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Towards Building Group Cohesion and Learning Outcomes based on Nonverbal Immediacy Behavior

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Abstract

This article investigated the role of nonverbal immediacy in building group cohesion and effective learning outcomes. By assessing the perception of 82 participants' nonverbal immediacy and group cohesion, results showed the more effective nonverbal behaviors used among teammates, the more positive the increase in learning outcomes. Moreover, group task integration was the only element of group cohesion that was impacted by nonverbal immediacy behaviors. Discussion focuses on future study suggestions and explains the dynamics of significant relationships between nonverbal immediacy and group cohesion variables. This study offers important insights to understand the communicative behaviors group individuals use to enhance their immediacy.

Disciplinary: Communication & Education, Behavioral Sciences, Cooperation, Collaboration, & Partnership.

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1 Introduction

From the classroom to the boardroom, small-sized task groups are used in a variety of settings. Specifically, in the classroom, small groups of students are often asked to complete a unit assignment or semester-long project together. For some students, group work is a favorable experience, as members experience synergy, high rates of group success, and a divided workload. For other students, however, group work can be a period of great stress when fellow members do not complete their work on time or to the standards expected by other members.

However, these oftentimes forced interactions are used in classrooms as a learning experience. Once a student gains employment in the business world, an emphasis is placed on the ability to work effectively as a member of a team. With this need to demonstrate success as a team

member, teachers often use small group projects to hone their students' skills in this area. Past research has sought to define what makes effective groups and how to build cohesive, enjoyable teams (Anderson & Martin, 1999; McBride, 2006; Rosenfeld & Gilbert, 1989). Based on past literature on nonverbal immediacy and group cohesion, the current study attempts to enlighten the association between perceived nonverbal immediacy and group cohesion within student small groups at the university level.

Language, as is a tool in communication, has played a vital role not only in an individual's daily personal but also even in small group students at university classes. In terms of communication, people learn to pay attention to the language/words that are being utilized. More often in scholarships, researchers pay more attention to verbal communication than non-verbal. However, communicating is not only through the use of words, but other factors in expressing themselves should be considered. In verbal communication, individuals receive and understand the message not only through the spoken language but through how the speaker utters the statement. That includes the tone of voice, facial expression, gestures, postures, or even the clothes the speaker wears that can carry a message. This study focuses on nonverbal immediacy. Therefore, verbal immediacy will not be described in this literature.

1.1 Nonverbal Immediacy

Andersen (1979) described nonverbally immediate behaviors as "communication behaviors engaged in when a person maintains a closer physical distance" (p. 545). These behaviors include but are not limited to touching others, using eye contact and gestures, the length of interaction, casual clothing, and comfortable body position. Nonverbal immediacy is a behavior that elevates the level of closeness between interactants (Keaten et al., 2004). Researchers have suggested that nonverbal messages are more important than verbal ones (Andersen et al., 1979), and studying the behaviors of people can significantly reveal how people communicate nonverbally. The concept of nonverbal immediacy evolved from the work of Mehrabian (1967), whose first focus, verbal immediacy, later transformed into a focus on nonverbal immediacy. His research led to the concept of immediacy which affirms that "people are drawn toward persons and things they like, they evaluate highly, and prefer" and that "they avoid or move away from things they dislike, evaluate negatively, or do not prefer" (Richmond, 2003, p. 2). This psychological definition suggests that immediacy occurs because of people's likes and dislikes in an interaction. In other words, frequent uses of immediacy behaviors are appreciated by people; thus, listeners will like them more and vice versa.

As stated earlier, immediacy behaviors are communicative behaviors that minimize the psychological distance between speakers. The difference between verbal and nonverbal immediacy is that the first deals with the verbal expression communicators use to interact, while the second involves communicating at a close distance, such as making eye contact, smiling, and incorporating vocal variety (Park et al., 2009). Thus, nonverbal immediacy can be communicated by numerous nonverbal behaviors (Comstock & Rowell, 1995).

1.2 Nonverbal Immediacy in Different Contexts

Turman (2008) examined both group cohesion and nonverbal immediacy behaviors as to the extent they functioned within relationships between coaches and their sports teams. The study examined both the verbal and nonverbal immediacy behaviors of coaches and whether these behaviors affected their sports teams' satisfaction and group cohesion levels. The study found verbal immediacy behaviors to be more predictive of group cohesion. Thus, verbal immediacy behaviors (i.e., using words and terms which signal an openness to communicate) had more effect on group cohesion, while nonverbal immediacy behaviors were instead linked to social attraction to the group or the extent to which one's motives "for continuing to remain with the team" related to his or her feelings about how the group helped "to satisfy personal needs, goals, and objectives" (Turman, 2008, p. 166).

When studied in different contexts, nonverbal immediacy behaviors have been found to bring about positive outcomes. Specifically, when studied in the classroom and therapy contexts, nonverbal immediacy has predicted greater effects in perceived cognitive, behavioral, and affective learning among students (Christophel, 1990; Sanders and Wiseman, 1990) as well as greater perceived empathy, warmth, genuineness, and effectiveness among clients' views of their therapists (Sherer & Rogers, 1980). Nonverbal immediacy has been investigated within the classroom setting, specifically between teachers and students. When first applied to the classroom context, Andersen (1979) aimed at finding a link between nonverbal immediacy behaviors and student cognitive learning. Teachers' use of nonverbally immediate behaviors "(e.g., using hand gestures, smiling while talking, having relaxed body positions, and moving around the classroom)" have been found to bring about greater academic interest among students (Park et al., 2009, p. 207). Similarly, nonverbal immediacy has been researched within the context of a therapist and client. Sherer and Rogers (1980) supported the prediction that a therapist who communicated liking and acceptance through high-immediacy nonverbal behaviors would be rated by clients as superior in interpersonal skills. Thus, the therapist was viewed as effective, and the client was more satisfied with the service (Sherer & Rogers, 1980).

The existing studies on nonverbal immediacy are concentrated on the influences of the communication skills of teachers in a classroom context. Pogue and AhYun (2006) found that the level of constructive attitudes toward academic environments is positively related to the level of students' perceptiveness toward their instructors as nonverbally immediate. Increasing the level of the instructor's nonverbal immediacy is positively associated with the assessments of the instructor's overall performance and students' willingness to enroll in another course under the same instructor (Pogue & AhYun, 2006). Applying these research findings to group concepts, nonverbal immediacy behaviors may play a role in teammate motivation.

Besides increased student motivation, nonverbal immediacy of teachers is also linked to enhanced learning outcomes and boosted to constructive student's behaviors in the classwork. One of the key elements examined alongside nonverbal immediacy is learning effectiveness, which is

defined as "the development of favorable or unfavorable attitudes toward learning by the student" (Folwell, 2000, p. 42). Learning effectiveness impacts "students' attitudes toward their classes, course content, and instructors; and the positive effect that nonverbal immediacy evokes often results in positive learning outcomes" (Pogue & AhYun, 2006, p. 333). The level of learning effectiveness is positively related to "increased involvement, interest in subject matter, and willingness to model behaviors learned in the classroom" (Turman, 2008, p. 164). Generally, the behavior of students with nonverbally immediate teachers is valuable on the level of student's learning and academic accomplishment, which leads to increased information-seeking strategies and willingness to comply with teachers' requests and decreased student apprehension and resistance to learning (Bribyl, Sakamoto, & Keaten, 2004; 4,82; Pogue & AhYun, 2006). Considering these results in a small group of students, there is a possibility that nonverbal immediacy behaviors may contribute to increasing the positive and effective learning outcomes. As such, the hypothesis is given as

H#1: Nonverbal immediacy behaviors in a group are positively associated with individuals' professional growth in their groups.

1.3 Group Cohesion

Literature shows that there is a lot of debate around how to define group cohesion. Some researchers argue that cohesion is solely related to task commitment while others contend that it is part of the group's social process (Levine & Violanti, 2008). To account for these varying concepts of cohesion, cohesion is often divided into four distinct elements: "a function of member's traits in both social and task interactions, cooperation toward goals, attraction to the group and/or individual members, and commitment to group goals" (Anderson & Martin, 1999). McBride (2006) further defined cohesion as the "groupness" felt among members resulting from both task and relational facets. Overall, cohesion is understood in terms of group and interpersonal attractiveness (Simons & de Ridder, 2004).

Early cohesion research proposed that the development of a shared language or slang among group members indicated levels of cohesion (Weinberg, 1979). However, this concept of cohesion took a more task-oriented perspective, arguing that cohesion or cooperation can occur in groups where members may not like each other or even enjoy their time together (Weinberg, 1979). In classroom settings; however, feelings of dread about group work, also known as group hate, is negatively related to group cohesion and satisfaction (Myers et al., 2010). Furthermore, students who viewed their co-members as simply coworkers experienced less cohesion because the emphasis was on task completion to the exclusion of interpersonal dynamics (Scott et al., 2010).

To address both the relational and task dimensions of group cohesion, the research examined the traits of individual group members and their impacts on group outcomes and cohesion, specifically in therapeutic and athletic contexts (Anderson & Martin, 1999; Simons & de Ridder, 2004). Cohesiveness within a group is a positive trait, leading to more productivity and satisfaction (McBride, 2006). A high level of group cohesion has been found to occur in group

climates that support discussion and disagreement; similarly, those environments which support constructive communication also build cohesion (Anderson & Martin, 1999). While argumentativeness is considered functional communication, Anderson and Martin (1999) found that argumentativeness in a group context may actually prevent members from perceiving that their group gets along well. Past research has also correlated high group cohesion with self-disclosure among group members in a classroom context (Rosenfeld & Gilbert, 1989), as a generator of social capital that provides benefits to members beyond the group interaction (Simons & de Ridder, 2004), the use of positive nonverbal communication, the establishment of group goals, and the reduction of dread associated with group work (Scott et al., 2010).

While many of these studies examined cohesion as an independent variable influencing group performance, Levine and Violanti (2008) proposed that cohesion could in fact be predicted by identifying antecedent variables, such as task distribution and group interaction. This study aims to extend this line of research by exploring whether or not nonverbal immediacy behaviors of group members relate to cohesion. Furthermore, the groups identified for this study differ from other group types studied because group selection may not have been solely the choice of the individual members. To explore these variables, this study proposes:

H#2: More effective use of nonverbal behaviors leads to higher team cohesion.

H#3: Group cohesion mediates the effect of nonverbal immediacy behaviors on individuals' professional growth.

2 Research Methodology

This study uses a survey approach to gather data during September 2020. The questionnaire method was utilized because it allowed the researchers to gather a large number of participants during a short period at a fairly low cost (Creswell, 2003).

A total of 91 students from a university in the US midwest participated in this study, however, only 82 responses (male = 42; female = 39) usable responses. The most frequently occurring year in school was sophomore (freshman/sophomore/junior/senior) (*N*=42), followed by junior (*N*=28), senior (*N*=9), freshman (*N*=2), and fifth-year (*N*=1).

2.1 Nonverbal Immediacy

The evolution of nonverbal immediacy scales has received a lot of scholarly attention in the communication discipline. This specific study utilized the Nonverbal Immediacy Scale Report (NIS-O) developed by Richmond et al. (2003) because it tends to have higher scores in reliability and validity. This is a combined instrument that showed to have satisfactory reliability of .80 in previous research. The nonverbal immediacy scale is comprised of 26 items, each with a 5-point Likert-type response format. Thirteen items represent negative immediate behaviors, and 13 items represent positive immediate behaviors. For this study, the Nonverbal Immediacy Observer-Report Scale had a Cronbach's alpha of .93 after reverse coding the questions concerning negative immediate behaviors.

2.2 Group Cohesion Levels

Group cohesion was measured using *Group Environment Questionnaire* (GEQ). The GEQ aims to measure the individuals' perceptions of their group cohesion, which is based on a conceptual model of cohesion introduced by Widmeyer et al. (1985). The GEQ consists of 18 items invented to assess members' tasks and social interaction within groups, including four dimensions: social attraction to the group, task attraction to the group, social group integration, and group task integration. Amendment to GEQ items was made to modify references to sports teams' playing time, game winnings, and seasons to project teams' assigned task, project outcomes, and working hours respectively. For instance, item 17 "I am not happy with the amount of playing time I get" was modified to "I am not happy with the amount of group work I am given" The GEQ was converted to a 7-point Likert-type scale. Possible answers ranged from strongly disagree (1) to strongly agree (7). Previous reliability coefficients ranged from .63 to .84 for each of the four subscales of the GEQ (Brawley et al., 1987; Widmeyer et al., 1985). The Cronbach's alphas coefficients in this study range .82-.91 for members' perceptions of each cohesion dimension.

3 Procedure & Data Analysis

The questionnaire was distributed via the Internet using the Qualtrics software. After receiving permission from class instructors, the researcher shared the survey link with the students. Upon completing the questionnaire, the data was then entered into a data management software program (SPSS). Answers about negative immediacy behaviors were then reverse coded to achieve stronger scale reliability (Widmeyer et al., 1985). Each student's cumulative nonverbal immediacy and group cohesion scores were then computed.

Both the scores for perceived nonverbal immediacy of group members and group cohesion were interval variables. Therefore, a Pearson's correlation was used to determine if a relationship existed between nonverbal immediacy and cohesion (across four dimensions). A Pearson's correlation is specifically designed to determine the relationship between two interval-style variables (Wrench et al., 2008). To determine if there was a difference between groups, a bivariate linear regression was conducted to determine the relationship between cohesion and nonverbal immediacy by the group. As interval variables, nonverbal immediacy and group cohesion fulfilled the assumptions of regression. Also, the regression statistics allowed group differences to be determined.

4 Achieved Results

The first hypothesis posited a positive association between nonverbal immediacy behaviors and individuals' professional growth in their groups. The author begins by assessing the correlation between perceived individual's nonverbal behaviors and individuals' professional growth. The variables were significantly correlated, but they were not significantly correlated after controlling for the group cohesion dimensions (see Table 1).

Table 1: Pearson Correlation Coefficient between variables

Variables	**1.** Nonverbal Immediacy behaviors	**2.** Professional growth
1. Nonverbal Immediacy behaviors	–	
2. Professional growth	.47***	
Group cohesion		
3. Social Attraction To Group	.47***	.40***
4. Task Attractions To Group	.37***	.42***
5. Group Social Integration	.34***	.37***
6. Group Task Integration	.66***	.58***
In the Model		
7. Professional growth (after controlling group cohesion dimensions)	0.16	
8. Individual attractions to the group –Social (after controlling #4,5, & 6)	0.141	
9. Individual attractions to the group - Task (after controlling #3, 5, & 6)	-0.21	
10. Group integration – Social (after controlling #3, 4, & 6)	-0.09	
11. Group integration – Task (after controlling #3, 4, & 5)	.56***	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

The H#2 proposed that group cohesion (i.e. social attraction to the group, group task integration, … etc.) is positively related to perceived individual's nonverbal behaviors. Using bivariate correlation and entering the four dimensions of group cohesion as well as nonverbal behaviors variable, all variables were significantly correlated. However, by using partial correlation, only the *group task integration* factor was significantly correlated with an individual's nonverbal behaviors (see also Table 1), thus H#2 is accepted. The H#3 proposed that group cohesion (including social attraction to the group, task attraction to the group, group social integration, and group task integration dimensions), mediators between nonverbal behaviors and professional growth. As Figure 1 illustrates, the individual's nonverbal behaviors non-significantly predicted professional growth in the bivariate model (β = .37, $t(79)$ = 1.42, p = .16) when the mediators are absent and controlled. Thus, H#3 is partially accepted.

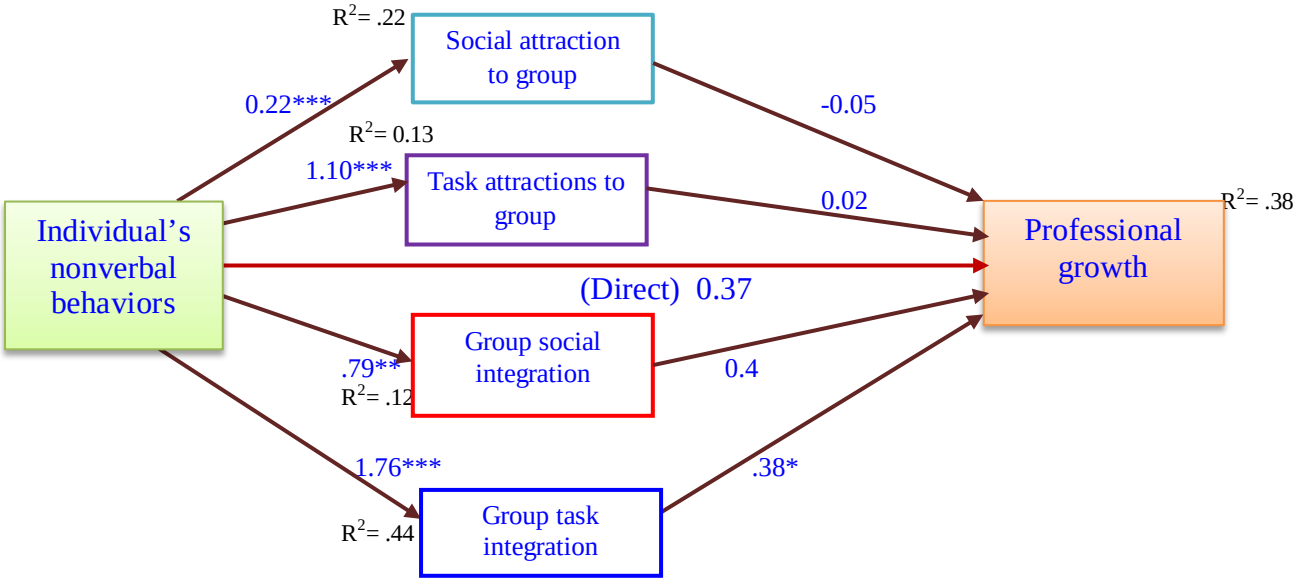

Figure 1: Group cohesion dimensions mediate the association between the individuals' nonverbal behaviors and professional growth.

To test the statistical significance of the indirect effect, Hayes (2013) recommends using bootstrapping. In the mediation model, mediation analyses via PROCESS which employ

bootstrapping by using 10,000 samples revealed that the hypothesis was partially supported: the individual's nonverbal behaviors predicted only group task integration –after controlling other dimensions (β = 1.76, $t(79)$ = 7.80, p < .001) and group task integration significantly predicted professional growth (β = .38, $t(75)$ = 2.78, p < .01). Importantly, direct effects of the individual's nonverbal immediacy behaviors become non-significant after taking out the effect of mediation, group task integration variable (β = .37, p = .20). The indirect effect of the individual's nonverbal immediacy behaviors through group task integration was significant, ab = .67, 95% CIs [.06, 1.39]. Total effects of the individual's nonverbal immediacy behaviors were significant when the mediator, group task integration dimension, was included in the model (ab+c = .78, 95% CIs [.33, 1.24]).

5 Conclusion

The main goal of this study is to examine the effects of an individual's nonverbal immediacy behaviors on the group cohesion dimensions and professional growth and to disentangle the underlying mechanisms. In all of the three hypotheses, results showed that there were no differences between men and women. The findings indicate that nonverbal immediacy behaviors are positively associated with professional growth. In other words, the more effective nonverbal behaviors used among teammates, the more positive and increasing learning outcomes. This finding is consistent with Pogue and AhYun's (2006) study. They found that the positive and effective nonverbal immediacy often evoked results in positive learning outcomes. Moreover, past research determined that a teacher's use of positive nonverbal immediacy behaviors had a positive effect on student's learning (Andersen, 1979; Park et al., 2009).

This study also found that individual nonverbal behaviors, in general, affect group cohesion. Specifically, examining the four levels of group cohesion together, nonverbal behaviors only impacted group task integration. In other words, social attraction to the group, task attractions to the group, and group social integration did not play a role in group cohesion after group task integration was included in the model. This finding is congruent with some researchers' argument that cohesion is related solely to task commitment while others contend that it is part of the group's social process (Levine & Violanti, 2008).

Conversely, this finding is not compatible with Anderson and Martin's (1999) concept of cohesion. Anderson and Martin (1999) argue that group cohesion consists of "a function of member's traits in both social and task interactions, cooperation toward goals, attraction to the group and/or individual members, and commitment to group goals" (Anderson & Martin, 1999). All these four elements may be impacted by nonverbal behaviors expecting group task integration. Therefore, those four elements that construct group cohesion may be applied to nonverbal behaviors. Hence, this study implicates that the four elements composing group cohesion may function in verbal behaviors, but not function in nonverbal behaviors. Future research is needed to re-assess what constructs group cohesion verbally and nonverbally behaviors.

6 Availability of Data and Material

Data can be made available by contacting the corresponding author.

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