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ABSTRACT

Using a sample of college students assembled in groups of dyads representing all possible combinations of gender and race, this study sought to determine whether attributions made by conversational participants about each other are a function of the time patterns of their verbal interaction. It was found that the participants' pause and switching pause probabilities, and their speech rates, significantly influenced the extent to which they were perceived by their partners in terms of negative and/or positive attributes. It is concluded that the relationship between the temporal patterns of dyadic verbal exchange and the interpersonal perceptions of the participants in the exchange are affected by characteristics both of the participants and of the situation in which they interact. (Author/WP)

Interpersonal Perception in Dyads as a Function of Race, Gender, and Conversational Time Patterns[1]

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Running head: Interpersonal Perception in Dyads

Abstract

The purpose of the present study was to explore the possibility that the attributions made by conversational participants about each other are a function of the time patterns of their verbal interaction. Ninety-six white and 74 black males and females whose ages averaged approximately 19 years were assembled into dyads representing all possible combinations of gender and race. Each dyad was asked to engage in a 15-minute conversation for the purpose of getting to know each other. After the conversation, each participant was asked to describe him- or herself and his or her conversational partner in terms of a set of 20 bipolar, seven-point adjective scales. The participants' pause and switching pause probabilities, and their speech rates were the temporal characteristics found to significantly influence the extent to which they were perceived by their partners in terms of negative and/or positive attributes. Moreover, the attribution of positive and negative attributes were also significantly affected by the participants' gender and race.

Interpersonal Perception in Dyads as a Function of Race, Gender, and Conversational Time Patterns

Popular literature and cross-cultural folklore are replete with suggestions that a person's voice plays an important role in how others view him or her. Common parlance even refers to aspects of the voice that people seem to use in formulating their impressions of a speaker. The phrase, "loud mouth," for instance, implies a person who is arrogant, vain and "pushy" in interactions with others but refers behaviorally to vocal intensity. "Smooth talker," and "fast talker" both imply, in varying degrees, someone who is persuasive although not entirely trustworthy, but they refer behaviorally to speech fluency and speech rate, respectively. Many psychological studies have been concerned with the relationship between how people talk and the personal characteristics that others attribute to them. Almost all these studies, however, have examined this relationship with attributions provided by groups of independent judges (Scherer, 1972; Siegman, 1978) rather than within the context of conversational exchanges. Yet it is within just such a context that interpersonal impressions are most frequently formed. Moreover, relatively few studies have investigated the relation of interpersonal impressions to specific paralinguistic aspects of the voice (Scherer, Scherer, Hall, & Rosenthal, 1977). The purpose of the present study, therefore, was to explore the possibility that the attributions made by conversational participants about each other are a function of the time patterns of their verbal interaction.

Method

Subjects

Inasmuch as a study by Feldstein (1977) indicated that conversational time patterns are influenced by race and gender, the present study took both variables into account. The participants were 96 white (43 males and 53 females) and 74 black (24 males and 50 females) college students whose ages averaged 19.1 years with a sigma of 1.9 years.

Procedure

The participants were assembled into ten groups of dyads, each of which represented a different combination of gender and race, and all of them exhausting the number of possible combinations. The participants of each dyad were asked to engage in a 15-minute conversation for the purpose of getting to know each other. After the conversations, each participant was asked to describe him- or herself and his or her conversational partner in terms of a set of 20 bipolar, seven-point adjective scales. The independently judged positive

Insert Table 1 about here

pole of each scale was scored '1' and the negative pole was scored '7'. The score used in the analysis was the sum of the 20 scale scores.

Among the parameters that reflect conversational time patterns (Jaffe, & Feldstein, 1970), three - vocalizations, pauses, and switching pauses - were

used in the present study and were obtained automatically from the conversations by a special analogue-to-digital converter system. A vocalization is a segment of speech uttered by the speaker who has the floor that is uninterrupted by any silence discernible to the human ear. A pause is an interval of silence bounded by the vocalizations of the speaker who has the floor, and a switching pause is an interval of silence that begins after the vocalization of one speaker and is terminated by the vocalization of the other speaker. Thus, it marks a change of which person has the floor, or turn. An additional measure - the proportionality constant ratio (PCR) - was computed by dividing the proportionality constant of pauses into the proportionality constant of vocalizations. (The proportionality constant of an event is identical to the probability that the event will continue.) Previous research (Feldstein, Note 1) has shown the PCR to be highly correlated with words-per-minute, a measure of speech rate.

Results

Hierarchical multiple regressions (Cohen, & Cohen, 1975) were used to analyze the data and yielded the following results.

1. In general, those speakers whose probablities of continuing to pause were high tended to be viewed more negatively by their partners than were those speakers whose probabilities were low, although the p value of this finding is only .06. Interestingly, those speakers whose probabilities were high also viewed themselves more negatively than did those whose probabilities were low ($F_{1,166} = 4.886$, $p = .03$). The former finding, however, is modified by an interaction effect ($F_{1,162} = 4.036$, $p = .04$) which indicates that white males

Insert Figure 1 about here

and black females were viewed by their partners more negatively when their probabilities of continuing to pause were high than when they were low. On the other hand, white females tended to be seen in more positive ways as their probabilities of continuing to pause increased. The perception of black males by their partners was not noticeably affected by their pause probabilities.

2. The analysis of switching-pause probabilities also yielded an interaction effect ($F_{1, 162} = 4.289$, $p = .04$) which shows that white men and black

Insert Figure 2 about here

women were assigned more negative attributes the more likely it was that their switching pauses would continue. For the same behavior, however, black men and white women were assigned more positive attributes.

3. Still another interaction effect ($F_{1, 162} = 5.158$, $p = .02$) indicates that the faster their rates of speech (i.e., the higher their PCRs), the more

Insert Figure 3 about here

positive were the attributes assigned to white men and black women by their partners. However, black men were viewed more negatively when their speech rates were high than when they were low, and the perception of white women by their partners was not related to speech rate.

4. In general, the participants perceived their partners in more positive ways when their partners were women rather than men ($F_{1,168} = 4.595$, $p = .03$).

Discussion

The results suggest that it is possible to obtain reliable information about the vocal correlates of interpersonal impressions from a context very much like the actual, or "real life" context in which such impressions are generally formed. In the present study, the impressions that conversationalists formed of each other appeared to be related, at least in part, to the silences of their verbal exchanges and to their rates of speech. These relationships, however, were markedly affected by the race and gender of the perceived persons. In this respect, it is of particular interest that the participants' impressions of white men and black women were similar, that their impressions of black men and white women varied, but that their impressions of black men and white women differed from those of white men and black women. A possible conjecture is that this perceptual grouping, so to speak, of white men with black women and black men with white women reflects subcultural status patterns. To examine this conjecture further requires studies in which status is deliberately manipulated.

With regard, however, to the general issue of whether the pacing of a verbal exchange influences the interpersonal impressions of its participants, the credibility of the present results is enhanced by those of two more recent studies. One was reported by Crown (Note 2) several weeks ago. It represented an effort to examine the issue with the context of interviews. The interviews were only moderately constrained, but they involved four conditions created by the interviewers' behavior. That is, the interviewers behaved towards the interviewees in a manner that was warm, cold, warm followed by cold within the same interview, and cold followed by warm. Moreover, in each interview half of the questions were intimate and half were not intimate. At the end of the interviews, the interviewees were asked to describe their interviewers in terms of a set of bipolar adjective scales developed by Goldberg (Note 3) and his associates. The results indicated that the interviewees' impressions of their interviewers were indeed influenced by the duration and frequencies of the interviewers' pauses, latencies, and vocalizations, but that the magnitude and direction of the relationships depended upon the conditions of the interview and the types of questions asked.

The other study, conducted by Feldstein and Hennessy (Note 4) and completed just last week, compared the conversational time patterns of Canadian and Chinese male speakers of whom there were 22 and 20, respectively. As part of the study, however, the conversational partners were asked to describe their perceptions of each other in terms of a set of 25 six-point adjective scales selected from the larger set developed by Goldberg (Note 3). One of the questions asked by

the study was whether there is a relationship between the extent to which the time patterns of the participants in a conversation become similar (i.e., become congruent), and the degree to which the participants view each other in similar ways. At this point, only the analyses of the conversations of the 11 Canadian dyads are available. The results indicate that, as in previous research, only the average durations of the pauses and switching pauses reflected significant interspeaker influence in the conversations. Thus, the absolute difference between the average pause durations of each pair of conversational partners and between their average switching pause durations was used to represent the degree to which their pause and switching pause durations were similar (Feldstein, & Welkowitz, 1978). Obviously, the smaller the difference, the more similar were the durations of the partners' pauses and switching pauses. Similarly, the absolute difference between the partners' ratings of each other on each of the 25 adjective scales were computed and summed over the 25 scales. Again, the smaller this total difference score, the more similar were the ways in which the partners perceived each other. Comparisons of these differences with the pause and switching pause differences yielded significant product moment coefficients of .68 and .69, respectively. The finding suggests that persons who pace their contributions to a conversation in similar ways also tend to perceive each other in similar ways.

In short, it begins to look as if the relationship between the temporal patterns of a dyadic verbal exchange and the interpersonal perceptions of the participants in that exchange is affected by characteristics both of the

participants and of the situation in which they interact. Given the complexity of human behavior, the discovery of such dependencies cannot be considered unduly surprising.

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Footnotes

[1] Presented at the annual meeting of the Eastern Psychological Association, Philadelphia, April 1979.

[2] Also at the Clarke Institute of Psychiatry of the University of Toronto (Canada) for the academic year, 1978-1979.

Table 1

Bipolar Adjective Scales

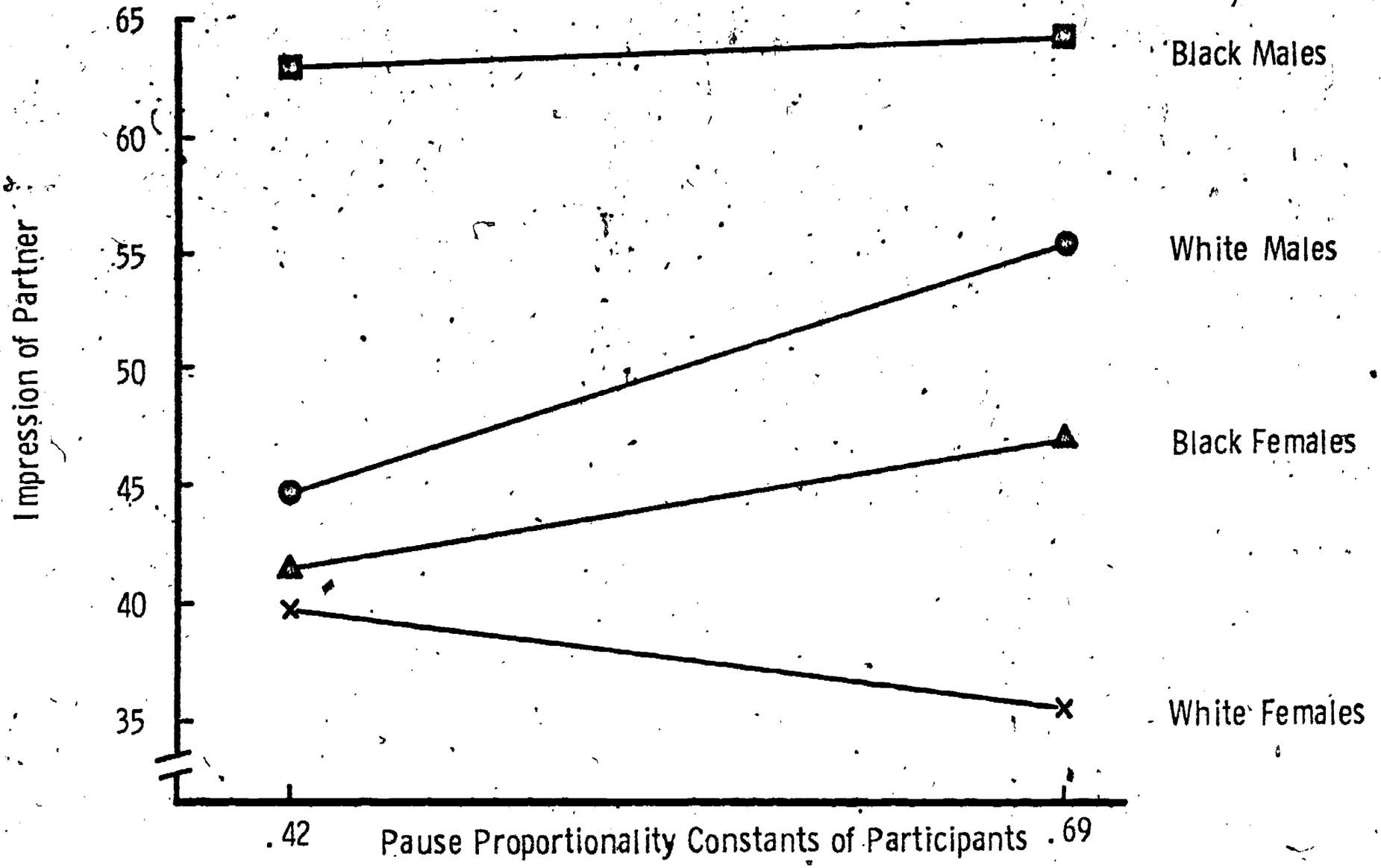
DECISIVE	___	___	___	___	___	___	___	INDECISIVE
UNINTELLIGENT	___	___	___	___	___	___	___	INTELLIGENT
BORING	___	___	___	___	___	___	___	INTERESTING
WARM	___	___	___	___	___	___	___	COLD
DEPENDENT	___	___	___	___	___	___	___	INDEPENDENT
INCONSIDERATE	___	___	___	___	___	___	___	CONSIDERATE
RESPONSIVE	___	___	___	___	___	___	___	UNRESPONSIVE
MEAN	___	___	___	___	___	___	___	KIND
DEPRESSED	___	___	___	___	___	___	___	CHEERFUL
RESERVED	___	___	___	___	___	___	___	OUTGOING
ADJUSTED	___	___	___	___	___	___	___	MALADJUSTED
CALM	___	___	___	___	___	___	___	EXCITABLE
ATTRACTIVE	___	___	___	___	___	___	___	UNATTRACTIVE
NEAT	___	___	___	___	___	___	___	SLOVENLY
POISED	___	___	___	___	___	___	___	SELF-CONSCIOUS
SENSITIVE	___	___	___	___	___	___	___	INSENSITIVE
IMPATIENT	___	___	___	___	___	___	___	PATIENT
CANDID	___	___	___	___	___	___	___	SECRETIVE
REJECTING	___	___	___	___	___	___	___	ACCEPTING
SELFISH	___	___	___	___	___	___	___	UNSELFISH

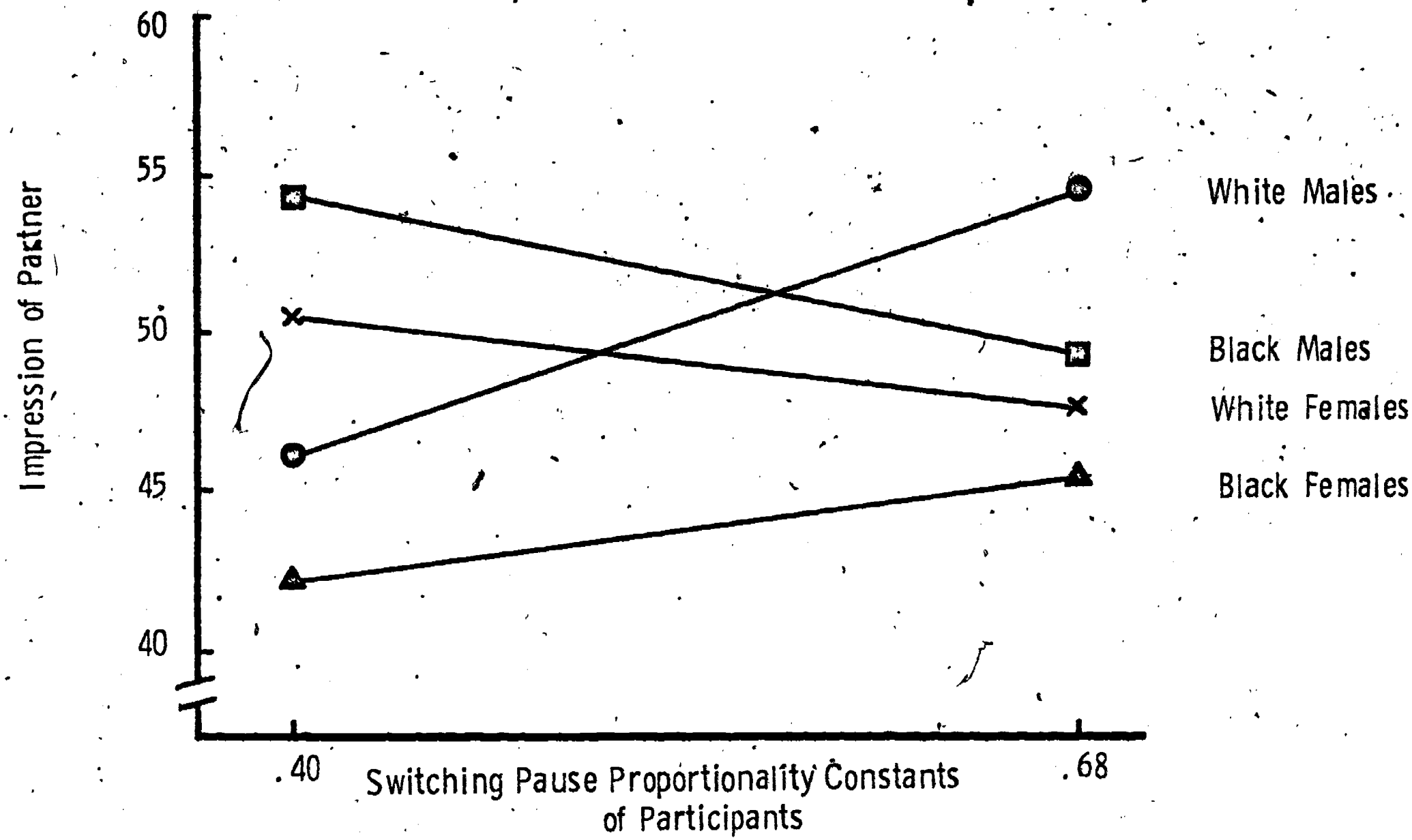
Figure Captions

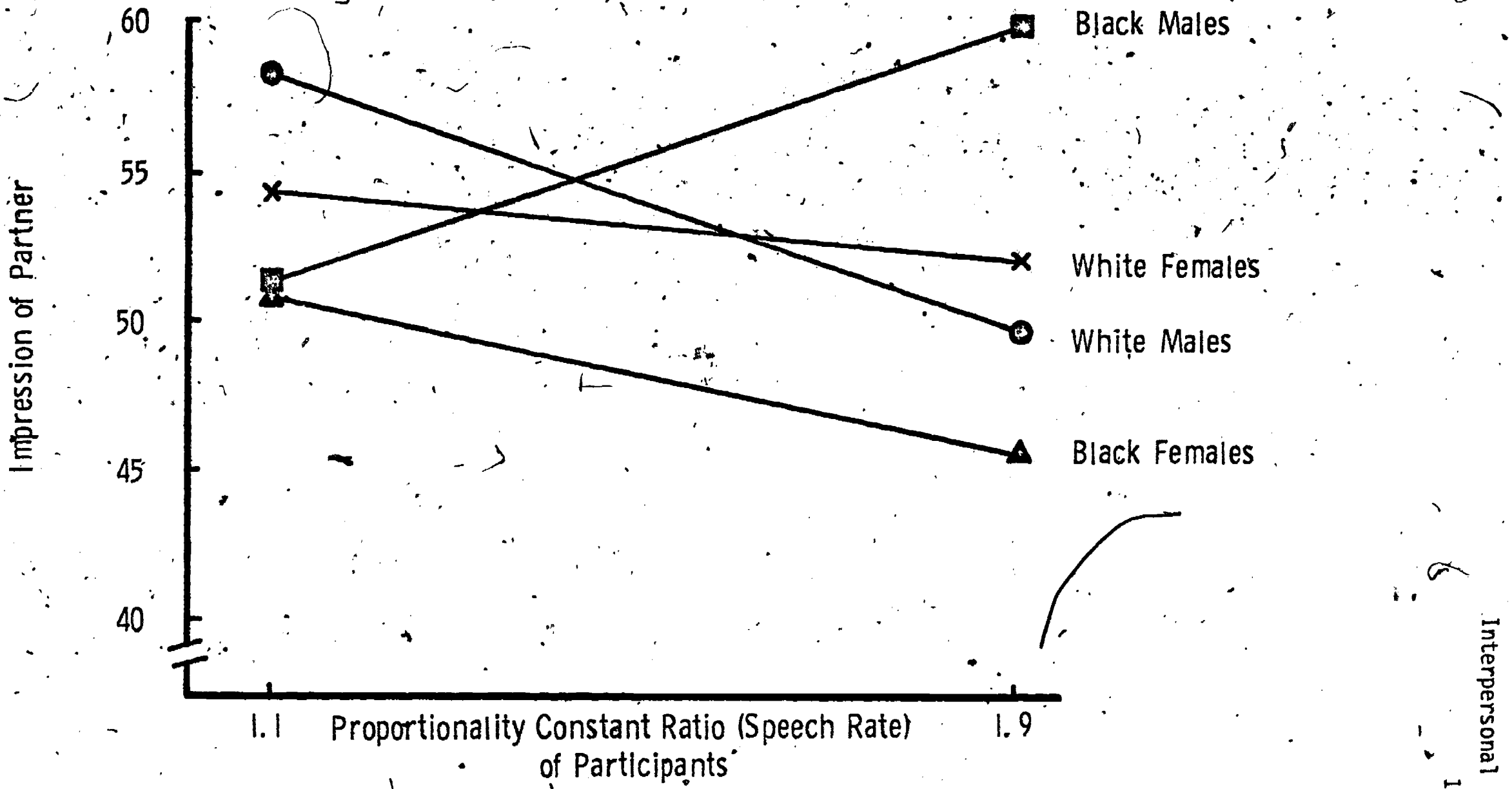
Figure 1. Least squares estimates of the average impression ratings assigned to the race and gender groups of participants having low and high pause proportionality constants by their conversational partners. The higher the ratings, the more negative the impressions.

Figure 2. Least squares estimates of the average impression ratings assigned to the race and gender groups of participants having low and high switching pause proportionality constants by their conversational partners. The higher the ratings, the more negative the impressions.

Figure 3. Least squares estimates of the average impression ratings assigned to the race and gender groups of participants having low and high proportionality constant ratios (speech rates) by their conversational partners. The higher the ratings, the more negative the impressions.


65
60
55
50
45
40
35
Impression of Partner
Black Males
White Males
Black Females
White Females
.42
Pause Proportionality Constants of Participants
.69


60
55
50
45
40
Impression of Partner
White Males
Black Males
White Females
Black Females
.40
.68
Switching Pause Proportionality Constants of Participants


60
55
50
45
40
Impression of Partner
Black Males
White Females
White Males
Black Females
1.1
Proportionality Constant Ratio (Speech Rate)
of Participants
1.9