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GAZE AND DOMINANCE IN THE CONTEXT OF THE STABILITY OF A POWER RELATIONSHIP

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GAZE AND DOMINANCE IN THE CONTEXT OF THE STABILITY OF A POWER RELATIONSHIP

by

RANDA D. SUNUNU

A dissertation submitted to the Graduate Faculty in Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York.

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Abstract

GAZE AND DOMINANCE IN THE CONTEXT OF THE STABILITY OF A POWER RELATIONSHIP

by

Randa D. Sununu

Adviser: Professor Howard Ehrlichman

A literature review showed that people who engage in high levels of interpersonal gaze are perceived to be powerful, but so are those who engage in low levels of gaze while listening. Stability of the power relationship was hypothesized to account for this discrepancy. Specifically, under unstable conditions (where there is no clear consensus as to who is more powerful) looking was hypothesized to be a way to establish dominance over another, while under stable conditions (where a consensus exists) not looking while listening was seen as a way to maintain dominance. Consequently, it was predicted that a looking listener would be judged to be more powerful when the relationship was unstable than when it was stable, while a non- looking listener would be judged more powerful when the relationship was stable than unstable.

Four cartoon drawings of two male figures who were mirror images of each other except for gaze and head direction were drawn. One figure was looking at the other, who was depicted looking away. In half the cartoons the looker was the speaker, and in half the listener. The cartoons were accompanied by stable or unstable scenarios, in which the characters had non-equivalent or equivalent occupational status and did or did not know each other. Ninety six subjects received the stable scenarios, and 96 the unstable. Subjects indicated which figure was which character, and rated each figure on various emotions and power- related characteristics.

Results showed: 1) the proportion of subjects with the stable scenario selecting the looking listener as the lower status character was significantly greater than chance in three cartoons; 2) the looking listener was rated significantly stronger in the unstable than the stable condition in one cartoon; 3) the non-looking listener was rated significantly stronger in the stable than the unstable condition in one cartoon; 4) of those rating the figures as different in strength, the proportion who rated the looking speaker as stronger than

the non-looking listener was significantly greater under unstable than stable conditions.

The results partly supported the hypotheses. Factors that could account for the lack of greater support were discussed together with future research suggestions.

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INTRODUCTION

During interpersonal encounters, people exhibit patterns of looking at and away from each other while listening that influence and are influenced by the nature of the interaction. Subtle signs of attraction, deference and power are expressed and communicated through gaze. Although much research has documented the importance of gaze patterns, much of this work has assumed that looking at or away from another signifies a particular relationship between the persons in a dyadic encounter. The perspective of this study is that the meaning of such gaze patterns cannot be understood without reference to the context in which they occur.

The focus of this study is on the conditions under which looking at or away from another person signifies power or dominance. The belief in the power of the look seems to be universal as is indicated partly by the prevalence of the belief in the Evil Eye. It suggests that there is a "universal taboo on looking" (Tomkins, 1963). The importance of the eyes even at a young age seems to be attested to by the fact that the eyes appear to be the first stimuli that evoke a social response - one of

smiling - from infants (Spitz and Wolf, 1946).

Gaze and gaze aversion in non-human animals

Not only do eyes serve as a visual channel, but they appear to have also served as a social signal over the course of evolution. Some insects and fish have developed imitation eyes (eye-spots) to keep birds and other predators away (reported in Argyle and Cook, 1976) and the eyes of predatory mammals seem to play a role in the intimidation of their prey (reported in Kendon, 1967). In animals, a direct stare is typically part of the fiercest facial expressions and accompanies the most belligerent gestures (Morris, 1967). Gaze is used as part of threat displays by males battling for dominance. It is the mutual gaze between male primates which appears to trigger the threat displays, which result in either a reaffirmation or a reordering of one's place in the dominance hierarchy. Which outcome occurs appears to depend on which animal looks away or flees, since either behavior spells defeat. If the threatened animal does neither, it is attacked. Then if its position becomes untenable and it wishes to stop fighting, it can appease the attacker by facing away, looking down, or

averting its gaze (Morris, 1967). Thus, a direct gaze or stare is used to challenge another's dominance, and it is also used to withstand that challenge, while looking away is used to signal submission to the other's dominance.

A similar pattern has been observed between man and animal. Exline and Yellin (1969) showed that humans elicited attack and threat behavior in rhesus macaques merely by initiating and maintaining eye contact, and inhibited the threatening displays merely by breaking mutual eye contact and looking down.

Another pattern of primate behavior with regards to gaze has also been reported. Chance (1967) speaks of an "attention structure" in an established dominance hierarchy, whereby gaze is directed by subordinates to the behavior of their leaders, presumably in order to monitor them.

Thus, it appears to be the case among primates that before a hierarchy of dominance is formed, gaze is an aggressive tool used to establish dominance, but that after a dominance hierarchy has been formed, gaze is used by the weaker members to monitor the dominant ones.

Gaze and power in humans

The research literature on gaze behavior in man reveals similar functions of gaze. Looking at another seems under some conditions to carry a challenging function, and under others a monitoring one. These functions are related to the establishment and acknowledgment of power, and of course constitute only some of the many different functions of gaze.

Evidence that looking or staring signals dominance

There is evidence that those who can stare a long time at others are commonly judged to be more dominant. Thayer (1969) had male subjects sit facing a male confederate who either stared continuously or averted his gaze continuously for three minutes, except for three brief periods, in silence. The purported purpose was to study impression formation. He found that stared at subjects rated the confederate as more dominant, and also felt that the confederate judged them to be less dominant than did the subjects who were only briefly looked at. Thayer (1969) suggested that extended looking in silence between male strangers can be viewed as

threatening, and that the one who cannot meet the other's visual challenge feels dominated or beaten.

Experimental evidence that a power hierarchy can actually be determined by the ability to gaze continuously at another for a long time comes from Strongman and Champness (1968). They had each of ten subjects (five males and five females) interact for two minutes with each of the other nine subjects in order to "become acquainted". They observed a dominance hierarchy based on gaze submission (defined as breaking eye contact by averting the eyes), whereby, if one subject could outstare another, and the latter outstare a third, then the first subject could outstare the third. They found that the dominance hierarchy was significantly correlated with looking while speaking.

Research by Ellsworth and Carlsmith (1973) suggests that a stare is an effective tool only if the person who wields it is strong enough or dominant enough to administer it uninterruptedly and that a person who cannot consistently engage in a stare will be penalized for daring to use it. Subjects were informed that the purpose of the experiment was to compare the effects of noise with other stressors. After experiencing

stressful noise at the hands of one of the confederates, angered and nonangered subjects were instructed to deliver shocks to the very same confederates, who either stared at the subject consistently whenever the warning buzzer was sounded, averted their gaze consistently, or who varied staring and gaze aversion according to a preset random schedule. Ellsworth and Carlsmith (1973) found that in the latter condition, when the confederate's gaze was variable, he received more shock when he stared at the subject than when he averted his gaze, and this was found with the angered as well as the nonangered subjects. Therefore, when stares occurred in a sequence that also included gaze aversion, they were punished.

However, angered subjects gave significantly less shock to the confederate when he stared consistently than when he looked away consistently. On the initial trials this was not the case, since it took time for the subjects to discover the consistency of the confederate's gaze behavior and hence the uselessness of punishing gaze. Indeed Ellsworth and Carlsmith argued that the confederates were punishing the subjects with their stares and conditioning them to give fewer shocks, whereas

when the confederate's gaze behavior was variable, the confederates could be punished for their stares with shock and rewarded for their gaze aversion with no shock. Thus, the stare appears to inhibit aggression only when it is consistently administered.

Subjects had been asked to note any eyebrow movements or movements of the eyes that might signal the anticipation of stress, in order to insure eye contact would be made in the stare conditions. Nearly all the subjects in the stare conditions noted the confederate's tendency to look at them, and over half (50% to 100% depending on condition) spontaneously mentioned the aversiveness of being looked at. Thus, subjects seemed to perceive that the stare was a negative stimulus, but they tended to respond differently to it depending on the context in which it occurred.

A frequent response to a stare is flight - a response that we seem to share with other primates. Ellsworth, Carlsmith, and Henson (1972) showed that drivers and pedestrians crossed an intersection faster if they were stared at by a stranger than if they were not stared at. Greenbaum and Rosenfeld (1978) also found that staring, delivered at various

distances from the target-subjects at a traffic intersection, resulted in a reduction in gaze and an increase in the speed of departure. Ellsworth (1975) argued that the stare is a salient, arousing and involving stimulus, which demands a response. When no appropriate response is available to the person being stared at, he/she will become tense, motivated to escape the situation, and flee.

However, if there is a nonthreatening, legitimate and or unambiguous response available to subjects, it is likely they will take it (Kleinke, 1977; Kleinke and Singer, 1976; Snyder, Grether, and Keller, 1974). Ellsworth and Langer (1976) hypothesized that the stare was a nonspecific activator, that would elicit avoidance or approach depending on the context. They showed that when subjects received an ambiguous message concerning another's needs, the needy person's (confederate's) stare led to avoidance; whereas when the message was unambiguous, the needy person's stare produced approach and offers of assistance.

Valentine and Ehrlichman (1979) found that this was qualified by sex of victim (confederate) and sex of subject. When both were female, as in Ellsworth and Langer's (1976)

study, more help was offered when the victim gazed than when she did not. However, when both were male, more help was offered when the victim did not gaze than when he did. Valentine and Ehrlichman (1979) suggested that in the latter case, the confederate's gaze may have acted as a threat signal warning the male subject to stay away, or perhaps informing him that he was dominant and fully able to help himself; while when the confederate directed his gaze at the ground, the subject may have perceived this to be a sign of need for help or a sign of deference. There was no significant relationship between gazing and helping in the mixed-gender dyads, probably because gaze could have been variously interpreted.

This finding is reminiscent of the experimental results of Ellsworth and Ross (1975). They had male and female subjects give a monologue that was personally revealing to a same-sex subject, who had been designated to be the listener and who had been instructed by one of the experimenters as to the kind of visual attention to give the speaker. The intimacy of the speaker's monologue was then rated by the speaker, the listener, and an observer (the other experimenter who was "blind" to the gaze

condition). They found that direct gaze promoted more intimacy and self-disclosure when the speaker and listener were both female, but that gaze aversion evoked more intimacy and self-disclosure when both were male. This suggests that direct gaze has a more inhibiting and even threatening effect on males than on females. The fact that the male speakers were the only raters who thought that, on the contrary, they had been the most intimate under the direct gaze conditions suggests that direct gaze increases the felt intimacy of an interaction, but also that intimacy is more threatening for males than it is for females.

That females engage in more mutual eye contact than males do, regardless of the sex of the person they are interacting with, comes from Exline, Gray, and Schuette (1965). They had a male and female experimenter give male and female subjects either an innocuous or a very personal interview, while gazing continuously at them. They found that the female subjects were more oriented towards inclusive and affectionate relationships than the male subjects were, based on their responses to those subscales of Schutz's Fundamental Interpersonal Relations Orientation (FIRO) inventory, and suggested that

the sex difference in eye contact was due to a greater orientation towards inclusive and affectionate relationships on the part of women.

There is evidence that while a competitive context fosters mutual eye contact among those with a desire to control others, a non-competitive context fosters eye contact among those with a desire to affiliate. Exline (1963) found that for both males and females, a competitive situation seemed to increase eye contact among those with a low need for affiliation, and decrease it among those with a high need for affiliation. (This effect was far stronger for females than for males when groups of three same-sex persons were studied.) Exline (1962) had already shown that a person's need for affiliation was inversely related to his or her attempts to exert control over a group's decision, and therefore that those with a low need for affiliation had a greater desire to exert control. Since low affiliative persons spent a greater proportion of time in mutual eye contact than high affiliative persons did when competition was salient, but spent less time engaged in eye contact than highs when competition was not salient, it seems likely that the maintenance of eye contact under

competitive conditions is a challenge and a forum for the struggle for dominance. Thus, the meaning of eye contact appears to depend on the context in which it occurs. When a person who is interested in exerting control finds himself or herself in a competitive situation - one in which there are rewards for exerting control - it appears that she or he engages in gaze to a greater extent as a means of obtaining that reward.

Kendon (1977) pointed out that it is not parsimonious to posit two hypotheses, namely, that on the one hand, to engage in eye contact is an attempt to challenge someone, and that on the other hand, to engage in eye contact is an attempt to affiliate with someone. He suggested that it is more parsimonious to assume that when one notices that someone is looking at one, one perceives that the other intends something from one or expects something of one. To put it even more simply, one could say that to perceive another looking at one is to perceive that the other is interested in one and wants something of one. What that something is and how one responds will then depend on the context in which the look is perceived. Thus, in a competitive context, looking would presumably

indicate an interest in competing with and challenging the other, while in a non-competitive context, looking would indicate an interest in affiliating with another.

The earliest evidence in the psychological literature that people who are more aggressive and control oriented can gaze longer when challenged to do so comes from Moore and Gilliland (1921). They found that students who were rated as more aggressive by other students and faculty (these students tended to be prominent in college activities) were better able to follow instructions to look the experimenter in the eye without looking away while doing mental additions than were students rated as less aggressive. The more aggressive students not only were more successful in responding to the challenge to not look away, they also completed the mental additions more quickly.

In a less artificial situation, a similar finding was obtained with subjects who scored high on the Christie-Geis Machiavellian scale. These subjects, high Machs, were conceived to be motivated to control and manipulate others. Exline, Thibaut, Hickey and Gumpert (1970) showed that high Mach subjects did not reduce

their level of gazing at the experimenter while speaking to him, after they had been accused of cheating, while low Mach subjects did. Exline et al. (1970) assumed that low Machs reduced their gaze because they felt guilty, since gaze aversion is associated with guilt (Argyle and Cook, 1976). They suggested that high Machs maintained their level of gaze either because they may not have experienced any guilt, or because, knowing of the relationship between guilt and gaze aversion, they may have sought to avoid implicating themselves nonverbally for manipulative purposes.

In any case, it appears as if people who are control oriented or aggressive can maintain a certain level of eye contact while speaking or thinking when challenged to do so, even under conditions that are cognitively or emotionally difficult. Exline and Winters (1965) found that speakers looked significantly less at listening interviewers as the difficulty of the cognitive topic increased. Exline et al. (1965) found that both male and female speakers looked significantly less at the experimenter while speaking during the very personal interview than during the innocuous one. In a similar vein, Daly (1978) found that high anxious subjects

looked less at the experimenter while speaking and held the gaze for bouts of shorter duration than low anxious subjects did. Thus, looking while speaking appears to be a measure that is sensitive to one's cognitive as well as to one's emotional state. This suggests that the ability to look while speaking may reflect personal power or strength, especially if it occurs despite cognitive or emotional reasons not to.

There is evidence that observers can decode the power implications of gaze. van de Sande (1980) had subjects watch videotapes of 36 interacting dyads and rate each member for dominance. He found that the only gaze variable that correlated significantly (and negatively) with dominance was gaze aversion while listening. He had predicted this based on the fact that gaze aversion was normal for speakers, but did not appear to be for listeners. Thus, it appears that the inability to maintain eye contact while listening indicates little power.

There are several studies that show that gaze is interpreted as signalling dominance. Cook and Smith (1975) had male and female subjects interact with three male or female confederates in turn, who either averted their gaze, gazed normally or gazed continuously

(thereby exposing each subject to each gaze condition), and then rate them on some scales, as well as give free descriptions of them. They found that potency ratings showed a linear increase with amount of gaze, but only for subjects who commented on the confederates' gaze patterns in the free descriptions. This suggests that some people have explicit theories about the meaning of gaze. However, the free descriptions revealed across all subjects that confederates who averted their gaze were judged as more fearful, more uncertain, and less pleasant. This suggests that people's judgments are influenced by implicit theories about the meaning of gaze.

Argyle, Lefebvre, and Cook (1974) had male and female subjects interact with five same-sex confederates, who each displayed one of five patterns of gaze. The patterns were as follows: zero gaze, looking while speaking, looking while listening, normal (or spontaneous) gaze, and continuous gaze. They instructed the subjects either to get acquainted with the confederates or to assess the confederates as if they were interviewing them. After each three minute conversation, the subjects rated the confederates on 15 bipolar scales. Pattern of

gaze was found to affect the activity/potency component, derived from a principal components analysis on the rating scales, such that the greater the amount of gaze, the higher the ratings on activity/potency. However, only the zero gaze condition was rated significantly weaker on activity/potency than each of the other gaze conditions. Argyle et al. (1974) suggested that the nonsignificantly greater activity/potency of looking while listening compared with looking while speaking could be attributed to the greater amount of gaze, since listening occurred almost twice as much as speaking, and that people may not be sensitive to the pattern of gaze in relation to speech. The results as a whole suggest that the more one looks, the more potent one is perceived to be.

Kleck and Nuessle (1968) showed that male and female confederates who were filmed making high eye contact (80%) with a male interviewer were described in positive terms, such as self-confident, friendly, and mature, whereas those who were filmed making low eye contact (15%) were described in negative terms, such as submissive, cautious, cold, and defensive. These adjectives were derived from a checklist. They found a significant interaction effect on

the potency scale of the semantic differential, such that female raters tended to perceive high eye contact confederates as more potent than lows, while male raters tended to see low eye contact confederates as more potent than highs. This result could have been due to a difference in the perceptions or presumptions of male and female raters regarding the stability of the relationship of the confederate and the interviewer. The importance of this will be seen shortly.

To summarize, most of the above studies showed that people who look continuously (i.e., stare) at another (whether in silence or not) or who look longer than the other while conversing (whether in speaking or listening) are perceived to be more dominant. Moreover, people who are more aggressive or who are more motivated to exert control are more able to respond to the challenge to not look away while speaking, under mentally taxing or emotionally trying circumstances. Thus, the ability to sustain mutual eye contact without being the first to break gaze, despite compelling cognitive or emotional reasons to look away, seems to be associated with dominance or with seeking to exert dominance. It is important to note that

these studies involved subjects who were strangers to each other and who had no a priori basis for ordering themselves vis-a-vis one another in a dominance hierarchy. That is, these people had not arrived at a consensus by the start of their interaction as to who was more powerful than the other. Some of these studies involved a situation in which who was more dominant was at issue. Henceforth, I will refer to any relationship in which a hierarchy of power has not yet been established and recognized or in which dominance is at issue as an "unstable" one. It would seem to be the case that when a relationship is unstable, whoever makes a bid for dominance and wins it, must seek to engage in eye contact and maintain it until the other breaks it first.

Evidence that looking signals low power

There are several studies that show that high power males are looked at more by others than are low power males. Efran (1968) found that freshman subjects tended to look longer at approving confederates when they thought they were seniors than when they thought they were freshmen. It was assumed that freshmen perceive seniors as having more status than other

freshmen. Burroughs, Schultz and Aubrey (1973) found that in a group discussion the person who was looked at more by the others tended to be rated higher on leadership. This suggests that a high power person is looked at more than a low power person. Argyle and Cook (1976) reported that Weisbrod (1965) found that the more a person was looked at by other group members while speaking, the more the speaker felt he was valued, and the greater were his own and others' ratings of his power. Thus, being perceived as powerful seems to be associated with being looked at more.

Using a group of sketchily drawn figures, Spiegel and Machotka (1974) found that each of two figures was rated more superordinate or more haughty, more important and more initiating of action, as a group of three other figures directed their gaze towards each. The above studies seem to show that both participants and observers perceive a relationship between status or power and being looked at.

Exline, Ellyson and Long (1975) discussed two functions of looking at another. People look to obtain information about the other's reactions and communications. They also look to signal the other that the other has their

attention. Exline et al. (1975) suggested that there exists a norm of attention, which specifies in western society, that the relative amount of viual attention one is required to give another is inversely related to one's relative position or standing in a social power hierarchy. The lower one's power, the more one must look.

In the first of a series of experiments (Exline et al., 1975), 40 male dyads were formed, half of them in a condition where the power hierarchy was perceived to be legitimate and half where the hierarchy was perceived to be illegitimate. In the legitimate condition each dyad consisted of an ROTC officer and an ROTC basic, and in the illegitimate condition each dyad consisted of two students taken from a large gym class who were strangers to each other. A power difference was formed between the members of the dyads by designating one person to be the one in charge of evaluating the contribution of himself and his partner to each of three discussion tasks. The evaluator was to distribute chips after each task according to a predetermined schedule, which allotted more chips to himself than to the other. The evaluator was thus the high power person, while

the other was the low power person. In the ROTC dyads, the officer was always the person designated to be the evaluator.

As predicted, Exline et al. (1975) found that low power persons looked more at high power persons than the latter looked at the former. Moreover, the difference in gaze between low power and high power persons was greater in the legitimate (ROTC) power hierarchy than in the illegitimate one, and low power persons in the legitimate condition looked significantly more than low power persons in the illegitimate condition on the second and third tasks. Thus, the more legitimate the power difference was, the more the low power persons looked, and the greater was the difference in the extent to which high power and low power looked.

Although this study involved people who were strangers to each other, it is plausible to presume that the dyad members had reached an implicit consensus towards the beginning of their interaction (the discussion tasks) as to who was the more powerful of the two. Granted that in the illegitimate condition, the a priori basis for ordering themselves vis-a-vis each other in a dominance hierarchy was the arbitrary designation by the experimenter of who would be

the evaluator, nevertheless that designation is likely to have served as a basis for positioning themselves in a hierarchy. In the legitimate condition, the a priori basis for positioning was not only the experimenter's designation of who would be the evaluator, but was the already recognized ROTC hierarchy. Henceforth, I will refer to any relationship in which a hierarchy of power has been established or in which dominance is not at issue as a "stable" one. Thus, both the illegitimate and the legitimate conditions were stable, even though the latter was more stable than the former. The Exline et al. (1975) data suggest that in a stable relationship, the low power person looks more than the high power person, and that this difference in looking behavior is greater the more stable the relationship.

In the second and third experiment of Exline et al. (1975), the separate behaviors of looking while speaking (LS) and looking while listening (LL) were examined. Exline et al. (1975) argued that speaking was more complex than listening, since the speaker has to plan his or her speech and has to attend to the listener's nonverbal feedback. They suggested that the demands of the cognitive task would

necessitate a shift in the speaker's gaze away from the face of the listener to prevent overloading the cognitive system with nonverbal feedback from the listener. They derived support from their argument from Exline and Winters (1965), who showed that subjects as speakers engaged in less eye contact with a listener as the difficulty of their verbal task increased. Since that time, Allen and Guy (1977) showed that subjects engaged in more "ocular breaks" (i.e., gazes away from the listener's face) during more cognitively difficult parts of the conversation. Although Ehrlichman (1981) found no evidence of greater cognitive interference during continuous gaze at a face on a video screen, Beattie (1981) found that continuous gazing at a real face significantly affected both filled hesitations and false starts. In any case, Exline et al. (1975) suggested that the need for feedback inhibition operates mainly on the speaker, and that it would affect high power and low power persons equally.

Exline et al. (1975) also suggested that the norm of attention requires both the speaker and the listener to pay visual attention to the other, out of simple courtesy, but that the

greater cognitive requirements of speaking should result in subjects looking less while speaking than while listening. Indeed, Exline et al. (1965) had found that subjects looked less while speaking than while listening. Furthermore, Exline et al. (1975) hypothesized that power would affect the norm of attention, such that low power listeners would be required to give more visual attention to high power speakers than high power listeners would to low power speakers.

The second experiment by and large replicated the procedures of the first experiment, but used only ROTC dyads. It showed that low power persons looked significantly more at high power persons when listening than when speaking as had been predicted, but that contrary to expectation, high power persons did not look more when listening than when speaking. In a follow-up to this study, Exline et al. (1975) found that the amount of looking engaged in by high power officers in the laboratory was negatively correlated with the actual leadership ratings given them by active duty officers during their ROTC summer camp. Thus, those officers who paid more visual attention to low power persons tended to be the ones who received

lower leadership ratings. The greatest difference between the highest rated high power officers and the lowest rated high power officers was with respect to LL. This suggests that the greater the extent to which one looks when one listens in a stable relationship, the less is the power that is attributed to one.

Exline et al. (1975) coined the term "visual dominance behavior" (VDB) to refer to the ratio of LS to LL. Using this measure, high power persons could be said to have exhibited greater VDB than low power persons. In their third study, they hypothesized that the visual behavior of those with a strong desire to control others would resemble that of persons occupying a high power position, while the visual behavior of those with a weak desire to control others would resemble that of persons occupying a low power position in a hierarchical structure. In other words, subjects with high control orientations would display greater VDB than would subjects with low control orientations. They suggested that control orientation might be a mediating variable that could account for some of the variance in VDB observed in the previous studies. Indeed, post hoc analyses of the responses to the control

orientation subscale (expressed desire to exert control over others) of Schutz's FIRO inventory of the subjects in the second experiment showed that high control oriented subjects tended to exhibit the greatest VDB.

So, in their third study, high and low control subjects were selected such that they showed the same moderate orientation towards being controlled by others. Thus, the high control group was more oriented toward controlling others than being controlled by others, while the opposite was true for the low control group. In effect, these subjects described themselves as being either dominant or submissive. Subjects were assigned to one of three dyads. A high control dyad consisted of two high control oriented subjects, a low control dyad consisted of two low control oriented subjects, and a mixed dyad consisted of a high and a low control subject. The procedure used was similar to that in the previous studies, except that the power induction (the distribution of rewards) was eliminated.

They showed that those who have a strong desire to control others looked significantly less while listening, but not significantly more while speaking, than did those who have little

interest in controlling others. Furthermore, as predicted, high control oriented subjects exhibited significantly greater VDB than did low control oriented subjects. Low control subjects looked more when they listened than when they spoke, while high control subjects looked nonsignificantly more when they spoke than when they listened. As Exline et al. (1975) stated, based on their results, "it would seem that one who desires power shows it in his visual behavior. It would seem that he who desires power 'looks' as if he has it." This suggests that one who desires to have a certain amount of control over others simply assumes he or she has it, that the relationship is therefore stable - i.e., that the other dyad member will not question the amount of power he or she has assumed, and proceeds to act accordingly, namely, in terms of his or her visual pattern. Thus, people's control orientation may serve as an a priori basis for ordering themselves in a hierarchy, provided that there is a consensus between the dyad members as to their relative standing in that hierarchy. If one dyad member challenged the other's assumption of power, then the relationship would become unstable.

Ellyson and his colleagues investigated visual patterns related to power in females, since all of the prior studies that observed the LS and LL behaviors employed only males. Ellyson, Dovidio, Corson and Vinicur (1980) used females who had a median score on the expressed control subscale of Schutz's (1958) FIRO inventory. Subjects discussed three tasks with a confederate introduced as either higher or lower in status than themselves (status was manipulated in terms of both age and achievement). This describes a stable relationship, since status presumably is one basis for a consensus as to who is more powerful. Two weeks later subjects were randomly paired with each other and discussed three new tasks, but no mention of status was made (the control condition). When subjects were high in status, they showed almost equivalent rates of LS and LL (i.e., high VDB). When subjects were low in status and when they interacted with peers (the control condition), LL was significantly greater than LS (i.e., low VDB). In addition, LS was significantly higher for the high status subjects than it was for the low status subjects or for either group of subjects when they were interacting with each other in the control condition. Thus, it seems

that status mainly influenced LS.

In a second study, Ellyson et al. (1980) used females who scored in the top and bottom 20% of the distribution of scores on Schutz's (1958) FIRO control subscale, and assigned them to high control, low control, or mixed control dyads to discuss the same three tasks that were used in the first part of Ellyson et al.'s (1980) first study. They found a pattern of visual attention that was analogous to that shown by males and reported in Exline et al. (1975). For high control oriented subjects, there was no significant difference between LS and LL, while for low control oriented subjects, LL was significantly greater than LS. This means that the VDB of high control subjects was greater than that of low control subjects. This suggests that dyad members did not question the power that they had each assumed on the basis of their control orientation, and consequently that their relationship was stable. The LL for high control oriented subjects interacting with high controls was significantly lower than LL for highs interacting with lows or for lows interacting with highs or lows. This suggests that a low level of LL is associated with the assumption of power under conditions where the

difference in the power that is assumed by both members of the dyad is very small. It appears that control orientation mainly influenced LL, just as it seemed to have done in Exline et al.'s (1975) third experiment.

Ellyson, Dovidio, and Corson (1981) examined one of the bases of social power distinguished by French and Raven (1959), that of expert power. Ellyson et al. (1981) hypothesized that expert power would affect both LS and LL. In so far as being an expert in some area is related to feelings of confidence and security when discussing that area, LS should be relatively facilitated rather than inhibited, as Exline and Winters (1965) had shown that LS decreased as the cognitive difficulty of a verbal task increased. Conversely, in so far as not being an expert is associated with feelings of anxiety, insecurity and difficulty, LS should be inhibited. Ellyson et al. (1981) also expected that those who were inexpert would receive less visual attention, since prior research suggested that LL would be affected by the recognition of expert power.

In this study, females were paired in such a way that the area in which one subject felt expert was an area in which the other subject felt inexpert, and vice versa. These areas referred to activities, hobbies and or interests. The subjects were asked to discuss three tasks, one of them being their area of expertise, one being a neutral topic, and one being their partner's area of expertise. Thus, each subject's visual behavior could be observed under three conditions: expert, neutral, and inexpert. One could argue that subjects perceived their relationship to each other to be stable, because expertise provided subjects a basis for ordering themselves in a hierarchy. Who was perceived to be more powerful depended on whose area of expertise was being discussed, but one can presume that there was always consensus regarding this. Results revealed that, as predicted, subjects in the expert condition showed nearly equivalent proportions of LS and LL behaviors. Those in the inexpert and the neutral conditions looked significantly less while speaking than while listening. Thus, the VDB of expert subjects was greater than that of inexpert or neutral subjects. Furthermore, it was found that LL in the expert condition was significantly less than LL in the other two

conditions, which means that inexpert subjects received less visual attention from listeners than expert subjects did as was predicted, while LS in the expert condition was significantly greater than LS in the other two conditions. Thus, it appears that expertise affected both LL and LS.

The results from the above research with females suggest that when there already exists a dimension that has some bearing on power, and along which subjects can order themselves in a hierarchy, visual behavior will be affected in predictable ways. Subjects whose position on the dimension was high (i.e., high status, high control oriented, or expert) exhibited nearly equivalent rates of LS and LL, which spells relatively high VDB, while those whose position was low (i.e., low status, low control oriented, or inexpert) displayed significantly less LS than LL, which means low VDB. These dimensions appeared to affect different aspects of visual behavior. Status appeared to affect LS primarily, control orientation appeared to affect LL, and expertise appeared to affect both LS and LL. In any case, the amount of a person's VDB in a stable relationship appears to reflect the amount of power he or she feels or

assumes he or she has.

Experiments were conducted to see whether or not the amount of VDB exhibited by another would be interpreted by observers to indicate the amount of power that person had. Dovidio and Ellyson (1982) showed male and female subjects silent videotapes of one of two female or one of two male confederates seemingly engaged in conversation with another person of the same sex. During the initial filming, the camera was angled over the right shoulder of the other discussant, producing a frontal view of the confederate's face. The confederate displayed three different visual dominance ratios (LS/LL), namely, 55%/45%, 40%/60%, and 25%/75%. The total proportion of time spent looking was the same (52%) across all VDB conditions. Subjects rated the videotaped confederate on 16 scales, half of which represented some aspect of power. Dovidio and Ellyson (1982) found that male and female subjects seemed to interpret VDB in terms of power, because confederates were rated as more powerful when they showed high VDB than when they showed moderate VDB, and as more powerful when they showed moderate than low VDB. Attributions of power were not mediated by sex

of subject or sex of confederate. Since subjects had been told they would be watching "a male (or a female) interacting with another male (or female)", there was no reason for subjects to believe that dominance was an issue for the dyad, and therefore no reason to believe that the relationship between the dyad members was anything but stable. Thus, the results seemed to indicate that the relative proportion of time devoted to LS compared to LL (i.e., VDB) is perceived in a stable relationship to communicate social power, independent of the overall proportion of time spent looking (which was 52% across all conditions).

In a second study, Dovidio and Ellyson (1982) had male and female subjects view one member of an interacting male dyad on one of nine silent videotapes, in which the behaviors of speaking and not speaking were the same across all videotapes, but in which the proportions of LS (25%, 50%, 75%) and LL (25%, 50%, 75%) were systematically varied across the nine tapes. The subjects rated the dyad member on various scales including eight that were averaged to create a power score. They found that the greater the proportion of LS, the more powerful was the dyad member rated, while the

greater the proportion of LL, the less powerful was he rated. Therefore, subjects appeared to differentially interpret the levels of LS and LL. Since the procedure was identical to that of the first study, it is likely that subjects here too assumed the relationship between the dyad members to be stable. A strong positive correlation between VDB and the power ratings suggests yet again that VDB is associated with perceived power in a stable relationship.

Using a similar procedure, Ellyson, Dovidio and Fehr (1981) informed half of the male and female subjects that the confederate (always a female) was interacting with a male partner, and informed the other half that she was interacting with a female partner. Ellyson et al. (1981) wanted to seee whether sex-role expectations could override the impact of a female's visual display when she was believed to be interacting with a male. The results showed the same pattern of confederates with high VDB being rated as more powerful than confederates with moderate VDB, and those with moderate VDB being rated as more powerful than those with low VDB. There was no main effect for sex of confederate's partner or for sex of rater, and there was no interaction between sex of partner

and the confederate's visual behavior, which indicates that subjects responded in a consistent fashion to the confederate's visual pattern (i.e., VDB), regardless of whether she was believed to be interacting with a male or a female. Since the procedure was the same as in the last two studies, subjects presumably assumed the relationship between the dyad members to be stable for the same reason. Thus, it seems that the VDB of females in a stable relationship is perceived to signal power, even when interacting with a male, which suggests that sex-role expectations are not strong enough to undermine the impact of VDB.

To summarize, the research on LS and LL seems to show that both males and females in this culture encode and decode visual dominance. The relative proportion of LS to LL behaviors that a person exhibits does not appear to be random. It appears to be related to his or her relative position in a hierarchy of power. The more nearly LS matches LL, or exceeds LL, the more powerful that person is and is perceived to be, while the more LL exceeds LS, the less powerful that person is and is perceived to be. The evidence suggests that the greater the proportion of LS, the more powerful the person

is and is rated, and the greater the proportion of LL, the less powerful the person is and is rated. Thus, looking a lot while speaking appears to be a mark of a person with high power, while looking a lot while listening appears to be an indication of a person with low power in a stable relationship.

Theoretical discussion

The studies that were reported in the first part of this introduction showed largely that those who engaged in a greater amount of gaze or who stared or were able to maintain eye contact when challenged to do so were perceived to be more powerful, regardless of whether they were looking in silence or were looking while speaking or while listening. Moreover, what seemed to be true of all of these studies was that the relationship between the dyad members was unstable. The studies that were examined in the second part of this introduction showed that high VDB or a pattern of looking a lot while speaking and not looking a lot while listening was associated with power. Furthermore, the relationship between the dyad members in these studies could be characterized as being stable. This suggests that the stability of the

relationship may be related to the meaning of different patterns of gaze. Specifically, the data suggest that LL might differentiate between high and low power depending on the stability of the relationship. In other words, LL would indicate high power when the relationship was unstable and low power when the relationship was stable; LS, however, would simply indicate high power regardless of the stability of the relationship. This is mapped out in Fig. 1.

A relationship between two people is unstable when dominance is at issue and when a consensus has not been reached as to who is more powerful than the other. In an unstable relationship both individuals are engaged in a battle for dominance, because a power hierarchy has not yet been established or because the existing hierarchy is being questioned and is no longer recognized. I suggest that engaging in eye contact (or mutual gaze) until the other breaks it first is one of the principle means to establish dominance over another, regardless of whether that looking occurs in silence or while speaking or listening (Thayer, 1969; Strongman and Champness, 1968). It seems likely, therefore, that the one who turns out to be the high power person as a result of the struggle

for dominance will have looked more than the one who turns out to be the low power person. In short, looking under unstable conditions will signify and communicate a bid for dominance and power by one person over the other, while the breaking of eye contact will signify that one has acknowledged the other's greater power. I propose that only with repeated gaze submission by one of the two, over time, will the relationship between them become a stable one, with the person who did most of the looking as the agreed-upon dominant person. However, as long as the breaking of the mutual gaze is performed recurrently by both individuals, dominance will still be at issue, the relationship will remain unstable, and the battle for dominance will continue to be fought with extended looking - while silent, while speaking and while listening.

Besides signalling submission, looking away is also a result of mental activity. Looking away on the part of a speaker is caused by interference with complex behavior involved in speech planning or by eye movements resulting from speech planning (Allen and Guy, 1977; Beattie, 1981; Ehrlichman, 1980). Looking away on the part of a listener may be caused by more

than usual cognitive work associated with comprehending a very difficult or confusing speech, but this is generally not the case in most conversations. Therefore, speakers tend to look away more than do listeners for cognitive reasons. The one who looks more while speaking than the other looks while speaking may be making a bigger bid for dominance under unstable conditions and a greater assertion of dominance under stable conditions, because the bid or the assertion, respectively, occurs in spite of compelling cognitive reasons to look away. To make such a bid or such an assertion requires a certain amount of confidence and fearlessness, which high power people appear to have in greater measure than low power people (Cook and Smith, 1975; Argyle et al., 1974). Insofar as high power people are more confident and secure, they feel less vulnerable and therefore look away less than low power people, because looking away reduces any emotional arousal caused by feelings of vulnerability (e.g., embarrassment, guilt, etc.) or intimacy (Exline et al., 1965; Exline et al., 1970).

A relationship between two individuals is stable when dominance is not an issue and or when a consensus has been arrived at regarding

who is more powerful. In a stable relationship one person is clearly recognized and accepted as dominant. The task for the dominant or high power person is not that of striving to dominate the other, as it is in the unstable relationship, but it is, rather, that of working to maintain that dominance, and hence, the stability of the relationship. I suggest that this difference in the nature of the high power person's 'task' is accompanied by a difference in the visual instrument that is used. I suggest that no gaze while listening becomes a means to maintain dominance, so that high power persons look less while listening than low power persons do. Since looking communicates attention and interest in the other and enables one to monitor the other for information and cues regarding behavior and outcomes (Exline et al., 1975), looking away can communicate the opposite, namely, lack of interest in the other, lack of attention, and or lack of the need to monitor the other, especially while listening. For these reasons looking away while listening is most likely to occur in the case of a high power person in a stable relationship, because only when a person's claim to dominance is recognized and not challenged, can a person afford to no longer monitor the other so

closely, can afford to not pay attention to him or her, or can afford to not be very interested in him or her. Since looking while listening permits one to monitor the other more than looking while speaking does, as the latter activity is often hampered by speech planning, and since low power persons depend more on the other for their outcomes than high power persons do, low power persons can be expected to engage in more looking than high power persons. The 'norm of attention' would seem to be more applicable to low power persons than to high, and the evidence suggests that low power persons do indeed pay more visual attention to the high power person than vice-versa (Exline et al., 1975). I suggest that looking while listening under stable conditions will signify and communicate attention to and recognition of the other's power over the looker, while looking away while listening will communicate no need to attend to the other, thereby reflecting and implying dominance. Furthermore, I suggest that if the low power person decreases his or her gaze while listening, the relationship could become unstable. The high power person may then need to increase his or her gaze while speaking and listening if he or she wants the relationship to become stable again, because

when one is involved in an unstable relationship, looking is a tool to establish dominance. Once the relationship is stabilized, the high power person may then decrease his or her gaze especially while listening.

HYPOTHESES

I hypothesize that when two individuals are observed listening to each other, which one is judged to be more powerful depends in part on two factors: a) stability of the power relationship between them (unstable vs. stable), and b) gaze while listening (LL vs. not looking while listening (NLL)). Specifically, I hypothesize that gaze is a tool that is used to dominate the other when vying for dominance under unstable conditions, and that LL indicates attention to and acknowledgment of the other and the other's power under stable conditions, and therefore that the looking listener would be judged to be more powerful when he or she is in the unstable than the stable relationship. I hypothesize that NLL communicates a lack of interest in and a diminished need for attending to the other when maintaining dominance under stable conditions, and that NLL indicates an inability

to maintain eye contact and is a signal of submission under unstable conditions, and therefore that the non-looking listener would be judged to be more powerful when he or she is in the stable than the unstable relationship.

METHOD

Overview. The purpose of this research was to advance theory of gaze and its relationship to power by varying gaze and the stability of the power relationship in dyads. The method that was selected to test the hypothesis was that of single-frame cartoon drawings, which consisted of two male figures with identical postures and neutral facial expressions, except for gaze and head direction. Gaze and speech were always asymmetrical in the cartoon dyads: one figure was shown looking at the other figure, who was shown looking away toward the viewer; one figure was depicted speaking and the other listening. Thus, there were two sets of cartoons: one in which one figure was LL and the other figure was NLS, and one in which one figure was NLL and the other was LS. The cartoons were accompanied by short descriptions of two characters and what was happening at the moment depicted in the cartoon, which were

designed to lead subjects to believe that a stable or an unstable relationship existed between the two figures. This was accomplished by varying the status of the characters and the degree of familiarity between them. Subjects were asked to indicate which figure was which character, and then rated each figure on various emotions and power related characteristics.

The primary purpose in selecting cartoons as stimulus materials was that cartoons allowed the experimental variables of interest to be easily manipulated and all extraneous variables to be controlled. Furthermore, subjects were expected to relate to the cartoons without difficulty, and to view each one as representative of the state of interaction of the two figures, because the subjects were presumed to be accustomed to doing that when they encounter single-frame cartoons and political caricatures in their everyday life. Just as judgments of observer-subjects in the decoding VDB studies corresponded to what was observed in the behavior of actor-subjects in the encoding VDB studies, so it seemed reasonable to assume that judgments of cartoon observers would be no less reflective of the actual behavior of real people, even though

cartoons lack the immediacy of a live, ongoing interaction. Only male figures were used in order to maximize the likelihood of obtaining differences between the stable and unstable conditions, since males appear to be more apt to display gestures of "power and privilege" (Henley, 1977) and appear to be less inclusion oriented than females (Exline et al., 1965).

The reason for having subjects rate the extent to which each figure displayed various emotions was that it provided an opportunity to see whether or not certain emotions tend to be more associated with power at the high or the low end of the scale. The emotions that were expected to be related to the manifestation of high and low power were anger, fear, and shyness. Looking at subjects' emotional attributions was another way of examining the changes in perception that might occur as a function of the stability of a power relationship and gaze, since the facial expressions between figures were not different except for gaze and head direction.r

Pilot. A set of eight unstable and eight stable scenarios were constructed. The unstable/stable dimension of the scenarios was manipulated by varying the extent to which the

two figures knew each other and the similarity in their occupational positions. In the unstable scenarios, the two men depicted in the accompanying cartoon were said to be strangers who had just met in a particular location. The strangers were described as having different, but equivalent positions. The circumstances surrounding their encounter were briefly described. In the stable scenarios, the two men were said to know each other, one man having a higher occupational status than the other. They were described as interacting with each other in the same location as in the unstable scenarios. (See Appendix A for the eight unstable and stable scenarios).

A set of instructions to the artist for drawing eight different cartoons that would correspond with the eight unstable and eight stable scenarios was also constructed. (See Appendix B for the instructions to the artist for drawing the cartoons). The artist was instructed to produce figures that were mirror images of each other by using transparencies, except for the direction of the gaze and the head. The decision to change the direction of the head as well as the direction of the gaze was made in order to make certain that the

perceived direction of the gaze was unambiguous. For the purpose of initially pilotting the experimental material, the artist was only asked to complete the first two cartoons.

Two single frame cartoons were drawn. Each cartoon showed two men facing each other with identical postures, but the looking was asymmetrical. One figure was looking at the other, who was depicted looking away toward the viewer. Which of the two men was speaking was indicated by means of a speech balloon with x's in it. Two versions were made of each cartoon. In the unstable version, the looker was the speaker, and the scenario that appeared below the figures was the unstable scenario. In the stable version, the figure that was looking away was the speaker, and the scenario that appeared below the figures was the stable scenario. (See Appendix C for the unstable and stable cartoons that were used in the Pilot study).

Eight subjects (five females and three males) were individually administered two cartoons. Each subject saw one cartoon in the unstable version and the other cartoon in the stable version, so that in the end, each subject saw both cartoons, and each version was viewed by half of the subjects.

Subjects were read instructions in which they were told that the purpose of the study was to see "what specific things determine how cartoons are understood by people" and what they would be shown and asked to do was briefly described. (See Appendix D for the Pilot instructions). They were given the two cartoons and corresponding answer sheets, which asked the subjects to identify the figures, to rate the extent to which the figures knew each other, to rate the extent to which each figure appeared to be feeling eight different emotions, and to indicate the extent to which one figure differed from the other in terms of 15 power-related adjectives. (See Appendix E for the Pilot answer sheet). These adjectives had been largely selected from Gough's Adjective Check List.

Following this, subjects were questioned as to their suspicions, beliefs, thoughts, and feelings regarding the cartoon drawings, the scenarios, and the task. A set of basic questions were asked (see Appendix F) as well as a number of spontaneously generated questions whenever subjects' responses seemed to call for further clarification. The entire exchange was tape recorded. Subjects were then debriefed.

Each exchange was transcribed and the results were tallied.

Subjects' responses indicated that nobody suspected the purpose of the experiment. Nearly everybody commented on how difficult it was to distinguish between the two figures, because they were "too much the same" as one subject put it. Some felt the figures were too "angular", "tense" and "austere". Nobody had difficulty with the stories (i.e., scenarios). They all tended to think the stories matched the drawings, and did not have any trouble believing the story about the cartoons. Most of them said they were able to think of the cartoons as if they were real. Everyone correctly perceived the direction of gaze of both figures, except for two subjects who did not accurately perceive the gaze direction of one of the figures in the tennis cartoon.

Subjects tended to cite the following reasons for choosing a particular person as the more powerful one and as a particular figure: one of the two was talking, had his arm extended, had his tennis racquet positioned differently, had a seemingly higher occupational status, or seemed more confident and in control. When asked who they would have picked as the

more powerful person had they only read the story without seeing the drawing, all of the subjects picked the person with the higher occupational status in the stable scenario, which was a check on the manipulation. However, in the unstable scenario, the prediction that there would be no consensus as to who was more powerful was found only with the party scenario. With the tennis scenario, subjects almost unanimously selected the long time member of the club as more powerful, because they thought that greater familiarity with the club would confer more power.

On the basis of these results, the tennis and party cartoons were redrawn and the six remaining cartoons were drawn. The artist was instructed to 1) improve the obviousness of the direction of gaze by having the direction of the gazer's head turned a bit more towards the other figure, 2) have the drawings drawn slightly less angularly, and 3) have the figures and everything about them (e.g., their possessions) be identical in every respect, except for gaze and head direction.

The scenarios were rewritten in order to simplify them and to improve the choice of occupational positions used (e.g., two subjects had been disoriented by the fact that one of the two male figures was supposed to be a secretary in the party cartoon), as well as to make those positions more equivalent in the unstable cartoons (e.g., the long time member was perceived to have higher status than the new member, rather than equivalent status, which had been the intention).

In order to reduce the amount of time subjects would need to complete their ratings, the decision was made to reduce the number of cartoons to four, and to reduce the number of power-related adjectives to eight. Two cartoons with standing figures and two with sitting figures were selected, and four adjectives that lie on the strong end of the dimension of power and four on the weak end were selected.

Experiment

Subjects. Participants were 194 student volunteers. Of these, 25 were Hunter College students, 21 were Queens College students, 14 were graduate students at City College, and 132 were from Brooklyn College. Only those who were

from Brooklyn College participated in exchange for credit. Two of the graduate students from City College were eliminated because the way they identified who was who in the cartoons was so confusing, that it made their ratings unintelligible. This reduced the final sample to 192 subjects, of whom 56 were male, 134 female and two unidentified, because they failed to indicate their sex on the questionnaire.

Stimuli. Four single-frame cartoons, which consisted of two male figures facing each other with identical postures and similar facial expressions, except for gaze and head direction, were used. This was accomplished by having the artist copy one figure on a transparency, and then flipping the transparency over, so that the identical figure could be retraced. Therefore, the two figures were in actuality mirror images of each other except for the head and gaze. In each cartoon one figure (the looker) was looking at the other figure (the non-looker), who was looking away toward the viewer; and in each cartoon one of these figures was depicted speaking, while the other was listening. This was accomplished by xeroxing the cartoons with a speech balloon, that contained a symbolic set of x's, pointing either towards the looker or

towards tne non-looker.

Four versions were made of each cartoon for each condition (unstable and stable). In half the versions (versions A and B), the looker was on the left and in half the versions (versions C and D), the looker was on the right. This was accomplished simply by xeroxing the transparency containing the pair of figures first on one side, and then flipping it over and xeroxing the other side. In half the versions (versions A and D), the looker was portrayed as the speaker, and in half the versions (versions B and C), the looker was the listener. Thus, the figure on the left was shown in all possible combinations: as the looker and speaker (version A), as the looker and listener (version B), as the non-looker and speaker (version C), and as the non-looker and listener (version D).

The figure on the left was always labeled A, the figure on the right B. Below each of these labels a blank line appeared, and below that the unstable or stable scenario, and underneath that the instructions to "indicate on the blank line below figure A which character you've decided figure A is and below figure B which character you've decided figure B is." The characters were then mentioned in the same order

as in the scenarios. (In the stable scenarios, the high status character was always mentioned first).

Unstable booklets and stable booklets were made so that no subject saw cartoons in both conditions. By means of a complex latin square design, four combinations of the four cartoons were generated, such that each version of each cartoon appeared once. Within each combination, two different orders of presentation were used, one being ABDC and the other being BACD, which yielded eight sets of different booklets. Twelve booklets for each of the eight sets were made for each condition, which resulted in 192 booklets, one for each of the 192 subjects. (See Appendix G for an unstable booklet and Appendix H for a stable booklet.)

The first page of each booklet contained the instructions which informed the subjects that the purpose of the experiment was to study "what specific things determine how cartoons are understood by people". Subjects were told that they would be asked who was who, and only after making this decision were they to answer the questions that appeared on the page facing the cartoons. They were asked to make judgments even if there seemed to be little basis for

doing so, at times, because of the paucity of information in the stories and the cartoons. Below the instructions, subjects were asked to indicate their sex and their age (five age ranges were provided: 17-25, 26-35, 36-45, 46-60, and 61 and over).

When the instruction page was turned over, one of the cartoons, which had been taped to the back of the instructions, appeared on the left-hand page and facing it on the right-hand page was an answer sheet. Taped to the back of that answer sheet was the second cartoon, which faced another answer sheet. Two more cartoons and answer sheets followed. The answer sheet asked subjects to : 1) rate the extent to which the figures knew each other (a six point rating scale was provided, which ranged from "not at all" (1) to "very well" (6) (this was a partial check on the manipulation of stability); 2) rate the extent to which each figure appeared to be feeling eight emotions (anger, shyness, contentment, interest, fear, sadness, contempt, and tenseness); and 3) rate the extent to which each figure appeared to be displaying various characteristics (viz., powerful, eager to please, self-confident, submissive, dependent, in control, meek, and high status).

The last page of each booklet consisted of the post-experimental questionnaire. Subjects were asked 1) what they had thought the experiment was attempting to show or demonstrate; 2) what, if anything, had they noticed about the cartoons or stories, or would they like to comment on; and 3) to indicate their cultural/ethnic background, if they didn't mind, as background information would be helpful in analyzing the results.

Procedure. The Brooklyn College subjects reported to a psychology lab where four rows of four carrels had been set up, and were given booklets to fill out as soon as they arrived. Subjects at the other three colleges were each given a booklet as they sat in their classroom as a class. The booklets had all been shuffled before they were distributed. The experimmnter informed the subjects that they would be told more about the experiment at the end, and that if they had any questions after reading the instructions, they were to feel free to approach the experimenter and ask them. When a subject finished, his or her booklet was checked by the experimenter to make sure that everything had been answered. The experimenter saw to it that subjects completed what they had left blank,

except for the last question on their cultural/ethnic background, in which case the experimenter simply made sure they had read the question. The subjects were then debriefed outside of the room either individually or in groups of varying sizes, depending on the number of subjects who had completed the booklets at about the same time.

RESULTS

Checks on the manipulation of stability

There are two approximate checks on the manipulation of stability. The first one is based on a comparison of stable and unstable subjects on the extent to which they rated the figures as knowing each other, because the greater the extent to which two men are believed to know each other, the more likely it is that a hierarchy of power is already established and acknowledged between them. Accordingly, oneway analyses of variance were done separately for each cartoon on the know ratings as a function of condition. (See Table 1 for the mean know ratings). In every case there was a significant effect, such that subjects in the stable condition rated the figures as knowing each other to a significantly greater extent than did

subjects in the unstable condition ([F(1, 188) = 117.50, p<.000] for the carpet cartoon; [F (1,188) = 52.22, p<.000] for the toy cartoon; [F (1,188) = 171.68, p<.000] for the party cartoon; [F (1,188) = 83.27, p<.000] for the film cartoon). This was in keeping with intentions.

The second check on the manipulation of stability is based on a comparison of stable and unstable subjects in terms of the difference in ratings of power given the first named character in the scenario and the second named character. The reason for this is that the greater the difference in perceived power between the first named character and the second named in the stable than in the unstable condition, the more likely it is that subjects perceived a more firmly established and unambiguous hierarchy of power in the stable than the unstable condition. Accordingly, oneway analyses of variance were conducted on the difference in Strong* ratings between the first named character and the second named character for each cartoon separately. (See Table 2 for the mean difference ratings). As was intended, the effect of condition was

*The rationale for using this measure, which represents the average ratings on powerful, self-confident, in control, and high status, will be discussed further on.

significant in every cartoon ([F (1,190) = 34.78, p<.0001] for the carpet cartoon; [F (1,190) = 26.71, p<.0001] for the toy cartoon; [F (1,191) = 67.09, p<.0001] for the party cartoon; [F (1,190) = 69.26, p<.0001] for the film cartoon). Specifically, subjects in the stable condition rated the two characters significantly more different from each other in terms of the strong measure than did subjects in the unstable condition.

Thus, it appears to be the case that the manipulation of stability was successful in that subjects in the stable condition perceived the two figures to know each other to a greater extent, and perceived the two figures to be characterized by a greater differential in strength, than did subjects in the unstable condition.

The looking listener perceived as the low status character

For each cartoon in the stable condition, the number and proportion of subjects who selected the looking listener as the low status character was calculated (see Table 3). The prediction was that the proportion of subjects in the stable condition who selected the looking

listener as the low status character would be significantly greater than chance, because LL was hypothesized to communicate the recognition and acceptance of another's power under stable conditions. As expected, the z-tests for the significance of a proportion showed that the proportions who selected the looking listener as the low status character were significantly greater than chance for three cartoons using a one-tailed test ($z = 5.04$, $p<.0001$ for the carpet cartoon; $z = 4.29$, $p<.0001$ for the toy cartoon; $z = 1.66$, $p<.05$ for the party cartoon) and approached significance for the film cartoon ($z = 1.38$, $p<.08$).

For each cartoon in the stable condition, the number and proportion of subjects who selected the non-looking listener as the high status character was calculated (see Table 4). No prediction had been made regarding the proportion of subjects in the stable condition who selected the non-looking listener as the high status character, only because the NLL figure was paired with the LS figure, and both NLL and LS were expected to be associated with high power under stable conditions, as NLL was hypothesized to reflect the diminished need to attend to the other when maintaining dominance

and LS was hypothesized to reflect the fearless confidence requisite in looking, despite compelling cognitive reasons to look away. The z-tests for the significance of a proportion showed that the proportion who selected the non-looking listener as the high status character was significantly greater than chance in the carpet cartoon ($z = 2.74$, p .003), significantly less than chance in the film cartoon ($z = 3.74$, p .0001), and not significantly different than chance in two cartoons.

Strong ratings

Whereas status cannot be examined in both conditions, there being no difference in status between the two characters in the unstable condition, any of the power-related characteristics or any measure based on them can be examined in both conditions. A set of oneway analyses of variance were performed on the ratings of each power-related characteristic for the LL and NLL figures for each cartoon. Since there were so many analyses, and since there appeared to be similarities in the pattern of the results, factor analyses and Pearson product-moment correlations were carried out in

an effort to clarify the relationship between these dependent variables, and hopefully collapse them.

A set of principal components factor analyses followed by varimax rotation was done on the ratings of the eight power-related characteristics for each figure in each cartoon. Two factors emerged. The characteristics that always loaded high on the first factor were strong. namely, "powerful", "self- confident", "in control", and "high status", while those that loaded high on the second factor were weak, namely, "eager to please", "submissive", "dependent", and "meek".

The results of the Pearson correlations were similar to the results of the factor analyses. Specifically, those characteristics that were strong correlated highly and positively with each other, but low and negatively with the weak characteristics, while the weak ones correlated highly and positively with each other.

Based on these results, the eight power-related characteristics were collapsed to two: a strong variable, computed as the mean of the four strong characteristics, and a weak

variable, computed as the mean of the four weak characteristics. A third variable was also computed, which was the difference between the strong and the weak (strong minus weak). Then a series of oneway analyses of variance were performed on the strong, weak, and strong minus weak ratings for the figure that was LL and for the one that was NLL for each cartoon. Since the results on all three measures resembled each other, only the results on the strong variable will be presented and discussed.

The oneway analyses of variance showed that the LL figure was judged to be significantly stronger in the unstable than in the stable condition in the toy cartoon [$F(1,94) = 4.05$, $p<.05$], and nonsignificantly so in the other three cartoons. This pattern of means (see Table 5) was in line with predictions, since looking under unstable conditions was hypothesized to be a means to dominate another when vying for dominance, and LL under stable conditions was hypothesized to communicate recognition and acceptance of the other's power and the payment of attention to the other.

The oneway analyses of variance showed that the NLL figure was judged to be significantly stronger in the stable than in the unstable condition in the carpet cartoon [$F(1,92) = 7.60$, $p<.007$], and nonsignificantly so in the party cartoon. The obtained pattern of means (see Table 6) for the carpet cartoon was in accord with predictions, because NLL under stable conditions was hypothesized to signal no need to pay attention to the other when maintaining dominance, and NLL under unstable conditions was hypothesized to signal submission to the other.

Using only subjects who did not view the two figures as equal in strength, the number and proportion of those who rated each speaking figure (viz., LS and NLS) to be stronger than the listening figure with which it was paired (viz., NLL and LL, respectively) was calculated. See Table 7 for the proportions rating the LS figure as stronger than the NLL figure and NLS as stronger than LL by condition for each cartoon and across all cartoons. The z-test for significance of difference between two proportions showed that the proportion of subjects who rated the LS figure as being stronger than the NLL figure was significantly

greater in the unstable than the stable condition in the carpet cartoon ($z = 3.5$, $p<.0002$) as well as overall across cartoons ($z = 1.67$, $p<.05$). There was no significant difference in the proportions who rated the NLS figure as stronger than the LL figure as a function of condition. Thus, it appears that for the carpet cartoon and for the cartoons as a whole, condition made a difference for the LS-NLL combination, but not for the NLS-LL combination.

Neither sex nor ethnicity had a systematic effect on the strong ratings when these were included as between-subjects factors in the analyses.

Emotion ratings

A set of principal components factor analyses followed by varimax rotation was done on the ratings of the eight emotions for each gazing figure in each cartoon. The three factors that emerged were uneasiness, contentment, and anger. (See Tables 8 and 9). Uneasiness emerged as the first factor for both the looker and the non-looker. Whereas contentment tended to be the second factor for the looker, anger was the second factor for the

non-looker.

Pearson correlations were performed between the emotion ratings and the ratings of the power-related characteristics. The three emotions that most frequently correlated significantly (at the .001 level) with the various power-related characteristics were fear, shyness and tenseness, while the two that least frequently did so were anger and contempt. Thus, of the three emotions that were expected to relate to power, namely, anger, fear, and shyness, only two of them appeared to do so. It was the emotions that loaded highly on the first factor, uneasiness, in the factor analysis, that were most related to the power-related characteristics. It seems that perceptions of emotional uneasiness is negatively related to perception of power.

When the correlations were examined by condition, it became obvious that the emotions of fear, shyness and tenseness were significantly and negatively correlated with many more power-related characteristics in more cartoons in the stable than in the unstable condition. This suggests that the more stable the relationship - i.e., the more clear it is how two figures stand vis-a-vis each other in

terms of power - the more likely it is that the perception of power is related to the perception of emotion. Thus, these emotional attributions seemed to reflect changes in perception as a function of the stability of a power relationship.

Post-experimental questionnaire responses

The first and second question on the post-experimental questionnaire concerned subjects' suspicions about the purpose of the experiment and their observations about the nature of the drawings and the scenarios. Their responses to these two questions were coded together for a) whether or not subjects referred to the eyes, the gaze or the head direction of the figures in any way, b) whether or not subjects referred to gaze in conjunction with status in any way, and c) whether or not subjects referred to speech in conjunction with power in any way. That only seven subjects, or 3.6% of the entire sample, even mentioned the eyes, gaze or head direction in some fashion attests to the potency and pervasiveness of gaze as a background feature of ordinary interaction. This was particularly surprising given that gaze and head direction were the only things that

distinguished the figures from each other, aside from speech role. Not less surprising was the fact that an equal number of subjects (seven or 3.6%) cited differences between the figures that did not exist, because the figures were mirror images of each other in all respects except for head and gaze direction, such as differences in height, dress, gestures, darkness of hair, and the positioning of limbs. Moreover, a total of 43 subjects, or 22% of the sample, commented on facial expression differences. However, their point about facial expression may have been well taken, for although the facial expressions were neutral in each pair of figures, the facial expressions cannot be said to be mirror images of each other, because the difference in the gaze and head direction may have affected the gestalt of the entire face, and the difference in speech roles may have affected it too.

Although 22 subjects, or 11% of the sample, thought that the study was about power, status or authority, and 15 others or 8% commented on the difference in positions between the two figures, there were only eight subjects or 4% who associated the speaking role with power, and only one subject, or one half of one percent (.5%) of the entire sample, who even connected

the gaze pattern with status, but did so in the direction opposite to predictions given the condition he was in. Needless to say, nobody suspected the purpose of the experiment.

DISCUSSION

The data show that attributions of power vary depending on the particular combination of speech (speaking or listening) with gaze (looking or not looking) and the stability of the power relationship between the members of a dyad. When subjects viewed cartoon dyads with the stable scenarios in which one figure was LL and the other was NLS, the proportion of subjects who identified the LL figure as the low status character was significantly greater than would be expected by chance. Thus it appears that subjects perceived the combination of looking at another and listening as indicating relatively lower power than the combination of looking away and speaking under stable conditions, supporting the hypothesis that LL under stable conditions communicates the recognition and acceptance of the other's power.

When subjects viewed cartoon dyads with the stable scenarios in which the NLL figure was paired with the LS figure, the proportion of subjects who identified the NLL figure as the high status character was significantly greater than chance in one cartoon, significantly less than chance in another cartoon, and not significantly greater than chance in two cartoons as well as across all cartoons. This finding lends support to my inability to make a prediction concerning this pair, because my hypotheses led me to believe that both NLL and LS would be viewed as indicating high status. Therefore it seems plausible that subjects were in a doublebind when it came down to choosing between NLL and LS as the high status character, and consequently that NLL reflects the reduced need to pay attention to the other when maintaining dominance and LS reflects the feelings of confidence coincident with gazing at another despite compelling cognitive reasons to look away, as was hypothesized.

That the LL figure was judged to be stronger in the unstable than the stable condition in the toy cartoon, as was predicted, suggests that looking at another while listening under unstable conditions is a means of

establishing dominance, but under stable conditions is a means of acknowledging the other's existing dominance. That the NLL figure was judged to be stronger in the stable than the unstable condition in the carpet cartoon, as was predicted, suggests that not looking at another while engaged in listening signals a lack of necessity in attending to the other that stems from occupying a secure position of power in a stable situation, while it signals an act of submission to the other's display of dominance in an unstable situation. Why might the hypotheses concerning the relative power of the listening figures as a function of stability have been supported in a single cartoon - the toy cartoon in the case of the LL figure and the carpet cartoon in the case of the NLL figure? Upon closer examination of the four cartoons, the toy and carpet cartoons appeared to be the only ones in which, under both the unstable and stable conditions, the two figures were said to be interacting with each other about their work. The topic of conversation in the other two cartoons was of casual social or entertainment interest (the party and film cartoons, respectively). Therefore, it may be the case that power becomes more salient to observers of cartoons when the figures are believed to be

dealing with work related issues than when they are engaged in matters of mutual social interest. That the hypotheses were not supported for both figures in both the toy and the carpet cartoons suggests that the strong measure may not serve as a sufficiently sensitive measure.

After omitting those subjects who rated the two figures as equal in strength, the proportion of subjects who rated the speaker as stronger than the listener was calculated for each cartoon and across all cartoons. The proportions were all greater than .50, except for the upper right-hand cell in the carpet cartoon (see Table 7). Not only was the looking speaker perceived to be stronger than the not looking listener under most stable and unstable conditions as had been predicted, but the not looking speaker was also perceived to be more powerful than the looking listener regardless of condition. This strongly suggests that, in general, the activity of speaking confers more power to oneself than that of listening does, regardless of the pattern of gaze and condition. Thus, when judgments of cartoon figures are called for, it appears that speaking communicates power in the absence of other

contextual cues, but that looking/non-looking appears to require other contextual cues in order to signal power.

However, when the carpet proportions and the total proportions across cartoons were looked at, condition appeared to make a difference for one speaking-listening combination (LS- NLL), but not for the other one (NLS-LL). Specifically, for the LS-NLL combination, the proportion of subjects who rated the LS figure as stronger than the NLL figure was significantly greater in the unstable than in the stable condition. This was in the direction of my predictions, as NLL was hypothesized under unstable conditions to signal one's submission, and under stable conditions to signal the disinterest stemming from one's dominance. One could argue that the LS-NLL combination differs from the NLS-LL combination in that the difference in power between the members of the former pair is more extreme than the difference in the latter pair. This statement only makes sense when we consider that the strong end of the speech dimension (i.e., speaking) and the strong end of the gaze dimension (i.e., looking) were combined in one figure and juxtaposed against the weak ends of

both dimensions in the other figure (i.e., listening and not looking) in the LS-NLL pair, whereas the strong end of one dimension was combined with the weak end of the other dimension in both figures in the NLS-LL pair. Perhaps one reason for the difference in the effect that condition had on these two combinations is that when there is an extreme difference in the nominal indicators of power, the condition of stability becomes an important factor.

One could also argue that the LS-NLL combination differs from the NLS-LL combination in that the former is less normative than the latter, because to not look while listening is to disregard the norm of attention, which requires one to look at another while interacting. To look while speaking is perhaps no more normative than to not look while speaking, because speakers often look away for cognitive reasons (Exline et al., 1965, 1975) and or to signal the beginning of their speaking turn (Kendon, 1977). Perhaps one reason for the difference in the effect that condition had on these two combinations is that when a pattern is less normative, one seeks an explanation of power, in which case the condition of stability

becomes an important factor. So maybe in a non-normative situation, such as the LS-NLL combination, gaze is taken as indicative of power, while in a normative situation, such as the NLS-LL combination, it is not.

It is interesting to note that it was only in the carpet cartoon that the proportion of subjects who rated the LS figure to be stronger than the NLL figure varied significantly as a function of condition. Why was this not also obtained in the toy cartoon, if, as was argued earlier, the toy and the carpet cartoons were the only ones in which power was made salient? Upon examining the scenarios of these two cartoons, it became obvious that the carpet cartoon was the only one in which both figures were said to be interacting with each other in a work setting (a carpet store) - the setting in the toy cartoon being related to a social function (a hotel lobby prior to lunch). Thus, power was probably made even more salient to observers of the carpet than the toy cartoon, and may be why the difference in proportions as a function of stability reached significance in the case of the carpet cartoon only. (Although it also reached significance in the case of the total proportions across cartoons, an

examination of Table 7 clearly shows that this significant effect was primarily due to the carpet cartoon.)

The assumption that was underlying this research was that these patterns of speech and gaze exhibited by high and low power people under unstable and stable conditions not only emerge during dyadic interaction, but are also recognized by observers. That is to say, people implicitly understand the significance in terms of power, of speech and gaze combinations in the context of the degree of stability of the relationship between the members of a dyad. Based on the obtained results, it seems to be the case that subjects perceived the various speech and gaze combinations as indicating more or less power depending on the stability of the power relationship of cartoon dyads. Thus, it seems subjects interpreted what they observed in terms of power in a way that resembles the speech and gaze behaviors that they might have exhibited, had they been involved in relationships of varying stability and been more or less powerful.

Although the strong measure did not prove to be an especially sensitive test of my hypotheses, the weight of the evidence did lend some support to them. In particular, there was some support for the hypothesis that LL is a way to try to dominate another in an unstable relationship, and that it serves to reflect and acknowledge a position of lower power in a stable relationship. There was also some support for the hypothesis that the combination of looking away and listening, NLL, reflects the reduced need to attend to another when maintaining dominance in a stable relationship, but reflects submission to the other's dominance in an unstable relationship.

The failure to find even stronger support for my hypotheses may be attributed to various factors. Each of these factors will be discussed, as well as the ways each can be circumvented in future research.

1) The lack of a work context in the scenarios. Most of the cartoon scenarios did not describe the dyad members as interacting in a work setting or even as being engaged in a conversation about work. The hypotheses were most clearly supported in the case of the carpet cartoon, which was the only cartoon in which the

characters were said to be interacting with each other in a work setting and for work related reasons. It seems possible that power does not become salient to observers of cartoons, unless the cartoon characters are said to be focusing on work in a work setting. Therefore, the scenarios could be rewritten to reflect a greater work orientation in a work setting. This might increase the salience of power and so increase the distinctions in rated power that might be made, thereby increasing the likelihood that the hypotheses would be more clearly supported.

2) The use of cartoon drawings. Cartoon drawings, by their very nature, cannot represent the dimension of time. The inability of cartoons to do so could have made a critical difference. For example, NLL in an unstable relationship need occur only in an instant of time, in order for it to indicate submission to the other's dominance, and therefore less power, but the timing of when that NLL occurs is very important. It is the timing that determines whether the interpretation of submission is made or not. However, the timing of when NLL occurs in a stable relationship is not so critical, since NLL under these conditions would only need

to occur for periods of longer duration, in order for NLL to communicate the maintenance of dominance. Similarly, the timing of LL in an unstable relationship would also be critical, since the person who wished to dominate the other would need to gaze uninterruptedly while listening to the speaker at those points in time when the speaker was looking at the listener. However, LL in a stable relationship would only need to be of long duration for the communication of recognition and acceptance of the other's power to be made. Furthermore, it may be the duration of LS that lends itself to the interpretation of power or dominance under stable and unstable conditions, while it may be the frequency of NLS that lends itself to the interpretation of low power.

In any case, whereas the timing of NLL and LL would seem to be more critical under unstable than under stable conditions, the duration of NLL and LL would seem more critical under stable than unstable conditions. It had been assumed that because subjects are accustomed to viewing cartoons and political caricatures in their daily life, they would relate to these experimental cartoons as 'freeze frames' that had been selected as representative of the power

relationship between the two characters. However, this meant in effect that the cartoons were expected to be representative of a relationship in which the timing of a look was extremely significant (viz., that of the unstable condition) as well as of a relationship in which the duration of looking was important (viz., that of the stable condition). Subjects, in other words, were expected to shift their way of viewing cartoons depending on whether the relationship was stable or unstable. Thus, the use of cartoon drawings may not have been the most efficient way to test my hypotheses. A much more effective way, which would still permit a large measure of experimental control, would be the use of videotaped interactions, since videotape is better equipped to capture the elements related to time, such as duration and timing.

3) The use of only particular pairs. Only cartoons in which the LS figure was paired with the NLL figure and the NLS figure was paired with the LL figure were used. More information could have been obtained had the LS figure also been paired with the LL figure, and the NLS figure been paired with the NLL figure, as the inclusion of these pairs would have permitted

comparisons of a single figure between pairs. For example, is the LL figure rated as pewerful when it is paired with the NLS figure as when it is paired with the LS figure under unstable conditions? Based on the hypotheses we could expect that the LL figure would be rated more powerful when seen interacting with the NLS than with the LS figure, because in the former case, the speaker would have been perceived as signalling his submission by looking away, while in the latter case, the speaker would have been perceived as attempting to use his gaze to establish dominance.

4) The stability of the power relationship. Because the stability of the power relationship was not operationalized directly, it is not clear whether subjects made the intended assumptions concerning stability. The subjects could easily have viewed the stable condition as being unstable at times, since power is often independent of status in the real world, and conversely, the subjects could have viewed the unstable cartoons as stable, since unstable situations are usually stabilized very quickly in the real world. A recommendation for future research is to present subjects with scenarios which directly state whether a hierarchy of

power has already been established between the two characters or whether it is still in the process of being formed.

Although my hypotheses were formulated in terms of dyads, they are assumed to also apply to the relationship between any two members of a group who interact with each other, even if their interaction is asymmetric in that one of them only speaks and the other only listens, as in the case where the speaker is addressing a whole group of people which includes the other. If the speaker is an acknowledged leader, then the situation is a stable one and the one who looks a lot while listening has relatively less power than the speaker does, because LL is hypothesized to reflect and signal a lower power position in a stable relationship. If the speaker is not an acknowledged leader and his or her bid for dominance is being challenged, then the situation is an unstable one and the one who looks a lot while listening has potentially more power than the speaker does, because LL is hypothesized to be a means of dominating another in an unstable relationship.

Some clarifications and qualifications regarding the interpretation of gaze while listening are in order. The definition of stable and unstable was in terms of whether a consensus did or did not exist between two people as to who is more powerful. This was said to hinge on whether one did or did not recognize the other's power, which in turn would determine whether one did or did not look a lot while listening. This state of affairs is expected to occur only in competitive situations, in which differences in relative power become relevant. Where the situation is affiliative in nature, who is more powerful is not of concern, and so gaze behavior while listening is unaffected by power considerations. In other words, in affiliative situations, the extent to which one looks while listening is not expected to reflect or indicate the relative amount of power one has or to have any bearings on power at all.

The context in which the gaze occurs is critical to its interpretation. In addition to the competitive versus affiliative nature of the interaction, or the personality counterpart of this as measured in the high versus low control orientation of the person, factors such as

feelings of well-being, self-confidence, pride, shame, irritableness, mockery, joy and moodiness are also affected by and influence gaze behavior. This may be another reason why it was so difficult to obtain greater support for the hypotheses in the present study.

There are also circumstances that could produce a reversal of the hypothesized relationships between gaze and power. For example, when a subordinate is receiving a complex message from a superior, he or she will probably not look at the superior while listening. In this case, the prepotent goal of the listener is to understand the message accurately, which may require a reduction in interference in the visual channel. Similarly, the superior might be expected to look at the subordinate intently, both while delivering the message and after doing so, to make sure that the subordinate is accurately receiving and comprehending the complex message. Thus, in this stable situation, LL becomes a reflection of high power and NLL a reflection of low power. This example illustrates how much the interpretation of gaze depends on knowledge of the context in which it occurs.

Another example of a reversal of the hypothesized relationship between gaze and power may be observed in the relationship between an army officer and a private or between a master and a servant. A private is forbidden to look (back) at an officer when addressed by him, but is expected instead to look away by either looking straight ahead or by looking down. Similarly, a servant must be careful not to look too intently at his master when spoken to by him. However, both the officer and the master may glare at their subordinates if they wish. These dyads exemplify a stable relationship as there is a consensus between the two members of the dyad as to who is more powerful. Yet, unlike our previous predictions, in these particular stable relationships, NLL indicates low power and LL signals high power.

There are several reasons that could account for the reversal in these particular dyads. These dyads are extreme examples of a stable relationship, as the rules regarding gaze (who may look at whom) appear to be quite explicit and rigid, and any failure by a subordinate to abide by the rules may be considered to be subversive. For a subordinate to break the rules for gaze in this system by

looking at the superior might mean that 1) he/she was questioning the superior's right to determine the direction of his/her gaze; 2) he/she was obtaining more information about the superior and therefore acquiring more personal power, because knowledge is power; 3) he/she was challenging the other's established dominance as gaze was hypothesized to be a tool that is used to establish dominance in an unstable relationship and any change in prescribed gaze can be expected to destabilize any situation. Both of these kinds of dyadic relationships also show how the meaning of gaze depends on the context in which it occurs.

Table 1

Mean Know Ratings as a function of Condition in each Cartoon

Cartoons	Condition			
	Unstable		Stable	
	M	SD	M	SD
Carpet	1.75	.93	3.39	1.18
Toy	1.96	1.26	3.41	1.54
Party	1.61	.88	3.52	1.11
Film	1.41	.71	2.76	1.23

Table 2

Mean Difference in Strong* Ratings between the First and Second Named Character as a function of Condition in each Cartoon

Cartoons	Condition			
	Unstable		Stable	
	M	SD	M	SD
Carpet	.50	1.48	1.73	1.40
Toy	.39	1.13	1.24	1.16
Party	-.38	1.45	1.25	1.30
Film	-.18	1.30	1.38	1.29

* Strong ratings derived by computing the mean of the ratings for 'powerful', 'self-confident', 'in control', and 'high status'.

Table 3

Number and Proportion of Subjects in the Stable Condition who selected the Looking Listener as the Low Status Character in each Cartoon (N per Condition = 48*)

	Looking Listener	
Cartoons	n	Proportion
Carpet	42	.86
Toy	39	.81
Party	30	.62
Film	29	.60

* In the carpet cartoon N was 49.

Table 4

Number and Proportion of Subjects in the Stable Condition who selected the Non-looking Listener as the High Status Character in each Cartoon (N per Condition = 48*)

	Non-Looking Listener	
Cartoons	n	Proportion
Carpet	33	.70
Toy	21	.44
Party	24	.50
Film	11	.23

* In the carpet cartoon N was 47.

Table 5

Mean Strong* Ratings of the Looking Listener as a function of Condition in each Cartoon

Cartoons	Condition			
	Unstable		Stable	
	M	SD	M	SD
Carpet	2.35	.92	2.20	1.11
Toy	2.74	.80	2.40	.87
Party	2.90	1.09	2.72	1.08
Film	2.67	.85	2.50	1.13

* Strong ratings derived by computing the mean of the ratings for 'powerful', 'self-confident', 'in control', and 'high status'.

Table 6

Mean Strong* Ratings of the Non-looking Listener as a function of Condition in each Cartoon

Cartoons	Condition			
	Unstable		Stable	
	M	SD	M	SD
Carpet	2.34	1.04	3.02	1.33
Toy	2.99	1.10	2.53	1.12
Party	2.68	1.02	2.96	1.10
Film	2.29	.80	1.92	.67

* Strong ratings derived by computing the mean of the ratings for 'powerful', 'self-confident', 'in control', and 'high status'.

Table 7

Of the Subjects rating the Figures as Different in Strength*, the Proportion of them who rated the Looking Speaker as Stronger than the Non-looking Listener and the Non-looking Speaker as Stronger than the Looking Listener as a function of Condition in each Cartoon and Across All Cartoons

CARPET

Combination	Condition: Unstable	Condition: Stable
LS NLL**	.87 (45)	.45 (44)
NLS LL***	.82 (44)	.83 (47)

TOY

Combination	Condition: Unstable	Condition: Stable
LS NLL	.69 (39)	.68 (40)
NLS LL	.82 (34)	.88 (43)

PARTY

Combination	Condition: Unstable	Condition: Stable
LS NLL	.57 (42)	.62 (45)
NLS LL	.74 (42)	.75 (45)

FILM

Combination	Condition: Unstable	Condition: Stable
LS NLL	.88 (40)	.85 (47)
NLS LL	.64 (33)	.58 (45)

ACROSS ALL CARTOONS

Combination	Condition: Unstable	Condition: Stable
LS NLL	.75 (166)	.65 (176)
NLS LL	.76 (153)	.76 (180)

* Strong ratings derived by computing the mean of the ratings for 'powerful', 'self-confident', 'in control', and 'high status'.

** Looking while speaking rated as stronger than not looking while listening.

*** Not looking while speaking rated as stronger than looking while listening.

Table 8

Varimax Rotated Factor Matrix for the Emotion Variables for each Cartoon for the Looker

	Carpet Cartoon			Toy Cartoon	
Variable	Factor 1 (Uneasiness)	Factor 2 (Contentment)	Factor 3 (Anger)	Factor 1 (Uneasiness)	Factor 2 (Contentment)
Anger	-.07	-.07	.72	.40	-.29
Shyness	.60	-.05	-.04	.72	-.03
Contentment	-.06	.87	.00	-.05	.60
Interest	-.11	.31	.02	.06	.73
Fear	.88	-.10	.04	.63	-.04
Sadness	.59	-.10	.09	.50	-.34
Contempt	.20	.11	.50	.35	.08
Tenseness	.51	-.20	.18	.71	-.03

	Party Cartoon			Film Cartoon		
Variable	Factor 1 (Uneasiness)	Factor 2 (Anger)	Factor 3 (Contentment)	Factor 1 (Uneasiness)	Factor 2 (Content ment)	Factor 3 (Anger)
Anger	.06	.85	-.06	.04	-.03	.77
Shyness	.65	-.10	-.06	.76	.03	-.16
Contentment	-.31	-.29	.46	-.12	.70	.12
Interest	.03	.01	.48	.08	.60	.00
Fear	.81	.11	.05	.67	-.02	.18
Sadness	.58	.29	.08	.50	.15	.30
Contempt	.25	.33	.36	.11	.26	.39
Tenseness	.65	.40	-.03	.70	-.08	.08

Table 9

Varimax Rotated Factor Matrix for the Emotion Variables for each Cartoon for the Non-looker

	Carpet Cartoon			Toy Cartoon		
Variable	Factor 1 (Uneasiness)	Factor 2 (Anger)	Factor 3 (Contentment)	Factor 1 (Uneasiness)	Factor 2 (Anger)	Factor 3 (Contentment)
Anger	.09	.86	-.11	.30	.58	.01
Shyness	.74	-.13	-.12	.68	.14	-.16
Contentment	.05	-.16	.84	-.13	-.00	.79
Interest	-.10	.13	.27	-.07	-.10	.44
Fear	.74	.09	-.04	.69	.22	-.08
Sadness	.54	.36	.03	.19	.88	-.14
Contempt	.38	.36	.14	.29	.07	.24
Tenseness	.47	.27	-.11	.62	.30	-.15

	Party Cartoon			Film Cartoon		
Variable	Factor 1 (Uneasiness)	Factor 2 (Anger)	Factor 3 (Contentment)	Factor 1 (Uneasiness)	Factor 2 (Anger)	Factor 3 (Contentment)
Anger	.05	.67	-.38	.09	.80	-.09
Shyness	.79	-.15	-.10	.72	.14	-.24
Contentment	-.16	-.05	.63	-.10	.04	.61
Interest	-.03	.02	.37	-.16	.00	.64
Fear	.70	.23	-.10	.74	.21	-.03
Sadness	.46	.28	-.04	.42	.55	-.06
Contempt	.16	.58	.16	.09	.41	.16
Tenseness	.48	.25	-.37	.76	.11	-.17

	Gaze With Speech	
Condition	LL	LS
Unstable	High Power	High Power
Stable	Low Power	High Power

Fig. 1. A model of the amount of power perceived when looking while listening and while speaking under conditions of varying stability.

Appendix A

Initial sample of unstable and stable scenarios

1. Unstable: A stockbroker and an investment banker, strangers to each other, have just met each other for the first time. They are waiting for a tennis court in order to play with each other during their lunch hour. They are talking about their game and level of skill.

   Stable: A supervisor and one of his trainees are waiting for a tennis court in order to play with each other during their lunch hour. They are talking about their game and level of skill.

2. Unstable: These two men have just introduced themselves to each other at a party. One of them is a manager of an office supply business, and the other is a supervisor at a small computer firm. They are engaged is casual conversation.

   Stable: A vice president and his office manager have just bumped into each other at a large party. They are engaged in casual conversation.

3. Unstable: Two doctors who have never met before are sitting next to each other waiting for a lecture by a famous surgeon to begin. One is a doctor at a local hospital and the other is a visiting doctor from out of town. They are discussing the topic of the lecture.

   Stable: A doctor and his patient are sitting side by side, talking, as they wait for a lecture by a famous surgeon to begin. The topic of the lecture is concerned with the very problem the patient is suffering from. The doctor had suggested that the patient attend the lecture to learn as much about his problem as possible.

4. Unstable: A carpet retailer and a carpet wholesaler are talking about a specific carpet, and are discussing the price.

   Stable: The owner of a carpet store and one of his assistants are discussing the arrangement of the carpets in the store.

5. Unstable: Two principals of high schools have just met each other for the first time, after a meeting in which a report was issued on the current condition of high schools. One is a principal of a school in Brooklyn and one is a principal of a school in the Bronx. They are discussing the report.

Stable: The principal of a high school and his assistant principal are discussing the latest report on the current condition of high schools.

6. Unstable: A Greyhound bus driver and a Trailways bus driver, strangers to each other, have just met each other at a bus stop in Cleveland. They are discussing their schedules and the art of driving busses, as they have 15 minutes left before they each have to drive.

Stable: One man is an experienced bus driver and the other is a new bus driver. They are discussing their schedules and the art of driving busses, 15 minutes before they each are scheduled to depart.

7. Unstable: One young man is the head of a toy company that he started, and the other young man owns his own discount business. They are sitting in a hotel lobby in Los Angeles, waiting for the hotel restaurant to open and serve lunch. One of them just struck up a conversation with the other after he realized that the other was waiting to eat lunch too. They are talking to each other about their kind of work.

Stable: One young man is the head of a toy company that he started, and the other is a new employee. They are sitting in a hotel lobby, talking about their work, as they wait for a client to join them for a business lunch.

8. Unstable: One man is a history major and one man is an English major. They don't know each other. They are sitting in an experimental theater, about 20 minutes before the show is to begin. One of them is saving a seat for a friend. They have begun a conversation while waiting, and are talking about their interest in the upcoming show.

Stable: A senior and a freshman, who assisted him on a project, are sitting in an experimental theater, about 20 minutes before the show is to begin. One of them is saving a seat for a friend. They are talking about their interest in the upcoming show while waiting.

Appendix B

Instructions to the artist about drawing the cartoons

1. Two men sitting side by side in two chairs, their bodies facing the viewer. Their heads are turned towards each other. Both are wearing tennis shirts and shorts. One man's tennis racquet is balanced over his knees, the other man's racquet is resting on the floor next to him. The man on the left is looking at the man on the right, who is looking away towards the viewer.

2. Two men, standing at a 90° angle, are facing the viewer. The man on the left is holding a drink in his right hand, the man on the right is holding a drink in his left hand. One is wearing a striped tie, the other a polka dotted one. The man on the right is looking at the man on the left, who is looking away towards the viewer.

3. Two men are standing facing each other. There are bookshelves in the background. Each of them is holding a book. The man on the left is looking at the man on the right, who is looking away towards the viewer.

4. Two men are sitting in two seats with one seat between them, their bodies facing the viewer, and their heads turned towards each other. A newspaper, folded, is lying on the seat between them. The man on the right is looking at the man on the left, who is looking away towards the viewer.

5. Two men are sitting side by side facing the viewer. Their heads are turned towards each other. Both are dressed in suits. The man on the left is looking at the man on the right, who is looking away towards the viewer.

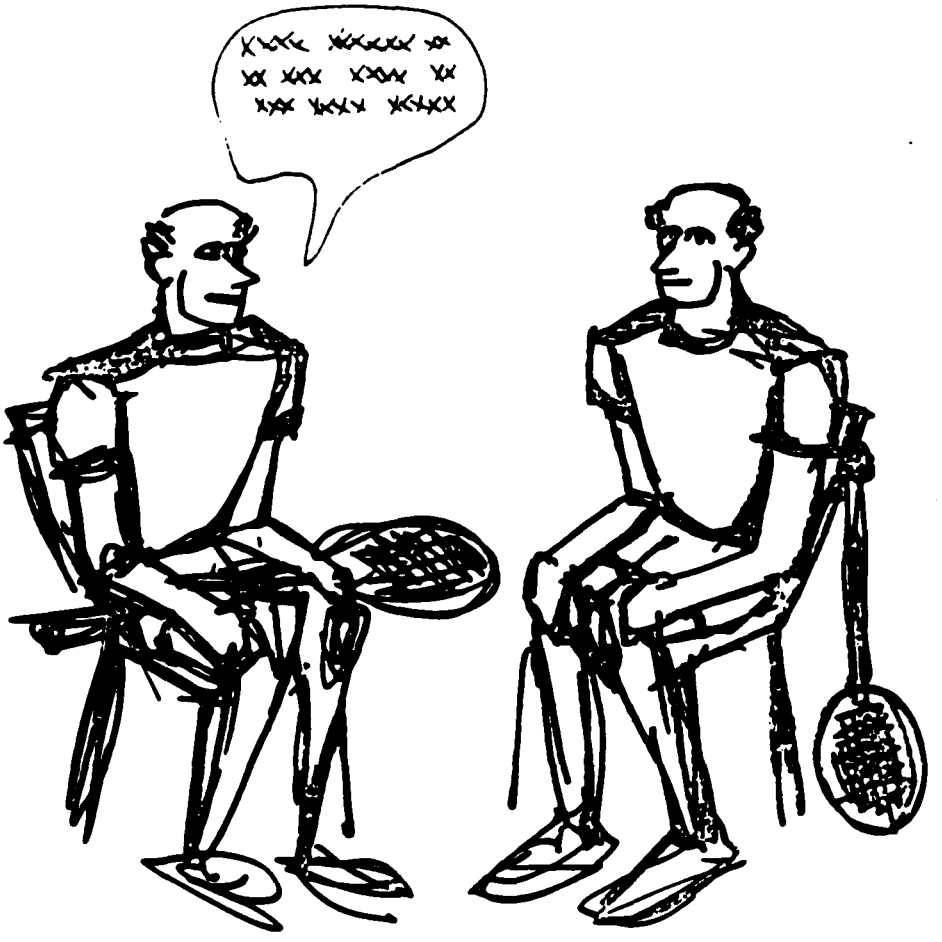
6. Two men are standing at a 60° angle facing each other. They have their hands in their pockets. Part of a carpet is lying on the floor in front of them. The man on the right is looking at the man on the left, who is looking away towards the viewer.

7. Two men are sitting in lounge chairs. Each is clasping one knee in both hands. The man on the left is looking at the man on the right, who is looking away towards the viewer.

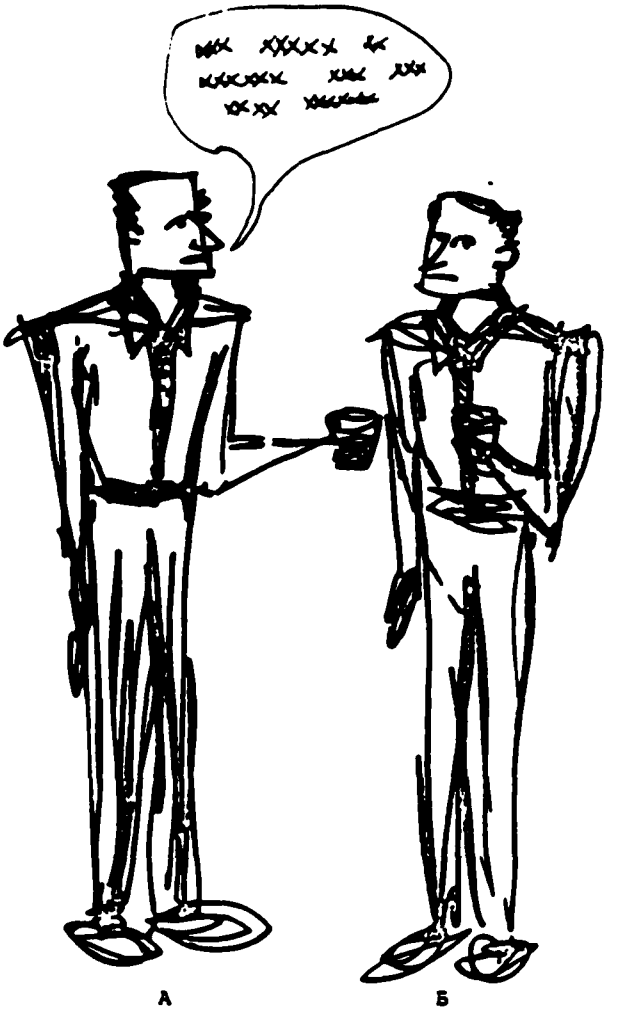
8. Two men are standing side by side, and they are each carrying an attache case. The man on the right is looking at the man on the left, who is looking away towards the viewer.

Appendix C

Unstable and Stable Cartoons used in Pilot Study



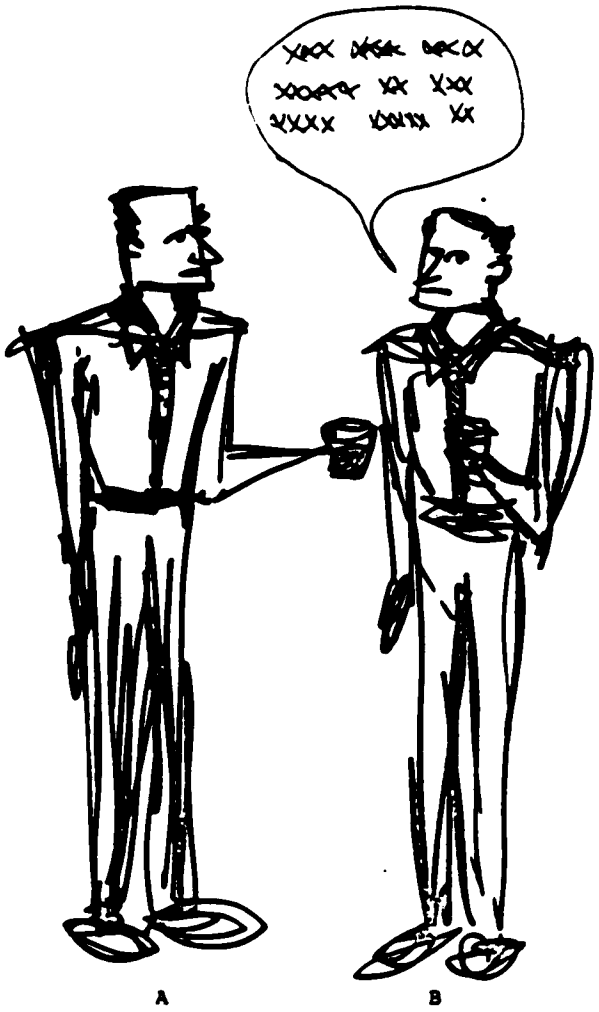
One man has just become a member of a tennis club. He is waiting for a tennis court and is hoping to meet someone who will be a fairly good player to play with. As he sits, a long time member of the club joins him. He too is waiting for a court to play on. He is also waiting for his friend to show up, with whom he is scheduled to play. In any case, a conversation has started between the two men about their game and their level of skill.



These two men are at a party. The host had just introduced them to each other: he had mentioned their names, their occupations, and his relationship to each. One of them had been a friend in college and was now working as the manager of a small business, and the other had been a friend at his first real job, and was now working as a supervisor at a new firm. The doorbell has just rung, and the host went to answer it, leaving the two men talking and getting to know each other.

A B

A supervisor and one of his trainees are waiting for a tennis court in order to play with each other during their lunch break. They are talking about their game and level of ability.



A boss and his secretary have just bumped into each other at a large office party, and have stopped to talk to each other.

Appendix D

Pilot Instructions

The purpose of this experiment is to study what specific things determine how cartoons are understood by people. One factor that contributes to understanding is the actual drawing itself, and the other factor is knowing something about who the characters are and what is happening - i.e., the story.

In order to discover what difference certain elements in the stories and the cartoons make in people's understanding of cartoons, I will be showing you some cartoons and stories to go with the cartoons and asking you to make some judgments about them. Who is speaking is indicated by a speech balloon, but what is being said is not presented (the words have simply been replaced with a symbolic set of x's).

Please examine carefully the story and cartoon before answering the questions about them.

Appendix E

Pilot Answering Sheet

1. Which of the two figures is the supervisor? A B (circle one)

2. Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	Slightly	A Bit	Somewhat	Well	Very Well

3. Rate the extent to which each figure appears to be feeling the following emotions, according to the scale provided below: (write down the appropriate number)

1	2	3	4	5
Not At All	Slightly	A Bit	Somewhat	Very Much

	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shame/shyness	_____	_____	Sadness	_____	_____
Happiness/Contentment	_____	_____	Contempt	_____	_____
Interest/Excitement	_____	_____	Tenseness	_____	_____

4. In the situation depicted, which figure is more: (circle one number for each item)

	1	2	3	4	5
	A much more than B	A somewhat more than B	Same	B somewhat more than A	B much more than A
Powerful	1	2	3	4	5
Eager to please	1	2	3	4	5
Self-confident	1	2	3	4	5
Dominant	1	2	3	4	5
Important	1	2	3	4	5
Submissive	1	2	3	4	5
In control	1	2	3	4	5
Dependent	1	2	3	4	5
Influential	1	2	3	4	5
Forceful	1	2	3	4	5
Friendly	1	2	3	4	5
Assertive	1	2	3	4	5
Meek	1	2	3	4	5
Aggressive	1	2	3	4	5
High Status	1	2	3	4	5

Appendix F

Questions asked of Pilot Subjects before Debriefing

1. What did you think I was interested in studying?
2. What did you think of the drawings?
   - Did you find it easy to relate to the drawings?
3. What did you think of the stories?
   - Were they easy to follow?
4. Did the stories match the drawings?
   - Did you have any trouble believing the story about the cartoons?
5. Were you able to think of the cartoons as if they were real?
6. Where was figure A gazing?
   - Where was figure B gazing?
7. Why did you pick figure ___ as _____?
8. Why did you pick figure ___ as more powerful?
9. If you'd only read the story without seeing the drawing, who would you have said was more powerful?

Appendix G

An Unstable Booklet

INSTRUCTIONS

The purpose of this experiment is to study what specific things determine how cartoons are understood by people. One factor that contributes to understanding is the actual drawing itself, and the other factor is knowing something about who the characters are and what is happening - i.e., the story. So I'll be giving you some drawings and some stories to go with the drawings and asking you to make some judgments about them.

In order to discover what things in the stories and drawings make a difference in people's understanding of cartoons, I have made several different versions to give to different people. In each drawing there will be two figures, labelled A and B. Below the drawing, there will be a story which will tell you a little bit about the two characters in the drawing. Below the story, I will be asking you to decide who is who - i.e., which of the two characters best fits figure A and which of the two best fits figure B. Only after you have decided which of the two characters is figure A and which figure B, should you proceed to answer the questions that appear on the page facing the cartoon.

There is relatively little information given in both the stories and the cartoons, so when you come to answer these questions you may feel at times as if you don't have much basis for judgment. But even though sometimes you may have a hard time making a judgment, please do your best and make the judgment that first comes to mind. Please answer every question that I ask, even if you feel you'd just be guessing. There are no right answers: I am only interested in how people judge cartoons of this type.

Note that the speech balloon in each drawing indicates which figure is speaking, but that what the figure is actually saying is not shown. The words in the speech balloon have simply been replaced with a symbolic set of x's.

Remember to examine both the story <u>and</u> the drawing <u>before</u> answering the questions about the cartoons.

PLEASE INDICATE YOUR SEX AND AGE BELOW BY CIRCLING THE APPROPRIATE CATEGORY:

SEX:

a. Male

b. Female

AGE:

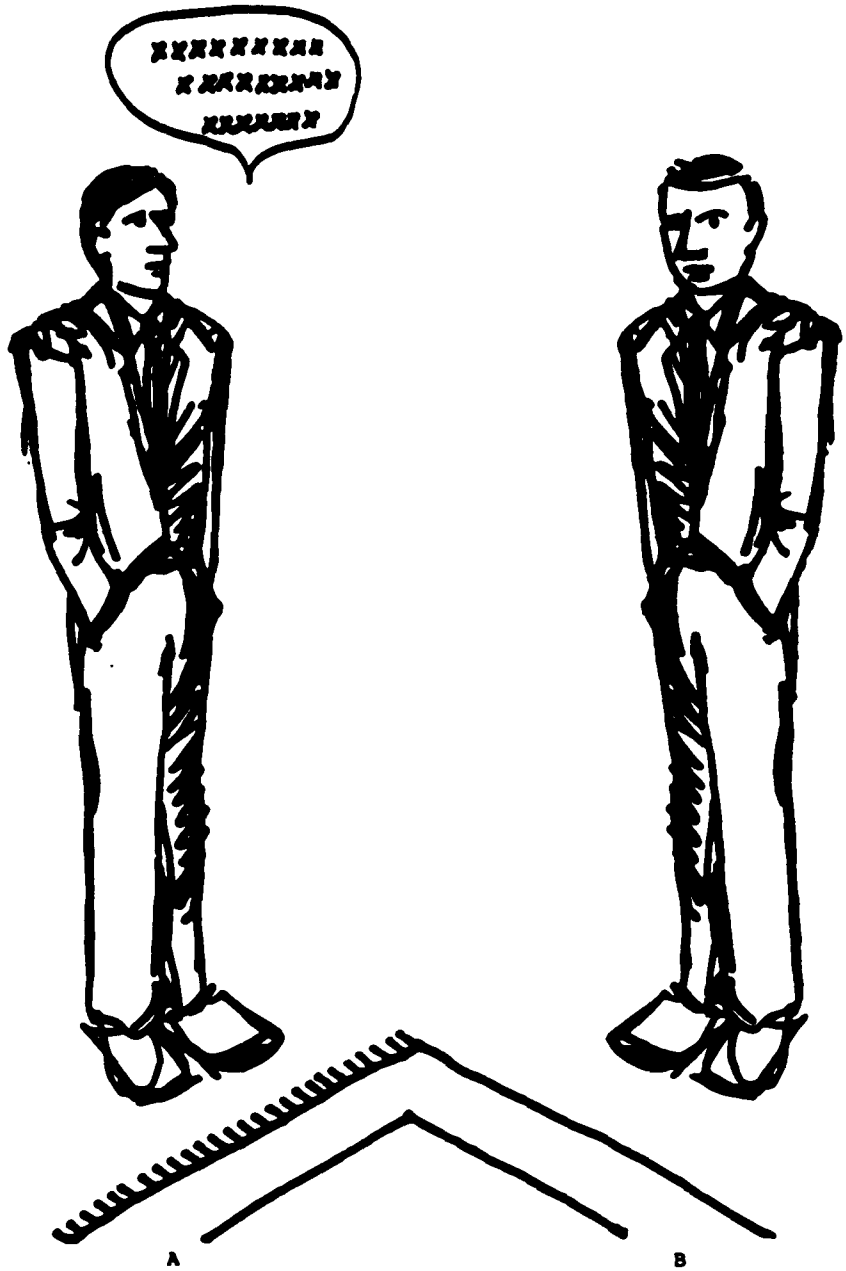
a. 17 - 25

b. 26 - 35

c. 36 - 45

d. 46 - 60

e. 61 and over



A carpet wholesaler and a carpet retailer are doing business with each other for the first time. They are discussing the price of a particular carpet.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: CARPET WHOLESALER AND CARPET RETAILER.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

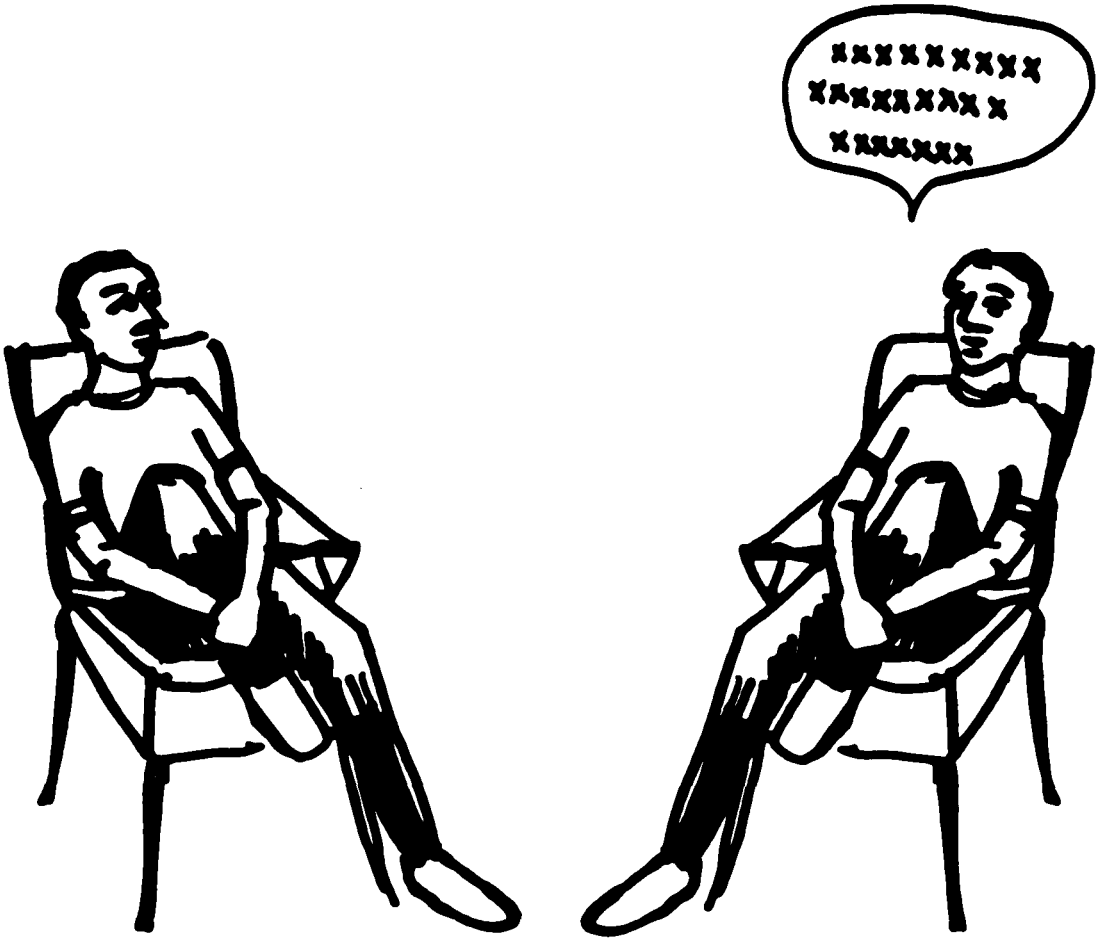
	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____



One young man is the head of a toy company that he started, and the other young man owns his own discount business. They are sitting in a hotel lobby in Los Angeles, waiting for the hotel restaurant to open and serve lunch. One of them just struck up a conversation with the other after he realized that the other was waiting to eat lunch too. They are talking to each other about their kind of work.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: TOY COMPANY HEAD AND DISCOUNT BUSINESS OWNER.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

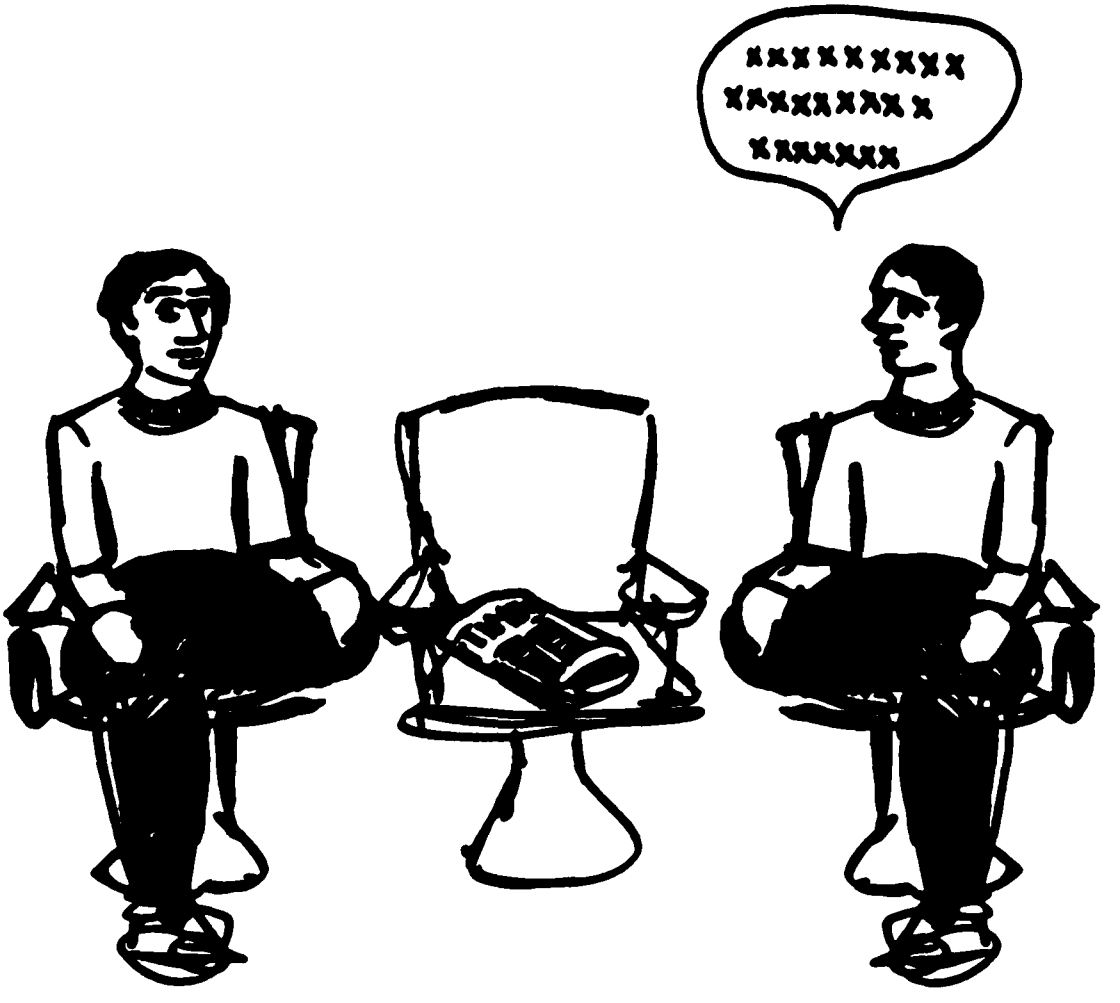
	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____



One man is a history major and one man is an English major. They don't know each other. They are sitting in an experimental theater, about 20 minutes before the show is to begin. One of them is saving a seat for a friend. They have begun a conversation while waiting, and are talking about their interest in the upcoming show.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: HISTORY MAJOR AND ENGLISH MAJOR.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

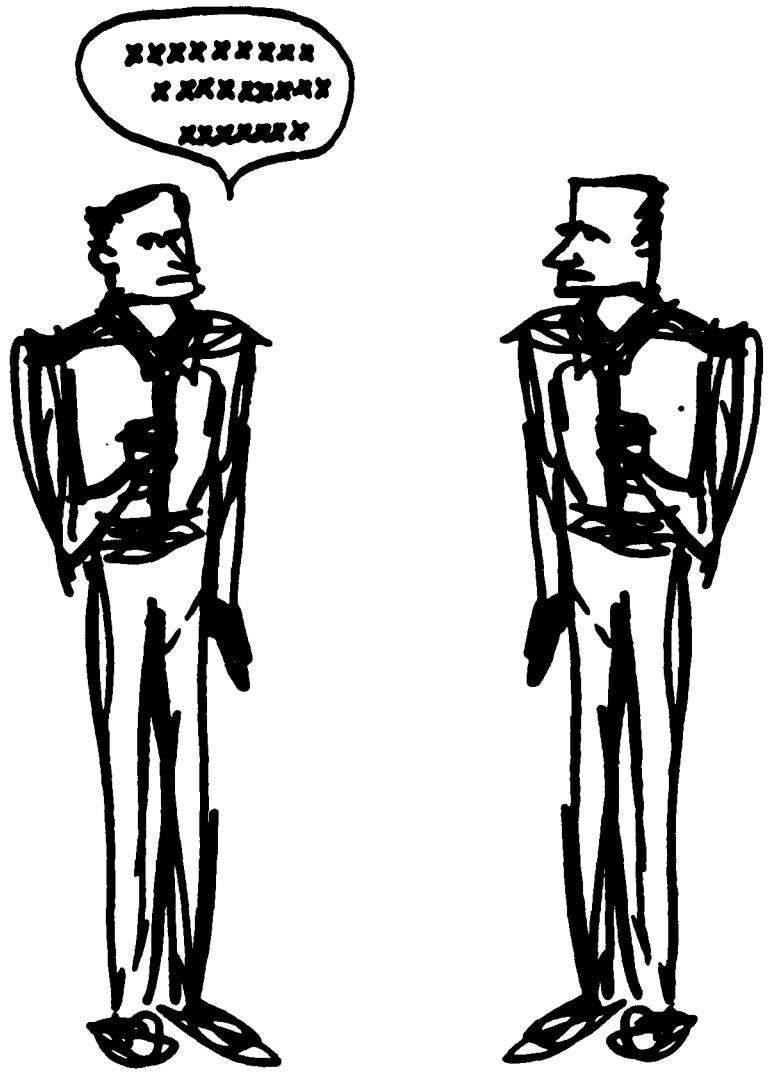
	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependant	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____



A B

_____ _____

These two men have just introduced themselves to each other at a party. One of them is a manager of an office supply business, and the other is a supervisor at a small computer firm. They are engaged in casual conversation.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: OFFICE SUPPLY MANAGER AND COMPUTER FIRM SUPERVISOR.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____

POST-EXPERIMENTAL QUESTIONNAIRE

T H A N K Y O U F O R P A R T I C I P A T I N G

What did you think the experiment was attempting to show or demonstrate?

Was there anything about the cartoons or stories that you noticed or would like to comment on? YES ___ NO ___ If yes, what was it?

Background information would be helpful in analyzing the results. If you wouldn't mind, I'd appreciate it if you'd indicate your cultural/ethnic background.

Appendix H

A Stable Booklet

INSTRUCTIONS

The purpose of this experiment is to study what specific things determine how cartoons are understood by people. One factor that contributes to understanding is the actual drawing itself, and the other factor is knowing something about who the characters are and what is happening - i.e., the story. So I'll be giving you some drawings and some stories to go with the drawings and asking you to make some judgments about them.

In order to discover what things in the stories and drawings make a difference in people's understanding of cartoons, I have made several different versions to give to different people. In each drawing there will be two figures, labelled A and B. Below the drawing, there will be a story which will tell you a little bit about the two characters in the drawing. Below the story, I will be asking you to decide who is who - i.e., which of the two characters best fits figure A and which of the two best fits figure B. Only after you have decided which of the two characters is figure A and which figure B, should you proceed to answer the questions that appear on the page facing the cartoon.

There is relatively little information given in both the stories and the cartoons, so when you come to answer these questions you may feel at times as if you don't have much basis for judgment. But even though sometimes you may have a hard time making a judgment, please do your best and make the judgment that first comes to mind. Please answer every question that I ask, even if you feel you'd just be guessing. There are no right answers: I am only interested in how people judge cartoons of this type.

Note that the speech balloon in each drawing indicates which figure is speaking, but that what the figure is actually saying is not shown. The words in the speech balloon have simply been replaced with a symbolic set of x's.

Remember to examine both the story <u>and</u> the drawing <u>before</u> answering the questions about the cartoons.

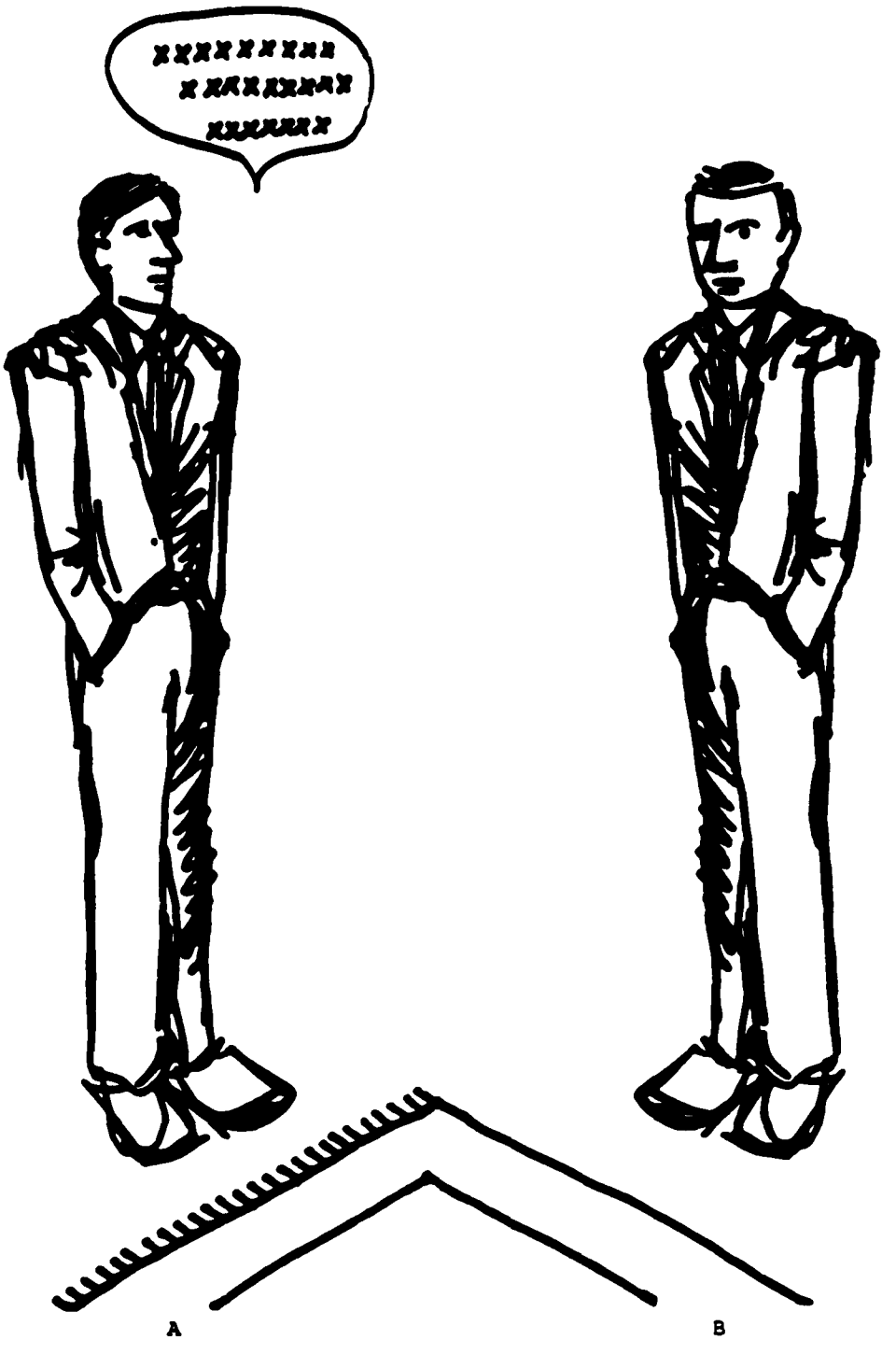
PLEASE INDICATE YOUR SEX AND AGE BELOW BY CIRCLING THE APPROPRIATE CATEGORY:

SEX:

a. Male
b. Female

AGE:

a. 17 - 25
b. 26 - 35
c. 36 - 45
d. 46 - 60
e. 61 and over



The owner of a carpet store and one of his assistants are discussing the arrangement of the carpets in the store.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: CARPET STORE OWNER AND ASSISTANT.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

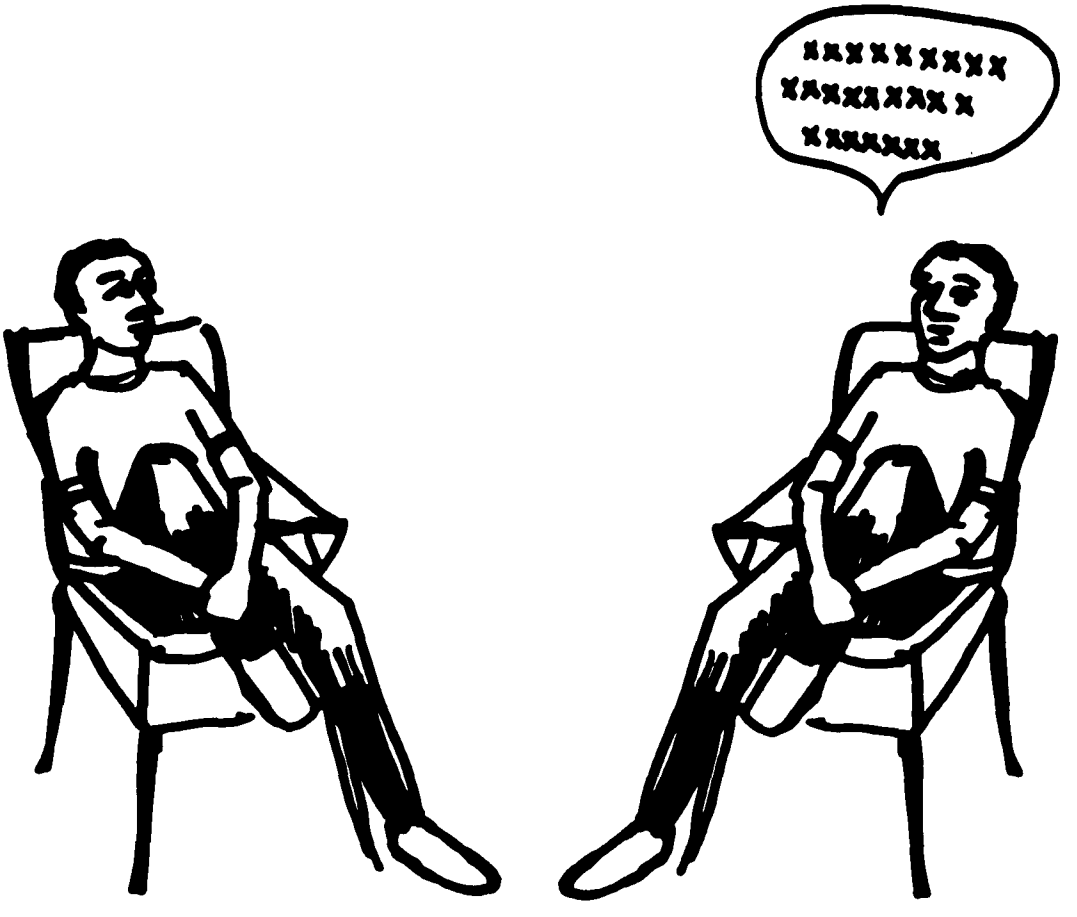
	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____



A B

One young man is the head of a toy company that he started, and the other is a new employee. They are sitting in a hotel lobby, talking about their work, as they wait for a client to join them for a business lunch.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: TOY COMPANY HEAD AND NEW EMPLOYEE.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____

A senior and a freshman, who assisted him on a project, are sitting in an experimental theater, about 20 minutes before the show is to begin. One of them is saving a seat for a friend. They are talking about their interest in the upcoming show while waiting.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: SENIOR AND FRESHMAN.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

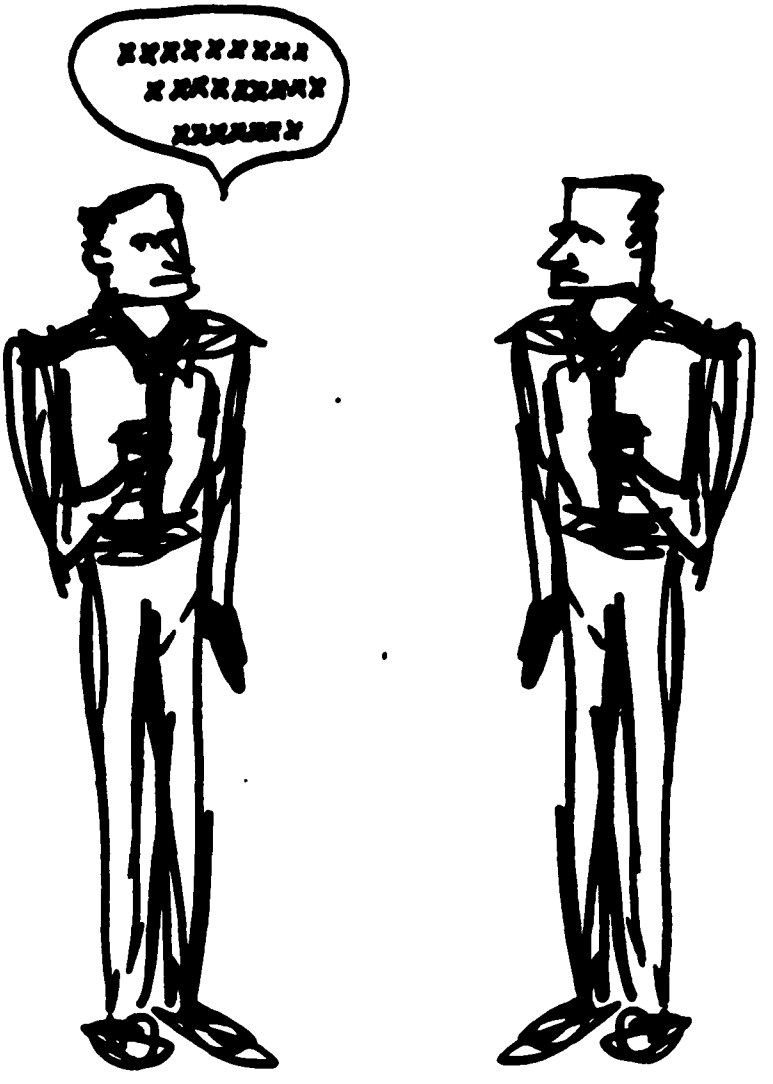
	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____



A B

A vice president and his office manager have just bumped into each other at a large party. They are engaged in casual conversation.

INDICATE ON THE BLANK LINE BELOW FIGURE A WHICH CHARACTER YOU'VE DECIDED FIGURE A IS AND BELOW FIGURE B WHICH CHARACTER YOU'VE DECIDED FIGURE B IS. THE CHARACTERS ARE: VICE PRESIDENT AND OFFICE MANAGER.

Rate the extent to which the two figures know each other: (circle one)

1	2	3	4	5	6
Not at all	A little	Somewhat	Quite a bit	Well	Very well

Rate the extent to which each figure appears to be feeling the emotions listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B		FIGURE A	FIGURE B
Anger	_____	_____	Fear	_____	_____
Shyness	_____	_____	Sadness	_____	_____
Contentment	_____	_____	Contempt	_____	_____
Interest	_____	_____	Tenseness	_____	_____

Rate the extent to which each figure appears to be displaying the characteristics listed below, using the following scale:

1	2	3	4	5
Not at all	A little	Somewhat	Quite a bit	Extremely

WRITE DOWN THE APPROPRIATE NUMBER

	FIGURE A	FIGURE B
Powerful	_____	_____
Eager to please	_____	_____
Self-confident	_____	_____
Submissive	_____	_____
Dependent	_____	_____
In control	_____	_____
Meek	_____	_____
High status	_____	_____

POST-EXPERIMENTAL QUESTIONNAIRE

T H A N K Y O U F O R P A R T I C I P A T I N G

What did you think the experiment was attempting to show or demonstrate?

Was there anything about the cartoons or stories that you noticed or would like to comment on? YES ___ NO ___ If yes, what was it?

Background information would be helpful in analyzing the results. If you wouldn't mind, I'd appreciate it if you'd indicate your cultural/ethnic background.

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