with speech problems (i.e., stuttering) have more reliance on nonverbal language (Iverson & Fagan, 2004; Kelly, 2006). "For example, children typically begin to use deictic gestures – holding up ('showing') objects and pointing at objects, people and locations – before they produce their first words" (Rowe, Özçalışkan, & Goldin-Meadow, 2006, p. 501). The findings of these studies could be the reason for the recent increase in interest by communication experts, linguists, psycholinguists and educators in nonverbal communication (i.e., Goldin-Meadow & Wagner, 2005; Kelly, 2006; Louwerse & Bangerter, 2005; Özçalışkan & Goldin-Meadow, 2006).

Education is one of the areas in which a great deal of communication takes place. Studies in the field of education have been focusing increasingly on nonverbal communication. The communicative value of gesture, facial expression and intonation for both students and teachers has been emphasized (Cook & Goldin-Meadow, 2006; Goldin-Meadow & Sandhofer, 1999; Thurnham & Pine, 2006; Wall, 2006).

In-class discussions are one educational/instructional process involving a great deal of communication. Levin (1998) views discussion as a unique process of communication, the effectiveness of which relies on open communication and on an encouraging/supportive atmosphere (Moore, 1999; Morine-Dershimer, 1998). Discussion not only requires thinking and expression but also facilitates and enhances these aspects of the communication process (Moore, 1999; Petress, 2001; Yeşil, 2002). Thinking and expression involved in discussions can also be enriched through use of body language (De Ruiter, 2007; Goldin-Meadow & Sandhofer, 1999; Iverson & Fagan, 2004; McNeill, 1992).

Thurnham and Pine (2006) see gesture as mirroring a child's inner world. According to these authors "gesture is not merely communicative but is integral to the child's cognitive processes. This is endorsed by observations of those blind from birth, who gesture spontaneously in a similar way to sighted people" (p. 47). Furthermore, as noted by various researchers, gesture and nonverbal means of communication convey thoughts and feelings the speaker is not always able to put into words (Alibali et al., 1997; Goldin-Meadow, 2004, 2006; Goldin-Meadow & Wagner, 2005; McNeill, 1992). Likewise, studies have demonstrated that gesture, facial expression, intonation, appearance, and other nonverbal

means have considerable impact on a listener's perception and evaluation of the speaker (Kelly & Goldsmith, 2004; Singer & Goldin-Meadow, 2005; Wall, 2006). "Our gestures can change how others react to us...listeners may pay attention to those gestures and alter their input accordingly" (Goldin-Meadow, 2006, p. 37). Therefore, the educational utility of in-class discussions can be enriched by effective use of nonverbal communication.

There are two aspects to effective use of body language. The first involves the speaker's choice and use of gesture, intonation, facial expression and visual features (clothing, make-up, grooming etc.). The second aspect has to do with accurate perception and interpretation of others' nonverbal messages (Goldin-Meadow, 2004; Goldin-Meadow & Sandhofer, 1999). These two aspects are not always complementary. Sometimes verbal and nonverbal messages can contradict one another (Alibali et al., 1997; Goldin-Meadow & Sandhofer, 1999) and sometimes the receivers of these messages can interpret the speaker's nonverbal messages inaccurately (Goldin-Meadow, 2004; Goldin-Meadow & Wagner, 2005). Thus, each party's effective use of nonverbal behaviors (gesture, facial expression, intonation, appearance etc.) can play a significant role in the effectiveness of discussions. Hence, an empirical examination of the degree to which discussants' nonverbal behaviors influence their discussion partners (counterparts) might provide significant insight. In particular, teachers' ability to accurately interpret nonverbal behaviors, and insight into ways in which these behaviors affect others can enhance their effective utilization of nonverbal language. In fact, there are studies documenting influences of nonverbal features, such as facial expression, intonation, eye contact and body posture, on teachers' affective interpretations (Goldin-Meadow, 2004; Kelly & Goldsmith, 2004).

The current study was carried out with the intention of contributing to the existing literature because of several unique features. First, this study focused specifically on nonverbal behavior within the context of class discussions, which might differ from daily interactions because of their considerable degree of intensity and their lively cognitive and affective atmosphere. Second, the behaviors of facilitators (teachers) were not looked at. The study focused on examining discussants' (students') evaluations/perceptions of nonverbal behaviors. Furthermore, the fact that the participants were trainee teachers was another unique aspect of this study. In the study answers to the following questions were sought:

1. How are discussants influenced by one another's nonverbal behaviors?
2. Does the degree to which students are influenced by others' nonverbal behaviors vary significantly according to the nonverbal behavior or feature observed (gesture, facial expression and appearance)?
3. Do participants' gender and the family environment they grew up in impact on the degree to which they are influenced by the nonverbal behaviors of their fellow debaters?

## METHOD

### PARTICIPANTS

Participants in the study were 452 seniors attending undergraduate programs at Ahi Evran University, Faculty of Education, Kırşehir, Turkey. Students were trainee teachers who had already taken courses in instructional methods and communication. Two hundred and sixty-five of the participants were males, 184 females and 3 participants did not indicate their gender. The ages of participants ranged between 21 and 23. All participants were citizens of the Republic of Turkey.

### INSTRUMENT

The Scale for Assessment of Influence of Fellow Debaters' Nonverbal Behaviors, which was developed by Karadağ, Çalışkan, and Yeşil (in press) was used for data collection. The scale consists of 46 items and four dimensions (facial expression, gesture, appearance and intonation). Respondents are asked to choose one of the following five reactions for each item: (1) *affected highly negatively*, (2) *affected negatively*, (3) *not affected*, (4) *affected positively*, and (5) *affected highly positively*.

The scale was developed based on a logical and statistical approach. In order to ensure the scale's content validity, the opinions of experts were obtained. Kaiser Meyer Oklin (.67) and Bartlett analysis [ $p < .01$ ] were used to test for construct validity of the scale. Factor analysis resulted in four factors (dimensions); facial expression, gesture, physical appearance, and intonation. Items' factor loads ranged between 0.30 and 0.85. The four factors' eigenvalue was 13.63 and they accounted for 40.76% variance of the scale. Item total correlations were determined by comparing scores on each item to the total score on the scale. These correlations ranged between 0.30 and 0.79. In order to test for internal consistency, Cronbach alpha coefficients were calculated for each factor. These coefficients ranged between 0.70 and 0.74. The internal consistency coefficient for the scale was 0.79. Test-retest reliability coefficient was 0.781. These results were interpreted as being indicative of satisfactory psychometric properties of the scale (Freund, 1984; Robson, 1994).

### DATA COLLECTION

Before collecting data, 25 discussion groups of 16-20 volunteering individuals were formed within each class. Groups were given discussion topics one week prior to the actual discussion date in order to provide them with time to prepare for the discussions. Then, groups were seated in a "U" shape in their respective classes. Group members had formal discussions on the given topics. Prior to the discussion, participants were asked to pay close attention to their fellow

debaters' facial expression, gesture, physical appearance and intonation during the discussion. Participants were informed that they were going to be given a questionnaire asking about their experiences with fellow debaters' nonverbal behaviors. Then the assessment scale was administered to the debaters.

### DATA ANALYSIS

Following the coding of participants' responses, descriptive statistics were determined. Means and standard deviations for each optional response to items were calculated as follows: affected highly negatively ( $x = 1.00$ - $1.79$ ); affected negatively ( $x = 1.80$ - $2.59$ ); not affected ( $x = 2.60$ - $3.39$ ); affected positively ( $x = 3.40$ - $4.19$ ) and affected highly positively ( $x = 4.20$ - $5.00$ ). In addition, Pearson's correlations coefficients were determined to examine relationships between the four factors. Independent samples  $t$  test was used to assess whether there was a difference according to gender in the degree to which participants were affected by fellow debaters' nonverbal behaviors. One-way analysis of variance (ANOVA) was conducted to examine whether the degree to which the participants were affected by their fellow debaters' nonverbal behaviors varied significantly according to the perceived family environment they grew up in. The participants selected from four alternatives to identify their family environment, as follows: Permissive, Democratic, Authoritarian, Other (showing different characteristics varying from time to time). Lastly, Fisher's least significant difference (LSD) test was used as the follow-up test with  $p < .05$  level accepted as sufficient for the meaningfulness level of difference or relation of applied tests.

## RESULTS

The research findings are summarized in the tables and explained.

**TABLE 1**  
**FOUR DIMENSIONS OF NONVERBAL BEHAVIORS AND THEIR INFLUENCE ON DEBATERS**

Dimensions	<i>N</i>	<i>x</i>	<i>SD</i>
Facial expression	452	2.24	.40
Gesture	452	2.41	.38
Physical appearance	452	2.32	.47
Intonation	452	1.64	.49
Total	452	2.16	.31

Students taking part in debates were affected negatively by the dimensions of facial expression (frowning, pouting, sarcastic smile/laughter, clenching teeth together, looking away etc.), gestures (resting hands on desk, animated hand/arm movements, standing up suddenly, crossing legs etc.) and physical appearance

(unkempt hair, yellow teeth, wearing badges/symbols, messy clothing etc.) and were highly negatively affected by intonation (continual use of high-pitched voice, continual use of low-pitched voice, raising voice, using slang etc.). The total mean of the four dimensions was  $x = 2.16$  which illustrates that students were negatively affected overall by the four nonverbal dimensions of their fellow debaters.

**TABLE 2**  
**INFLUENCES OF FOUR DIMENSIONS OF NONVERBAL BEHAVIORS BY DEBATERS**

Dimensions	Facial expression	Gesture	Physical appearance
Facial expression	-	-	-
Gesture	.383*	-	-
Physical appearance	.342*	.301*	-
Intonation	.277*	.427*	.327*

$N = 452$ ; \* Correlation is significant at the 0.01 level (2-tailed).

There was a significant positive relationship between degrees to which debaters were affected by each of the four dimensions of nonverbal behaviors of their fellow debaters ( $p < .01$ ). Individuals were affected by each dimension in the same direction and to similar degrees.

**TABLE 3**  
**GENDER AND INFLUENCE OF NONVERBAL BEHAVIORS**

Dimensions	Gender	$N$	$x$	$SD$	$t$	$df$	$p$
Facial expression	Male	184	2.34	.37	4.529	447	.000
	Female	265	2.18	.40			
Gesture	Male	184	2.47	.37	2.547	447	.011
	Female	265	2.38	.39			
Physical appearance	Male	184	2.42	.50	3.646	447	.000
	Female	265	2.25	.45			
Intonation	Male	184	1.78	.48	4.820	447	.000
	Female	265	1.56	.48			
Total	Male	184	2.25	.27	5.614	447	.000
	Female	265	2.09	.32			

Both males ( $x_{\text{male}} = 2.25$ ) and females ( $x_{\text{female}} = 2.09$ ) were negatively affected by their fellow debaters' nonverbal behaviors. However, females were affected significantly more negatively than males ( $t_{(447)} = 5.614$ ,  $p < .05$ ). In addition, both males and females were affected more by intonation than by other dimensions of nonverbal behaviors.

**TABLE 4**  
**FAMILY ENVIRONMENT AND INFLUENCE OF NONVERBAL BEHAVIOR**

Dimension of Body Language		Sum of Squares	df	Mean Square	F	Sign. (p)	LSD
Intonation	Between Groups	2.082	3	.694	2.969	.032	$p < .05$
	Within Groups	103.543	443	.234			Democratic -
	Total	105.624	446				Authoritarian
Facial Expression	Between Groups	.620	3	.207	1	.032	$p < .05$
	Within Groups	69.799	443	.158	1.311	.270	
	Total	105.624	446				
Gesture	Between Groups	.487	3	.162	1.094	.351	$p > .05$
	Within Groups	65.756	443	.148			Democratic -
	Total	66.243	446				Authoritarian
Physical Appearance	Between Groups	.986	3	.329	1.455	.226	$p > .05$
	Within Groups	100.069	443	.226			
	Total	101.055	446				

There was a significant relationship between the family environment individuals grew up in and the degree to which they were affected by their fellow debaters' intonation ( $F_{(3,443)} = 2.969$ ,  $p < .05$ ). More specially, the variance in the significance of intonation was due to the difference between individuals who were raised in democratic and authoritarian family environments.

## DISCUSSION

Overall, debaters were not indifferent to each other's nonverbal behaviors. Participants were often negatively affected by their fellow debaters' nonverbal behaviors. This is in line with results by Alibali et al. (1997) who "found that both undergraduates and teachers are sensitive to the information that children express in gesture and not in speech" (p. 190). Goldin-Meadow and Sandhofer (1999) assert that individuals do not have to be trained in body language in order to be observant of gestures and that ordinary listeners are also perceptive about gestures of their conversation partners. Given the results, one could infer that, similar to any sort of interpersonal exchange, individuals taking part in discussions are not indifferent to the nonverbal messages of their fellow debaters. Moreover, one would expect that this would be true for discussions to a greater degree than for some other ways of communication (lecture, conversation etc.). Although this claim needs empirical examination, findings of some previous studies have reported that discussions are often of more cognitive and affective intensity (Moore, 1999; Petress, 2001; Rainer & Guyton, 1999), a finding that could be taken as supporting this proposition. Nonverbal behaviors clarify,

support and reinforce verbal messages (Özçalışkan & Goldin-Meadow, 2006) and facilitate a speaker's self-expression (Goldin-Meadow, 2004; Kelly & Goldsmith, 2004; Louwerse & Bangerter, 2005; Wall, 2006). Hence, similar to other communication situations, perceptiveness about nonverbal behaviors and competence in effectively sending and receiving nonverbal messages can enhance individuals' performance as debaters.

Results showed that participants were affected by intonation (highly negatively) more than by gesture, facial expression and physical appearance. Why individuals placed more importance on intonation is an interesting question. One explanation for this could be the common saying that "how a person says something is more important than what he/she says." Goldin-Meadow and Wagner (2005) observe that "people can glean information from gestures when those gestures are presented without speech, but unless the gestures are points, gesture conveys little information on its own" (p. 236). Intonation gives emphasis to the spoken words. Different intonations could give varying meanings to the same verbal statement. On the other hand, it is difficult to distinguish clearly between intonation and words (Schober, 1999, p. 27). Therefore, debaters need to pay closer attention to intonation during discussions.

The second finding of the study was that there was a significant positive relationship between the four dimensions of nonverbal behavior; gesture, facial expression, intonation and physical appearance. This could be interpreted as evidence supporting the idea that individuals may not perceive single features of body language but rather interpret them together (Schober, 1999). The rich nature of nonverbal behaviors is summarized by Goldin-Meadow and Wagner (2005) as follows: "Nonverbal communication encompasses a wide-ranging array of behaviors – the environments we create, the distance we establish between ourselves and our listeners, whether we move our bodies, make eye contact, or raise our voices, all collaborate to send messages" (p. 234). Studies show that individuals use various features of nonverbal language all together and their behaviors are perceived as integrated behaviors (Goldin-Meadow, 2004; Kelly & Goldsmith, 2004). Thus, debaters need to pay attention to gesture, facial expression, intonation and physical appearance all at once. In other words, effective utilization of nonverbal messaging during discussions or any interpersonal communication can be accomplished in part by paying close attention to all aspects of nonverbal cues. Otherwise, persons can omit or misconstrue messages they receive (De Ruiter, 2007; Singer & Goldin-Meadow, 2005; Thurnham & Pine, 2006; Wall, 2006).

The third finding of the study was that there was a significant relationship between gender and the degree to which debaters were affected by their fellow debaters' nonverbal behaviors. Specifically, female students were more negatively affected by debaters' nonverbal behaviors than were their male peers.



No prior studies examining the degree to which each gender perceives nonverbal behavior were found in the literature. The finding of the present study could be attributed to the likelihood that females are open to characteristics of physical appearance (grooming, signs of politeness, clothing etc.) and are receptive to the emotional cues of others.

A fourth finding of the study was that individuals' perceived family environment was significantly related to the degree to which they were affected by intonation. The influence of environment on individuals' perceptions has been well documented (Dunkin, Welch, Merritt, Phillips, & Craven, 1998; French, 1996; Rasuly-Paleczek, 1996). In fact, after their exhaustive review of literature on environment and perception, Rainer and Guyton (1999) go further to note that persons take on characters according to the environments they are in.

Intonation was perceived differently depending on whether the individuals were raised in democratic or authoritarian family environments. Specifically, those who were raised in democratic family atmospheres were negatively affected by debaters' intonation to a greater degree than those who were raised in authoritarian families. It can be argued that individuals who were raised in democratic families may not be as familiar with hostile behaviors, high-pitched speech and aggressive behaviors (Levin, 1998; Petress, 2001; Rainer & Guyton, 1999; Yeşil, 2002).

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