Autocracy Bias in Informal Groups Under Need for Closure

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Two experiments investigated the tendency of groups with members under high (vs. low) need for cognitive closure to develop an autocratic leadership structure in which some members dominate the discussion, constitute the “hubs” of communication, and influence the group more than other members. The first experiment found that high (vs. low) need for closure groups, as assessed via dispositional measure of the need for closure, manifested greater asymmetry of conversational floor control, such that members with autocratic interactional style were more conversationally dominant and influential than less autocratic members. The second experiment manipulated the need for closure via time pressure and utilized a social network analysis. Consistent with expectation, groups under time pressure (vs. no pressure) showed a greater asymmetry of participation, of centrality, and of prestige among the group members, such that the more focal members were perceived to exert the greater influence over the groups’ decisions.

Keywords: need for closure; autocratic leadership; group participation; social-networks; group bias

The fundamental tendency of humans to coalesce in groups has been touted as a major evolutionary achievement of our species that contributed greatly to our ascent within the animal kingdom and the construction of civilization (Caporael & Brewer, 1991). Whereas alone we are in many ways inferior to other creatures (e.g., we are considerably slower than the cheetah, less alert than the antelope, less auditorily sensitive than the owl, and less well camouflaged than the ground-nesting bird), together we amply compensate for our individual frailties. According to this argument, it was by acting collectively that humans managed to secure food and to avoid becoming food themselves as well as to launch the spiraling conquest of the universe for which not even the sky is the limit.

Indeed, group formation fulfills a variety of essential functions for individual members of our species. The strength that comes from numbers, specialization, and the differentiation of labor (Festinger, 1983), intellectual cross-stimulation, and the emotional succorance we extend each other enhanced by a manifold our capacity to cope with adverse circumstances and set us on the extraordinary pathway from stone tools to space rockets and beyond.

Among the many functions groups serve for their members, one of the most central is the affordance of world knowledge, that is, provision of a system of agreed-on categories and beliefs whereby reality is apprehended. Indeed, the notion that groups provide a sense of reality for their members has been stressed by classical

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social psychological theories of group processes (e.g., Festinger, 1950, 1954; Lewin, 1965; Sherif, 1936; Sherif & Sherif, 1964) and continues to be central to contemporary analyses of social behavior (cf. Hardin & Higgins, 1996). An essential precondition for the fulfillment of such an epistemic function is that the reality conveyed by the group to its members be shared, that is, grounded in opinion uniformity or consensus within the group. Social psychological analyses of group processes have, accordingly, emphasized the tendency of groups to exert pressures toward conformity (cf. Asch, 1955; Deutsch & Gerard, 1955) or uniformity on their members (Festinger, 1950, 1954; Schachter, 1951).

Obviously, groups vary in the amount of uniformity pressures they apply, and the same group may engender different degrees of pressure in different situations. Festinger (1950) and Schachter (1951), for example, obtained evidence that the magnitude of uniformity pressures varies as a function of (a) initial opinion differential among the group members, (b) relevance of the opinion to the group's purpose, and (c) group cohesion (in that cohesive groups to which the members are strongly attracted are ones whose consensus matters to the members).

Beyond the opinion-differential, relevance, and cohesiveness variables studied by Festinger (1950) and Schachter (1951), a group's composition also may determine the degree to which its members would seek opinion uniformity in their midst. That is, members' specific characteristics may affect their tendency to strive for consensus and hence exert influence attempts designed to promote it. Such member characteristics may include relatively stable traitlike tendencies as well as transient psychological states induced by the specific situation. One variable recently investigated in this connection has been the need for cognitive closure (Kruglanski, 1989; Kruglanski & Webster, 1996; Webster & Kruglanski, 1998).

The need for closure was defined as the desire for a definite answer to a question and the eschewal of ambiguity. In previous research, this particular need has been treated both as a dispositional variable (Kruglanski et al., 1993; Webster & Kruglanski, 1994) and a situationally determined state related to the perceived benefits of possessing closure (e.g., affordance of predictability and the guidance of action) and/or the costs of lacking it, made salient, for example, by time pressure (invoking the danger of missing a deadline) (Kruglanski & Freund, 1983), noise, boredom, or fatigue, all of which may render laborious and, hence, costly extensive information processing that the possession of closure would obviate (Kruglanski, Webster, & Klem, 1993; Webster, 1993; Webster, Richter, & Kruglanski, 1996).

Because knowledge tends to be unstable in the absence of consensual validation (Festinger, 1954) and because the need for closure represents a desire for stable or “permanent” knowledge (Kruglanski & Webster, 1996; Webster & Kruglanski, 1998), this particular need should instill a desire for consensus or for shared reality within one's group. Prior research indeed supports the hypothesis that the quest for consensus is enhanced under a heightened need for closure. De Grada, Kruglanski, Mannetti, and Pierro (1999) found that groups composed of dispositionally high (vs. low) need for closure members both exerted and experienced greater uniformity pressures. In earlier work, Kruglanski et al. (1993) found in a series of studies that the need for closure, whether situationally manipulated via ambient noise or assessed via the Need for Closure Scale, resulted in participants' greater reported desire to agree with their partners. It is of interest that the way participants apparently sought to produce consensus depended on whether they themselves possessed firmly crystallized opinions to begin with. Those who possessed firm opinions exhibited under high (vs. low) need for closure greater reluctance to shift them toward their partners views apparently hoping that the latter would move toward their positions instead. This corresponds to what Festinger (1950) has labeled as the “change other” strategy of fostering consensus. By contrast, those lacking firm opinions shifted more toward their partners' views under high (vs. low) need for closure, attesting to a “change self” strategy of promoting consensus.

As Festinger (1950) and Schachter (1951) observed, however, the quest for consensus may manifest itself in a third, yet alternative, strategy: rejection of the opinion deviates and, hence, redefinition of the group boundaries so that consensus is preserved. If the need for closure augments consensus strivings, a heightened need for closure should augment the tendency of group members to reject opinion deviates. This hypothesis was supported in research by Kruglanski and Webster (1991) where opinion deviates were downgraded under time pressure or under noise, both of which were assumed (and found) to give rise to the need for closure. Concomitantly, need for closure led to a more positive evaluation of the conformists whose views contributed to consensus. Webster and Kruglanski (1994) replicated the positive relation between need for closure and rejection of deviates using the Need for Closure Scale instead of noise or time pressure.

The quest for consensus under heightened need for closure has an additional, intriguing implication, however. It may encourage an emergence of a hierarchic, or autocratic, rather than egalitarian group structure. The reason is this: In an egalitarian or participatory structure, where members' divergent views may have to be
heard and reconciled, arrival at consensus may be relatively tortuous and laborious. By comparison, consensus may be much easier to achieve within a hierarchic structure, where it simply amounts to acceptance of the leader’s views and where “everyone is entitled to the boss’s opinion.”

Although not the primary focus of their investigation, the notion that need for closure may bias the group interaction toward hierarchy received a measure of support in De Grada et al.’s (1999) research (their Study 2). These investigators used the sociolinguistic index of speech dominance to assess the emergence of an autocratic discussion pattern. Specifically, they looked at the number of instances in which the members seized the discussion floor, referred to as “turns obtained,” and maintained it despite interruption attempts by others, referred to as “turns maintained.” They found that groups composed of members dispositionally high (vs. low) on the need for closure exhibited greater asymmetry of maintained turns \( (p < .05) \), suggesting greater dominance of the discussion by some group members and the exclusion of others. The corresponding difference in obtained turns, however, was not significant.

The purpose of the present work was to explore more fully the hypothesis that need for closure may introduce an “autocracy bias” in groups lacking formal leadership structure. Toward that aim we conducted two studies. The first attempted to replicate and extend the finding of De Grada et al. (1999) concerning the asymmetry in “floor control” under high (vs. low) dispositional need for closure. This study tested the key hypothesis implied by our analysis that in high (vs. low) need for closure groups the asymmetry in floor control would be more strongly correlated with participants’ autocratic demeanor. A strong correlation between the two under high need for closure would suggest that the autocratic members are allowed more influence under these conditions than their less autocratic counterparts; a relative absence of correlation, under low need for closure, would suggest that autocracy is not uniquely influential under these conditions and is not allowed to dominate the group process.

Our second study examined the relation between need for closure and the autocracy bias using a situational induction of the need for closure via time pressure and a different method of assessing autocracy based on Bales’s (1970) interaction process analysis instead of sociolinguistic data. We reasoned that should it obtain, a convergent validation of our results through disparate methods of assessment and/or need for closure inductions would offer a robust empirical support for our hypotheses.

Both of our studies applied the social network analysis to study the emergence of autocracy. The social network analysis, a theoretic and methodological perspective derived from graph theory, concerns the relations between structural features of communications in groups and their implications for interpersonal relations among the communicating members (Wasserman & Faust, 1994). Rooted in the seminal sociometric studies of Moreno (1934), the ethnographic investigations of Barnes (1954), and Heider’s (1946) cognitive coherence studies, the social network analysis conceives of actors as independent units represented as points and their relations (of various types) as interconnecting lines, and it affords the investigation of both relations.

One of the most interesting developments in the network analytic domain was based on the pioneering work of Bavelas (1950; see also Leavitt, 1951; Wasserman & Galaskiewicz, 1994). In this tradition, it is possible to calculate (a) the different members’ degree of centrality as well as (b) the degree of centralization within the entire graph representing the group as a whole. Such analysis typically assumes that the higher a member’s centrality the greater her or his potential influence on other members, and the greater the centralization of the group as a whole the more hierarchic or “autocratic” is the group structure (Freeman, 1978; Stokman & Sprenger, 1989).

In our first study, members’ degrees of centrality was operationally defined in terms of conversational floor control (i.e., turns obtained and turns maintained), whereas groups’ degree of centralization was operationally defined in terms of the asymmetry among members in their relative degrees of floor control. The application of the social network analysis to sociolinguistic indices goes back to the work of Watts (1992) on the process of status acquisition in conversations.

In our second study, a social network analysis was applied to data derived from Bales’s (1970) interaction process analysis, as already noted. Here, the individual indices of centrality and the group indices of centralization were operationally defined in terms of acts emitted and acts received by the various group members. A detailed description of the two studies is given below.

**STUDY 1**

Imagine a small, relatively unstructured group charged with a task of coming up with a collective solution to some problem. This could be a work team endeavoring to decide the best distribution of responsibilities among its members, a jury deciding a defendant’s innocence or guilt, an academic search committee weighing the merits of various candidates for a university position, or a governmental cabinet deliberating various options of responding to an international crisis. What
might the flow of interpersonal communication be like in such a group and how might it be affected by members’ need for cognitive closure? Our hypothesis is that in groups whose members are low in the need for closure, participation in the discussion would be distributed relatively evenly. A very different communication pattern is expected in groups where the preponderance of members is high on the need for closure. Here, some individuals may quickly come to reign supreme over the conversation; they may be doing most of the talking, with the remaining members adopting the listeners’ role and willingly accepting their relegation to relative passivity within the unfolding group process.

As mentioned earlier, we used the sociolinguistic index of speech dominance to assess the emergence of an asymmetric discussion pattern in which some members’ share in the conversation is disproportionately greater than that of others. We looked at the number of instances in which members took the discussion floor and maintained it despite attempted interruptions by others. The index of floor taking as a measure of dominance harks back to the pioneering work of Bales (1950), who showed that the group member who talked most frequently was likely to emerge as the group leader (see also Dabbs & Ruback, 1987; Hollander, 1985; Mullen, Sala, & Driskel, 1989). Others have demonstrated that the number of speaking turns an individual obtains in a group discussion is positively correlated with his or her influence ranking within the group (Brooke & Ng, 1986; Ng, Bell, & Brooke, 1993) and that the number of such turns one successfully wrests from others is an even more powerful predictor of social influence (Robinson & Reiss, 1989). On the whole, the sociolinguistic literature agrees that dominance within a group is often accomplished by floor control, operationally defined in terms of talking time, successfully obtained speaking turns, and successfully fending off interruption attempts (Mannetti, Battanier, & Pierro, 1996). Therefore, in the present study we used the frequency of obtained and maintained turns to operationalize the construct of floor control. As noted earlier, we hypothesized that groups composed of high (vs. low) need for closure individuals will exhibit greater variability or asymmetry in floor control among their members.

We also assessed the extent to which the group members exhibited an autocratic behavior pattern during the group discussion. We were assisted in this task by external observers who viewed the videotaped records of group interactions and rated the participants on the appropriate, autocracy-related dimensions. We reasoned that because the high need for closure groups may crave consensus to a greater degree than the low need for closure groups, they will be particularly receptive to pronouncements of autocratic individuals, who are insistent on the consensual endorsement by the group of their own opinion, hence allowing those individuals to reign over the group discussion.

Overview and Design

Participants in 12 leaderless groups of four members each role-played the managers of four corporate departments meeting to negotiate the division of a monetary prize among four candidates representing their respective sectors. To that end, each manager was provided with his or her own candidate’s resume. Six groups were composed of individuals with high dispositional need for closure and the remaining six of individuals dispositionally low on this need. The main dependent measures included (a) two asymmetry indices computed for each group (respectively referring to obtained and maintained turns) and (b) ratings of each member’s interactional style scored for the degree of autocracy.

Dispositional Need for Closure

One to 2 months prior to the experimental session, participants in large groups filled out a battery of various instruments including the Italian version of the Need for Closure Scale (De Grada, Kruglanski, Mannetti, Pierro, & Webster, 1996; Mannetti, Pierro, Kruglanski, Tarsis, & Bezinovic, 2002; Pierro et al., 1995; Webster & Kruglanski, 1994).

As originally developed by Webster and Kruglanski (1994), this scale includes five subscales respectively related to (a) need for order, (b) intolerance of ambiguity, (c) closed-mindedness, (d) need for predictability, and (e) decisiveness. Recent research using the Italian and the American versions of the scale (De Grada et al., 1996; Kruglanski et al., 1997; Mannetti et al., 2002; Pierro et al., 1995) has indicated that even though the structural analyses of the Need for Closure (NFC) scale are compatible with either a one or a two (second-order) independent-factor solution, the decisiveness subscale exhibits inconsistent relations with the remaining subscales and occasionally relates differently to external constructs (for discussions of the psychometric properties of the scale, see Kruglanski et al., 1997; Mannetti et al., 2002; Neuberg, Judice, & West, 1997). For this reason, in the present study we used a reduced version of the NFC scale without the decisiveness items.

To assess the structure of such a reduced Need for Closure Scale, a confirmatory factor analysis was conducted by means of Lisrel VIII (Jöreskog & Sörbom, 1993). Specifically, the one-factor model was tested and confronted with the null model. It was found that the one-factor model, \( \chi^2(df=2) = 2.00, \ p = .37 \), fits the data better than the null model, \( \chi^2(df=6) = 49.11, \ p = .001 \), and has a very good comparative fit index (CFI = 1.00) (Bentler, 1990). All of the facets showed significant fac-
tor loadings ranging from .77 for fear of ambiguity to .71 for need for predictability to .67 for need for order and .55 for close-mindedness. Therefore, in this study the scores of the four subscales were summed up to a reliable total score of Need for Closure (Cronbach’s $\alpha = .89$). Individuals scoring above the median of the scale were classified as high, and those below the median were classified as low on the need for closure.

Participants agreed to participate in simulated group discussions and were, therefore, invited to appear in the social psychological laboratory. Twenty-four participants high in the need for closure were randomly assigned to six groups comprising the high need for closure condition; similarly, 24 participants low in the need for closure were randomly assigned to six groups comprising the low need for closure condition. To demonstrate that the resulting two categories of groups effectively differed from each other on the need for closure, a one-way ANOVA was performed on the Need for Closure scores. As expected, the difference between the low ($M = 112.21$) and the high ($M = 137.42$) NFC groups was highly significant, $F(1, 10) = 19.46$, $p < .001$.

Procedure

Participants volunteered for a study concerned with a simulation of a group discussion. They were scheduled to appear at an appointed time at the Department of Social and Developmental Psychology at the University of Rome. After arriving, participants were greeted by an experimenter (A.P.) who ushered them to a room and seated them around a table. The experimenter then delivered the instructions designed to introduce to participants the group task they were about to perform.

Specifically, each participant was asked to role-play a department manager at a meeting of an Awards Committee of their (American) corporation. These managers were described as, respectively, the heads of the sales, marketing, data-processing, and social-benefits departments. The committee’s task was to consider four subordinates nominated for a merit-based monetary award in accordance with the company’s policy of rewarding its workers for special achievements. Each participant was further told that the company’s limited resources did not allow it to make a substantial award to all the deserving candidates. For the specific year under consideration (1980), only $5,000 in award funds were available for distribution.

Participants were further told that the four candidates (e.g., Roger Smith from the Sales Department) all came from departments whose heads were members of the Awards Committee. Information about each candidate included a brief resume and a recommendation letter from the candidate’s supervisor justifying his or her nomination for the award. Each participant also was told to imagine that he or she had already discussed the candidate with his or her supervisor who convinced him or her of his or her ample deservingness for the award.

During the committee’s discussion, each participant’s task was (a) to present valid arguments in favor of her or his candidate and (b) to help the committee to arrive at a best decision as to the allocation of the available funds. The “committee members” (i.e., the participants) were instructed to state their recommendation in a common written document. Failure to reach a joint decision was to result in a cancellation of all awards for that year. After they had received these instructions, the four participants commenced their negotiations.

The group discussions lasted 56 min on the average. Unbeknownst to the participants, the experimental room where the group deliberations took place contained a one-way mirror concealing a video camera that recorded the entire group interaction. Participants learned this at the end of the group discussion and were asked their permission to allow the use of the video recordings for research purposes. All participants complied with this request.

After completion of the entire study, participants were thoroughly debriefed and the purpose of the study was fully explained to them. This concluded the experiment.

Measuring the Dependent Variables

Floor control. The group discussions were transcribed following the notational system routinely employed in conversational analysis, developed originally by Gail Jefferson (1985; for a thorough description of the system and its development see Psathas & Anderson, 1990). Judges blind to the need for closure condition used each group’s transcript to calculate two indices of conversational floor control: the number of speaking turns successfully seized by each member (i.e., turns obtained) and the number of such turns successfully maintained despite interruption attempts by others. Each member’s floor gain index was then computed by dividing the total number of his or her obtained turns by the total number of obtained turns for the entire group. Similarly, the member’s floor defense index was calculated by dividing his or her total number of maintained turns by the total number of maintained turns for the entire group.

For each group, we then computed the following two indices: (a) its asymmetry of floor gain index operationally defined as the ratio of the standard deviation to the mean of members’ floor gain scores and (b) its asymmetry of floor defense index operationally defined as the ratio of the standard deviation to the mean of members’ floor defense scores. The logic of these indices is as follows: The standard deviation in each group reflects asymmetry or variability in the degree to which group
members control the floor in terms of obtained and maintained turns. But the different groups may vary also in the overall intensity with which their members attempted to control the floor. To standardize these indices, we divided the standard deviations of each group by the mean of members’ floor gain or floor defense scores for that group. The resulting measure is known statistically as the “coefficient of variation” (cf. Armitage, 1971; Vogt, 1993) and is commonly used to compare standard deviations derived from different distributions.

Members’ autocratic style. Two independent observers used a 5-point scale to rate each member on the following four dimensions: authoritarianism, dogmatism, assertiveness, and egocentrism. Each participant was assigned the average of the two observers’ ratings. To assess the observers’ reliability, we followed Rosenthal’s (1987, pp. 9-13) suggestion by correlating the two sets of counts and using the Spearman-Brown prophecy formula to derive the final reliability index (see also McLeod, Baron, Marti, & Yoon, 1997; Stasser & Stewart, 1992; Stewart & Stasser, 1996). The interrater agreement for the four scales was .80 for authoritarianism, .52 for dogmatism, .76 for assertiveness, and .78 for egocentrism. A principal components analysis was applied to the four items. On the first factor that explained 74% of the total variance, all of the items manifested high loadings (.58 for assertiveness, .97 for authoritarianism, .90 for egocentrism, and .93 for dogmatism). Cronbach’s alpha for the total scale was .87, and the interrater agreement for the total scale was .84.

Members’ influence over the group process. Our theory assumes that members who dominate the discussion and exert a high degree of floor control exert also a proportionate degree of influence on the remaining members. We used two separate measures of members’ influence: (a) independent observer ratings and (b) each member’s rank ordering of all four members (including themselves) in regard to the degree to which he or she influenced the final decision. With respect to the first measure, two independent observers rated each member using a 5-point scale on two items: (a) the extent to which the member was dominant during the group process and (b) the extent to which he or she was submissive. To assess the observers’ reliability, we again followed Rosenthal’s (1987, pp. 9-13) suggestion by correlating the two sets of counts and using the Spearman-Brown prophecy formula to derive the final reliability index (see also McLeod et al., 1997; Stasser & Stewart, 1992; Stewart & Stasser, 1996). The interrater agreement for the two scales was, respectively, .73 for dominance and .77 for submission. After reversing the submission item, the correlation between the two items was .94 and the interrater agreement for the entire scale was .79.

With regard to the second measure, we used the mean of the ranks assigned each participant by the four group members as an index of her or his influence. For ease of exposition, we appropriately inverted the rank score so that the higher numbers indicated the greater perceived influence.

Results

ASYMMETRY OF CONVERSATIONAL DOMINANCE

The interaction of individuals within groups creates a certain degree of interdependence. Hence, we treated each interacting group as the unit of analysis. Accordingly, we performed two independent ANOVAs on the group means of the Asymmetry of Floor Gain and Asymmetry of Floor Defense indices. Consistent with our hypothesis, groups consisting of high need for closure members had a higher asymmetry of floor gain ($\text{M} = .39$) than those composed of low need for closure members ($\text{M} = .18$), $F(1, 10) = 7.078$, $p < .024$. Similarly, high (vs. low) need for closure groups exhibited significantly higher asymmetry of floor defense ($\text{M} = .76$ vs. $\text{M} = .37$, respectively), $F(1, 10) = 10.230$, $p < .01$. These results are depicted in Figure 1.

AUTOCRATIC STYLE

We expected that the correlation between members’ autocratic style and their tendency to dominate the conversation will be higher in the high versus low need for closure groups because the former more so than the latter would encourage autocratic, self-assured members to emerge as leaders. This hypothesis was confirmed. Across groups composed of high need for closure members, autocratic style showed a positive correlation with both floor gain ($r = .45$, $p < .05$) and floor defense ($r = .66$, $p < .001$), whereas across low need for closure groups this correlation was nonsignificant for both floor gain ($r = .13$) and floor defense ($r = .32$).1

Social influence of the dominant members. The greater asymmetry of floor control in the high (vs. low) need for closure groups and the fact that in the former groups it was the autocratic members who tended to dominate the floor does not in and of itself indicate that the more talkative floor-controlling members emerged as social leaders. It is possible that, however much they dominated the conversation, they may have had little influence over the remaining members and might have even alienated them through their controlling behavior, possibly bringing about their social ostracism and a rejection of their ideas. To the contrary, our theory assumes that floor control is representative of social influence (Bales, 1950; Dabbs & Ruback, 1987; Hollander, 1985; Mullen et al., 1989); hence, autocratic members who dominate the conversation more in groups with high (vs. low) need for...
closure are also the more influential ones and are properly regarded as the groups’ leaders.

To begin with, our two indices of social influence, the ratings by external observers and members’ own rankings of influence within the group, were intercorrelated with each other \( r = .69, p < .0001 \) across groups. Furthermore, each of these indices was positively and significantly correlated with our two indices of floor control. Specifically, the observers’ perceived influence index correlated with the members’ index of floor gain \( r = .46, p < .001 \) as well as their index of floor defense \( r = .66, p < .0001 \). Similarly, the members perceived influence index correlated with their indices of floor gain \( r = .33, p < .021 \) and of floor defense \( r = .51, p < .0001 \). It appears then that the asymmetry of floor control and the greater dominance of the conversation by autocratic individuals in the high (vs. low) need for closure groups indeed reflects the emergence of an autocratic leadership in groups under these conditions.

**Discussion**

The present data support our theoretical predictions in regard to the emergence of autocratic leadership patterns in groups under high (vs. low) need for closure. At a minimum, such patterns involve a less egalitarian, or more asymmetric, participation of the different group members in the group process. Indeed, we have seen that a greater such inequality manifested itself in the speaking patterns of groups composed of high versus low need for closure individuals. Obviously, in and of itself, inequality of participation does not conclusively support the inference of autocracy. For all we know, inequality might represent an encouragement of the more liberal members to dominate the conversation, which would signify a movement away from rather than toward an autocratic leadership pattern. Our correlations between autocracy ratings and conversational dominance belie this possibility. They show clearly that it is the more rather than the less autocratic members who emerge as dominant under high need for closure. Our data also indicate that conversational dominance during group discussions was positively related to influence over the group decision rather than being a mere individualistic feature unrelated or even negatively related to social influence.

Note that the presently obtained proclivity toward autocracy is highly consistent with the need for closure logic: (a) an autocratic leader may impose a singular opinion on the group affording quick closure consistent with the urgency felt by the high need for closure members to attain firm knowledge (Kruglanski & Webster, 1996), (b) a consensus autocratically based on the leader’s opinion may be more stable or permanent than one deriving democratically from each member’s individual views. The likelihood of a single person (i.e., the leader) changing her or his opinion is less than the likelihood of any of the several members changing, which in a democratically constituted group may undermine consensus.

Although encouraging and consistent with our theory, the data of Study 1 are incomplete in two major respects. First, the conversational dominance results are individually rather than interactionally based. They reflect the verbal behavior of given members in a group context rather than representing the collective interactional patterns manifest in the group as a whole. Specifically, the results of Study 1 suggest the tendency of some group members, the more autocratic ones, to seize the discussion floor more than others, but this does not necessarily mean that the other group members accepted their leadership attempts rather than, say, withdrawing, harboring resentment, or feeling alienated from the group. In other words, the perceived influence of the autocratic as well as conversationally dominant members might have been accomplished at the price of resignation and withdrawal of the remaining members.

Yet, our theory has clear implications for the group behavior as an aggregate under different motivational conditions. Specifically, it suggests that under high need for closure, far from resenting it, group members may collectively encourage the emergence of an autocratic leadership pattern. Beyond participatory inequality in the group discussion, it implies that some members will become more central than others in the group process; that is, they will not only emit but also receive more communications than the other members and ultimately be
accorded more status and prestige than the other members. These possibilities were explored in our second study.

The second respect in which the results of our first study were not entirely conclusive concerned the operationalization of the need for closure in terms of a stable individual disposition. Need for closure theory conceptualizes this particular motivation more inclusively in terms of situational as well as dispositional antecedents claiming functional equivalence in the effects they foster (Kruglanski & Webster, 1996; Webster & Kruglanski, 1998). An important support for the theory would therefore consist of a conceptual replication of the relation between need for closure and autocracy with a situational induction of the need for closure. Toward that aim, in our second study, we manipulated the need for closure situationally via a time pressure induction (Kruglanski & Freund, 1983). Our second study also employed a social network analysis to index the emergence of an autocratic group structure under a heightened need for closure, this time using data derived from Bales's (1970) interaction process analysis.

**STUDY 2**

**Overview and Design**

Participants in 20 leaderless groups of four persons each performed the same task employed in Study 1. They role-played the managers of four corporate departments meeting to negotiate the division of a monetary prize among candidates representing their respective sectors. After the first 1/2 hour of discussion, a time pressure manipulation was carried out in some of the groups. The reason for delaying the time pressure induction was that the initial phase of group discussion was typically devoted to various routine activities (as introductions of the candidates by their promoters) that did not seem particularly susceptible to the influence of time pressure. Video recordings of the ensuing discussions were submitted to Bales's (1970) Interaction Process Analysis (IPA).

**Participants**

Participants were psychology students at the University of Rome, “La Sapienza.” The research sample included 20 groups of four persons each. As noted earlier, 10 of these were placed under time pressure and the remaining 10 were under no time pressure. All groups were homogeneous with regard to gender. Specifically, there were 10 all-female groups and 10 all-male groups, 5 groups of each gender in each time pressure condition.

**Procedure and Instruments**

Up to the point when the time pressure manipulation was implemented, the procedure was identical to that of Study 1. The time pressure manipulation was carried out as follows. For the 10 groups assigned to the time pressure condition, a “maintenance person,” role-played by the experimenter’s confederate, entered the room and in a clearly audible voice announced that because of a sudden emergency at the department, the room where the study was taking place was needed for another purpose and had to be cleared as soon as possible. The experimenter communicated this message to the group members without, however, placing a specific time limit on their deliberations. No similar interruption occurred for members of the 10 remaining groups preassigned to the no time pressure condition. As in Study 1, the entire interaction was surreptitiously video recorded and permission was subsequently obtained from participants to use the recordings for data analytic purposes.

The IPA. The videotaped group interaction was coded in accordance with Bales’s (1970) IPA. The IPA contains the following 12 categories of interactive behavior: “seems friendly,” “dramatizes,” “agrees,” “gives suggestions,” “gives opinions,” “gives information,” “asks for information,” “asks for opinion,” “asks for suggestions,” “disagrees,” “shows tension,” and “seems unfriendly” (Bales, 1970). Behavior in each of the categories was classified as an act emitted or an act received. For example, an act emitted would be to “give an opinion,” whereas an act received would be to “receive an opinion” from someone, and so forth.

Two observers were especially trained to apply the IPA in accordance with Bales’s (1970) original instructions both in regard to the unit of analysis (every single minute was coded) and to the 12 coding categories classified further into acts emitted and acts received. Following the training period, these observers, blind to the experimental condition, coded the videotaped interactions in conformance with the IPA coding scheme above. Only the part of the group discussion that followed the time pressure manipulation was coded. The observers were allowed to view the tapes as often as desired. For each coding category, each participant was assigned the average of the two observers’ pertinent response frequencies.

The major dependent variables of this study were three features of the group interaction network: One was the degree to which the different members’ centrality to the interaction, operationally defined in terms of both acts emitted and acts received, was symmetric or asymmetric across members. The centrality index is the classic interaction index (see Bavelas, 1950) mentioned often in the social network literature. But we were also
interested in the two components of centrality, acts received and acts emitted. The number of acts received, also occasionally used in social network analyses (e.g., Knoke & Burt, 1982), has been referred to as an index of prestige. Following the theoretical suggestion of Bales (1950), the number of acts emitted was labeled as an index of participation. We were interested in looking at the symmetry of these indices’ distribution across the group members because it may be affected by time pressure.

We computed the observers’ reliability in regard to the total number of acts emitted as well as acts received. As in Study 1, we followed Rosenthal’s (1987, pp. 9–13) suggestion by correlating the two sets of counts and using the Spearman-Brown prophecy formula to derive the final reliability index. The resulting interrater agreement was, respectively, .92 for acts emitted and .94 for acts received.

Following suggestions in the network analysis literature (Freeman, 1978; Knoke & Burt, 1982; Snijders, 1981; Stokman & Sprenger, 1989; Watts, 1992), we computed each member’s indices of centrality, participation, and prestige in the following manner: (a) a member’s centrality index was computed by dividing the sum of her or his emitted and received acts by the total number of acts emitted by the entire group, (b) a member’s participation index was computed by dividing the total number of acts emitted by a given participant by the total number of acts emitted by the entire group, and (c) a member’s prestige index was computed by dividing the total number of her or his received acts by the total number of acts emitted by the entire group.

These individual indices were used to compute the corresponding indices of group centralization: (a) the group’s asymmetry of participation index consisted of the ratio of the standard deviation to the mean of members’ participation scores, (b) the group’s asymmetry of prestige index consisted of the ratio of the standard deviation to the mean of members’ prestige scores, and (c) the group’s asymmetry of centrality index consisted of the ratio of the standard deviation to the mean of members’ centrality scores. As in Study 1, all subsequent analyses treated the interacting group as the unit of analysis.

Members’ influence over the group process. Following the procedure of Study 1, we assessed each member’s perceived influence as judged by independent observers and the participants themselves. Because of a procedural oversight, the latter (i.e., the participants’) data were available for 10 groups only (6 in the time pressure condition and 4 in the no time pressure condition). Following the procedure used in Study 1, two independent observers rated each member using a 5-point scale on two items: (a) the extent to which he or she was dominant during the group process and (b) the extent to which he or she was submissive. The interrater agreement for the two scales was, respectively, .73 for dominance and .78 for submission. Reversing the submission item, the correlation between the two items was .91 and the interrater agreement for the entire scale was .82.

In the 10 groups where participants’ perceived influence data were available, each participant ranked all four group members in terms of the influence they had over the group decision. We used the mean of the ranks assigned to each participant by the four group members as an index of her or his influence. For ease of exposition, we appropriately inverted the rank score so that higher numbers indicated greater perceived influence.

Results

THE TIME PRESSURE MANIPULATION

Whereas groups not exposed to time pressure continued their discussion for 38.7 min beyond the initial discussion phase of 30 min, those exposed to pressure persisted for only 18.2 min. This difference is statistically significant, \( F(1, 18) = 7.89, p < .01 \), suggesting that our manipulation successfully imposed a degree of time pressure on the participants.

GENDER AND CANDIDATE

Neither the participants’ gender nor the specific “candidate” they were assigned to represent exerted significant effects on any of our dependent variables. Both were, therefore, ignored in subsequent discussions.

THE CORE HYPOTHESES

Our core hypotheses stated that groups exposed to time pressure will exhibit a more autocratic pattern of communication among the members than groups not similarly exposed. Specifically, we expected that under time pressure there will be greater inequality or asymmetry in the degree of members’ centrality in the group process and that this will be due to both its components, namely, members’ degree of prestige or attention received from others, and members’ active participation in the group discussion.

Our data lend strong support to these predictions. Specifically, we performed three one-way ANOVAs, comparing groups under time pressure with those not subjected to pressure, for each of the three asymmetry indices we had calculated. Consistent with expectation, it was found that groups in the time pressure condition exhibited a higher degree of asymmetry in members’ active participation (\( M = .46 \) in the time pressure, \( M = .25 \) in the no time pressure condition), \( F(1, 18) = 19.401, p < .0001 \), in members’ centrality (\( M = .45 \) in the time pressure condition, \( M = .27 \) in the absence of pressure), \( F(1, 18) = 10.303, p < .005 \), and in members’ prestige (\( M = .50 \) in the
time pressure condition, $M = .31$ in the absence of time pressure), $F(1, 18) = 7.802, p < .01$. These results are shown in Figure 2.

Relation between acts emitted and acts received. That there was greater asymmetry of participation, centrality, and prestige in groups under time pressure does not necessarily attest to the emergence of centralized leadership. A necessary condition for such leadership is that the same members who emit the preponderance of acts also be the recipients of the preponderance of acts emitted by others. In support of this notion, the correlation across groups between acts received and acts emitted by a given individual is extremely high and positive ($r = .95$, $p < .0001$).

Members perceived influence over the group decision. Furthermore, if asymmetry of centrality, participation, and prestige reflect the emergence of autocratic leadership, members’ standing on these indices ought to be correlated with their perceived influence over the group decision. Our data lend strong support to this prediction. First, in the 10 groups for which both the observers’ and the participants’ perceived influence data were available, the correlation between these two was strong and positive ($r = .62$, $p < .0001$). Second, in the entire set of 20 groups there obtained a significantly positive correlation between the observers’ perceived influence ratings and (a) members’ participation index ($r = .71$, $p < .0001$), (b) members’ prestige index ($r = .26$, $p < .02$), and (c) members’ centrality index ($r = .70$, $p < .0001$).

Similarly, in the 10 groups where we collected members’ perception of their own and others’ influence, the perceived influence index was significantly and positively correlated with (a) members’ participation index ($r = .62$, $p < .0001$), (b) members’ prestige index ($r = .45$, $p < .004$), and (c) members’ centrality index ($r = .58$, $p < .0001$). Thus, it appears that the greater asymmetry of centrality, participation, and prestige in groups submitted to time pressure reflects the emergence of an autocratic leadership pattern where the more pivotal members of the group are accorded the greater influence over the group decision.

**Discussion**

In prior research, time pressure often was used to operationally define the need for cognitive closure (cf. Kruglanski & Freund, 1983; Shah, Kruglanski, & Thompson, 1998; for reviews, see Kruglanski & Webster, 1996; Webster & Kruglanski, 1998) based on the assumption that under time pressure, the implicit threat of failing to meet a deadline renders continued information processing subjectively costly; hence, the possession of closure is beneficial. Time pressure also was employed to induce the need for closure in the present study. Indeed, our results on the asymmetry of participation conceptually replicate those of Study 1 wherein the need for closure was treated as a disposition and assessed via the Need for Closure Scale.

The present study, however, goes well beyond the inequality of floor control evidence, obtained in Study 1, to demonstrate the emergence of an autocratic group culture under a heightened need for closure. It indicates that the tendency, under a heightened need for closure, of some individuals in the group to be more verbally dominant than others (manifest in Study 1) goes hand in hand with acceptance of such domineering behavior by others in the group: In the present study, the dominant members were also the recipients of the preponderance of communications from their fellow participants, which made them at once the most pivotal members, or “hubs,” of the communication networks, as well as ones accorded the highest degree of attention from others. Finally, our results demonstrate that it is these pivotal members, around which much of the group interaction revolves, who exert the greatest influence over the group’s ultimate decision, as attested by external observers and the participants themselves.

**GENERAL DISCUSSION**

Appreciation of the conditions under which autocracy may emerge could help one comprehend the vicissitudes of human history and recognize the dangers to democracy and individual expression that might lurk in basic sociopsychological processes. Although such matters might appear to belong with large scale, “macro”-level, sociopolitical events, the present work explored the possibility that they are rooted in “micro”-level processes whose essence may be captured in the highly transient, short-term circumstances created in the social psychological laboratory.

Specifically, we postulated that groups serve an essential epistemic function for their members: They provide them with a social reality rooted in the group consensus.
We further assumed that similar to other human desires, the desire for consensus is not invariant over time or circumstance but rather fluctuates as a function of various factors (cf. Festinger, 1950; Schachter, 1951). Our interest in the present work revolved about one such factor, the need for cognitive closure (Kruglanski, 1989; Kruglanski & Webster, 1996). Specifically, our experimental studies tested the hypothesis that members’ need for closure is systematically related to groups’ tendency to gravitate toward an autocratic leadership structure. Theoretically, the need for closure may induce an urgent craving for stable knowledge (Kruglanski & Webster, 1996). Such knowledge is grounded in an agreed-on social reality; hence, need for closure should augment the desire for consensus. Indeed, prior research has demonstrated a consistent link between the need for closure and such consensus-seeking phenomena as exertion and acceptance of social influence (Kruglanski et al., 1993) and the rejection of opinion deviates in a group (Kruglanski & Webster, 1991). The present work explored the additional implication of our analysis, namely, that members’ craving for quick and stable knowledge may manifest itself in an emergent autocratic structure in a group. Unlike in an egalitarian or democratic structure wherein arrival at consensus may be slow, complex, and laborious, in an autocratic structure consensus may be quick and simple by comparison, anchored as it is in the leader’s opinions. Because of the extensive discussion and debate characteristic of egalitarian collectivities, they may be often characterized by a lack of consensus and hence of a stable social reality on various issues. In autocratic groups, by contrast, the leaders pronounced opinion on some topic betokens the “end of discussion.” In that sense, autocratic groups may provide a more stable social reality for their members than may democratic or egalitarian ones.

Our hypothesized link between need for closure and autocracy in groups received consistent support in the present research. Specifically, we found in Study 1 that groups composed of individuals with dispositionally high (vs. low) need for closure exhibited greater inequality or asymmetry in members’ tendency to control the discussion floor: In such groups, some members, those with a more autocratic style, tended to dominate the conversation more than others. Significantly, these were the same individuals who were perceived to exert the greatest influence over the group’s decision.

A convergent validation of these findings was obtained in our Study 2, wherein need for closure was induced via time pressure rather than assessed as a dispositional tendency. Here too we found a considerable degree of asymmetry in communicative participation among members in groups under high (vs. low) need for closure. Such participatory inequality was matched, moreover, by an asymmetry among members in their degree of centrality within the group and the degree to which they were accorded attention or prestige: Under time pressure, the individuals who participated in the group discussion more than others also received a disproportionate amount of communications from their fellow group members. Those members constituted the “hubs” of the groups’ activities and the centers of influence; they became the leaders who apparently exerted the greatest influence over the group as a whole. In short, in conditions where group members experienced a heightened need for closure, they seemed to behave in ways that encouraged the emergence of an autocratic or a hierarchical leadership.

Our findings have further, yet untested, implications for conditions that may encourage the emergence of autocracy in groups. These are based on the need for closure construct (Kruglanski & Webster, 1996) and the multiple ways in which this particular motivation may be aroused. According to the theory, need for closure can be aroused via a wide variety of conditions having to do with the perceived benefits of possessing closure and the costs of lacking it. In addition to time pressure, for example, need for closure may be aroused in circumstances that render information processing difficult and hence the possession of closure beneficial (in so far as it obviates the necessity of continued processing), for example, environmental noise (e.g., Kruglanski et al., 1993; Rubini & Kruglanski, 1997), mental fatigue (Webster et al., 1996), or moderate intoxication by alcohol (Webster, 1994). One implication of the present findings is, therefore, that the autocratic bias in groups under a heightened need for closure may generalize across a host of environmental circumstances and/or physical or psychological states that increase the difficulty of information processing. Because such conditions may be quite characteristic of contemporary living in urban settings, so might be the psychological appeal of autocracy, at least at some level.

That we managed, within the constraints of the experimental laboratory, to observe a robust and replicable relation between need for closure and “autocracy” suggests that this proclivity may be rather fundamental and that it might manifest itself in large-scale societal phenomena as well. It may be, for example, that real-world situations characterized by considerable turmoil and uncertainty under which individuals’ need for cognitive closure may soar (cf. Kruglanski, 1989), such as war, revolutions, or unpredictable shifts in the economy, may constitute a fertile breeding ground for the emergence of “strong” or “autocratic” leadership. Anecdotal evidence seems to support such a possibility: The emergence of Hitler in Germany occurred during the insecurity-
ridden period that followed the demise of the Weimar Republic, Stalin’s ascent to power coincided with the considerable turmoil in Russia perpetrated by the Bolshevik revolution, Churchill became Britain’s undisputed leader during the chaos and upheaval that characterized the Second World War, and so forth. Of course, a great deal of systematic historico-psychological research is necessary to substantiate the possibility that the ascent of autocracy in the real world was at least in part facilitated by the psychological experience of uncertainty and instability on part of large segments of society.

It does illustrate, however, the potential of psychological theory to illuminate “macro”-level sociopolitical trends whose consequences may shape the course of human history.

NOTES

1. Differences between pairs of correlations (.45 vs. .13 and .66 vs. .25) did not reach statistical significance (z = 1.46, p < .13; z = 1.15, p < .25, respectively) because of the reduced number of participants. In fact, differences of this size would be significant if we had, on the average, 90 participants.

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