Motivated Resistance and Openness to Persuasion in the Presence or Absence of Prior Informatio

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Three experiments investigated the relation between need for cognitive closure and persuasion the 1st study, Ss high on an individual-differences measure of need for closure were more resistan persuasion by their low need-for-closure counterparts than vice versa. In the 2nd study, Ss in a n environment, assumed to instill a relatively high need for closure, were more resistant to persua than Ss in a quiet environment, but only in presence of an initial informational base for an opin In its absence, Ss in the noisy (vs. quiet) environment were less resistant to persuasion. The inte tion between need for closure and informational base was replicated in the 3rd experiment rever to the individual-differences measure of need for closure. The discussion considered implication these findings for further persuasion phenomena.

An essential part of the persuasion process is formation of a new judgment by the "persuadee" in response to the persuader's advocacy. If so, the process whereby all judgments are formed or modified may be expected to also underly various persuasion phenomena. This assumption is implicit in major recent models of attitude change (Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986). It suggests that individuals' reactions to persuasion depend both on their cognitive *ability* to make sense and critically evaluate the persuasive messages and their *motivation* to apply that ability toward the processing of message information. Features of ability and motivation also figure importantly in the theory of lay epistemics (Kruglanski, 1989, 1990b), concerned with processes governing subjective knowledge, that is, with formation and change of people's opinions and judgments. In the lay epistemic framework, an important ability-related element is topic-relevant information available and accessible to the individual (Higgins, King, & Mavin, 1982). Furthermore, an important motivational factor is the individual's need to have cognitive closure on a judgmental topic. How prior knowledge and need for closure combine to affect persuasion is the central issue explored in the present research. Our general assumption is that depending on prior information, need for closure may differently impact individuals' mode of information processing and that this, in turn, may affect their reactions to persuasion.

The need for closure has been described as "the desire for a definite answer on some topic, *any* ans sion and ambiguity" (Kruglanski, 19 sents a desire for a clear-cut opinion on need for closure has been assumed bo individuals and to differ across situati may be proportionate to the perceived b sure or to the costs of lacking closure closure may afford predictability and g these seem desirable (i.e., are regarde for closure may be correspondin time pressure, an absence of clos ing the deadline; this too may e ternate costs of lacking closure continued information processi mental obstacles render process vidual's temporary states like fa dious (see Kruglanski, 1989, 19

Previous research has uncove sure may exert on information tion. Among others, such need in impression formation (Freun 1985; Heaton & Kruglanski, 1983), (b) the reliance on theory cessing (Jamieson & Zanna, 19 Sanbonmatsu & Fazio, 1990), (c ilarly minded others for socia Mayseless, 1987), and (d) the ten ates (who undermine collective

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here to their position and less likely to reexamine it in the light of new advocacy. Actually, two possible paths could lead to such an outcome. Individuals under high (vs. low) need for closure (a) may refrain from processing further information on a topic with respect to which they already had closure, (b) may become positively "cathected" or attached to the attained closure, effecting a shift from a need for nonspecific closure to one for specific closure (Kruglanski, 1989, 1990a, 1990b)—the need for specific closure may selectively bias the processing of mes-

The two members of each dyad were, furthermore, matched on several attributes known to affect persuasiveness; physical size (height and weight), academic performance (grade point average), age, gender, and assertiveness (assessed using Alberti & Emmons', 1974, Assertiveness Scale).

Pretests

1. *The jury method.* Several weeks before the commencement of the

Results

Persuasiveness of the Legal Analysis

1. Prediscussion verdicts. Persuasiveness of the legal analysis was inferred from subjects' degree of agreement with it. After they had examined the case information, subjects answered the following "verdict" question: "Should the defendant, Brooks Airlines, be held liable for the loss suffered by the lumber company?" Answers were recorded on a 9-point scale with appropriately labeled points ranging from *I am extremely confident that Brooks is guilty* (−4) to *I am extremely confident that Brooks is not guilty* (4). Agreement with the legal analysis was operationally defined as a response on the corresponding side of the neutral midpoint of the scale (0). Disagreement was defined as either a neutral response or a response on the noncorresponding side of the midpoint.

Of the 60 participating subjects, 8 disagreed with their legal analysis, 3 in the prodefendant condition and 5 in the proplaintiff condition. Furthermore, 3 of those 8 subjects had been classified as high in need for closure, whereas 5 had been classified as low in need for closure. Data from the 8 dyads containing those subjects were excluded from the statistical analyses.

2. Postdiscussion verdicts. The remaining 52 dyads all managed to reach a unanimous decision as indicated by subjects' postdecision responses to the verdict question. A decision was considered unanimous if both subjects' responses fell on the same side of the midpoint. Overall, 12 dyads decided for the plaintiff and 10 for the defendant. This difference is not statistically significant, suggesting that the legal analyses supporting either side were equally effective.

Confidence Ratings

To examine subjects' prediscussion confidence, we considered their prediscussion verdicts. Recall that responses to the verdict question were recorded on a 9-point scale ranging from high confidence in the defendant's culpability (scored as −4) to high confidence in his innocence (scored as 4). The degree of confidence was, therefore, assessed by computing the absolute distance of a subject's response from the midpoint of the scale. As expected, subjects classified as high in the need for closure expressed higher confidence in their prediscussion verdicts (M = 3.18, SD = .795) than those classified as low in the need for closure (M = 2.00, SD = .816).[1] This difference is statistically significant (correlated samples $t = 6.11$, $df = 21$, $p < .0001$).[2]

Persuasive Efficacy

Our major prediction has been that, given a basis for an opinion (namely, the legal analysis), subjects high on the need for

[1] This way of measuring confidence is open to the possible alternative interpretation that the result is a simple extremity effect. However, the assumption that our measure is tapping confidence corresponds with previous research in which the relationship between confidence and need for closure has been repeatedly demonstrated (Mayseless & Kruglanski, 1987; Kruglanski & Webster, 1991).

[2] A t test for correlated samples was used because within each dyad, one subject was preselected to be high and the other to be low on need for closure and, hence, they are not independent.

closure would be more likely to persuade their partners (low on that need) than vice versa. Of the 22 dyads in the present study, 17 reached a final verdict consistent with the prediscussion opinion of the high member, and only 5 with that of the low member. A sign test for matched pairs indicates that this difference is significant ($p < .02$).

A different way of testing the same hypothesis is by considering subjects' verdict shifts in the partner's direction from pre- to postdiscussion. The average change for subjects high on the need for closure was 1.27 ($SD = 1.804$) and for those low on the need for closure 3.09 ($SD = 1.823$). This difference too is statistically significant (correlated samples $t = -2.44$; $df = 21$, $p < .05$).

Discussion

These preliminary data are consistent with our hypothesis that subjects with a low need for closure are more persuadable than those high on the need for closure. However, each dyad in the present study consisted of a high as well as a low member; thus, it is impossible to determine whether our findings reflect greater persuasion of the low member, greater persuasiveness of the high member, or both. In our following two experiments, we concentrated explicitly on persuasion (rather than on persuasiveness) and attempted to gather more direct evidence that it is, in fact, greater for subjects low versus high in induced or dispositional need for closure when an informational base for an opinion is available. This was expected because those high in need for closure should be more likely to adhere to their initial position and be less likely to modify it in light of new advocacy. Those experiments tested also the complementary hypothesis that when an informational base is unavailable, persuasion would in fact be greater for subjects with high versus low need for closure. This was expected because those individuals with a preference for closure should be ready to embrace any opinion that provides closure (including that of their partner) if they lack sufficient informational resources to attain the desired cognitive state.

Experiment 2

Overview

A modified form of the jury method was used. Each dyad now included a naive subject and a confederate whose role was to induce the subject to state his or her position on the case and then to argue against the view expressed by the subject. As in Experiment 1, each member received a booklet with the essentials of a law case. Subjects received one of two types of information. In the *complete information* condition, the booklet included the legal analysis supporting either the plaintiff's or the defendant's side. In the *incomplete information* condition, the booklet excluded the legal analysis. The confederate was blind to the informational condition of the subject. We assumed that in the absence of the legal analysis, subjects would lack an informational base for a firm opinion.

In the present study, need for closure was manipulated situationally by means of environmental noise. We assumed that information processing would be effortful, hence more psychologically costly in a noisy (vs. a quiet) environment. In turn, high (vs. low) costs of information processing were expected to heighten subjects' need for cognitive closure (Kruglanski, 1989, 1990a, 1990b; Kruglanski & Webster, 1991).

The experimental design was a 3×2 factorial with three levels of case information (*complete-proplaintiff, complete-prodefendant,* and *incomplete*) and two levels of environmental noise (*noisy* and *quiet*). The two major dependent variables were (a) the extent to which the subject was persuaded by the confederate and (b) the amount of time it took him or her to be persuaded. In addition to registering their pre- and postdiscussion verdicts, subjects rated their confidence in these verdicts and responded to several additional items designed to assess whether our manipulations had the intended effects.

Our main prediction was that in the *complete* information conditions, subjects in the *noisy* environment would be less persuadable than those in the *quiet* environment. By contrast, in the *incomplete* information condition, subjects in the *noisy* environment were expected to be more persuadable.

Method

Subjects

Thirty-three male and 41 female undergraduates in an introductory psychology course at the University of Maryland participated in fulfillment of a course requirement. The sex factor yielded no significant effects; hence, it was disregarded in further analyses.

Procedure

The procedure was highly similar to that of Experiment 1. On arriving, the subject was greeted by the experimenter. The confederate also arrived at that time and was treated similarly. Both participants were escorted into a small room and seated at separate desks on opposite sides of the room. The experimenter informed subjects that the experimental sessions were being videotaped. She then described the study as an investigation of jury processes. Subjects were presented with a booklet containing the case materials used in Experiment 1. For subjects in the incomplete information condition, this excluded the legal analysis. Half the subjects in the complete information condition received a legal analysis arguing for the plaintiff (the lumber company), and the remaining half received an analysis arguing for the defendant (the airline company). The experimenter was blind as to whether the subject received the incomplete or the complete information, and in the latter case whether the legal analysis was prodefendant or proplaintiff.

Manipulating the environmental noise. The experimenter explained to participants that the room where the study was being conducted was actually a departmental computer room used for research purposes when no other space was available. In the *noisy* condition, she further explained that she needed to print a long paper due for a graduate seminar that afternoon. She then asked the participants whether they would agree to let her print the document during the experiment and added that should they find the noise too disturbing they could shut the printer off by pressing the on–off switch on the front of the machine. All subjects agreed to let the experimenter print the document, and no one suggested turning it off.

The experimental session was deliberately conducted in a small room so that the noise would create substantial difficulty in communication and information processing. The option of turning the printer off was intended to afford subjects a sense of control, as previous research (Donnerstein & Wilson, 1976) has shown this to reduce stress reactions and arousal in response to environmental noise.

The prediscussion questionnaire. At that point, the experimenter turned the printer on (in the *noisy* condition) and asked subjects to review the judge's instructions for approximately 3 min, during which she appeared to be editing a document on the computer. In the quiet condition, subjects performed the same activity with the printer off. Processing information for 3 min in the presence of the aversive noise was intended to heighten subjects' need for closure. The printer noise was constant from this point until the end of the session. After an examination of the case information, subjects registered their prediscussion verdicts on a 9-point Likert scale ranging from *extremely confident that the defendant is not guilty* (0) to *extremely confident that the defendant is guilty* (8). The experimenter then distributed a questionnaire alleged to survey several extraneous variables with potential effects on subjects' behavior. The survey asked participants to express their notion of an ideal discussion partner by rating the desirability of several partner characteristics; these were deliberately chosen to vary in their apparent potential for providing closure.

After participants had completed the survey, the experimenter asked them to move their desks together. She then instructed them to deliberate the legal case and arrive at a common verdict. Subjects were told they would have 15 min for discussion, but that the experimenter would check with them at half time and ask them to enter their mid-discussion verdicts. This was done, subjects were informed, so that process variables affecting the deliberations could be tapped. Subjects were further led to believe that after the mid-discussion break they would continue their deliberations until the designated time had elapsed. If they reached agreement earlier, they should report this to the experimenter. The possibility of a failure to reach agreement within the allotted time was left open. In actuality, the discussion did not continue beyond the half-time break. We assumed that 7.5 min of discussion (preceding the break) would provide ample time for deliberations, yet subjects would not assume they were out of time when entering the (alleged) mid-discussion verdict. In the event subjects reached agreement before the break, the time they took to do so was recorded.

Confederate's behavior. Two undergraduate students, one male and one female, acted as trained confederates. For all experimental sessions, the gender of the confederate was matched with that of subject. Each confederate began the discussion by asking the subject for his or her opinion. The confederate then voiced several predetermined arguments opposing that view. To check on the possibility that the confederates would behave differently in the noisy versus the quiet condition, we videotaped the deliberation sessions and later had observers rate the confederates' nonverbal behavior on six traits: *friendliness, aggressiveness, confidence, defensiveness, persuasiveness,* and *nervousness.*

Postexperimental questionnaire. At half-time, subjects responded to a questionnaire that tapped their mid-discussion verdict and included several manipulation checks. The verdict was recorded on a 9-point Likert scale ranging from *extremely confident that the defendant is not guilty* (0) to *extremely confident that the defendant is guilty* (8).

To assess the effectiveness of our need for closure manipulation, subjects estimated their need to reach agreement with their partner and to do so quickly. To check on the possibility that differences in persuasive efficacy are mediated by increased bodily arousal due to noise, subjects responded to the General Activation Subscale of Thayer's (1967, 1978) Activation–Deactivation Adjective Check List specifically designed to assess arousal: Subjects rated the extent to which the following adjectives described their current state: *full of pep, energetic, vigorous, active,* and *lively.* The relevant responses to all the manipulation-check items were recorded on 9-point Likert scales ranging from *not at all* (0) to *extremely* (8). The same scale was used to record subjects' three self-reports of mood: (a) the extent to which their mood was positive, (b) the extent to which they were feeling good, and (c) the extent to which their emotional state was pleasant.

Results

As expected, no differences between the two complete information conditions (proplaintiff vs. prodefendant) appeared on any of the variables measured. Consequently, we collapsed across those conditions, reducing the levels of our *case information* variable from three to two, namely, to complete versus incomplete informational conditions. Accordingly, all subsequent analyses are based on a 2 × 2 design with two levels of case information combined orthogonally with two levels of environmental noise (noisy and quiet).

Prediscussion Confidence

We expected subjects in the complete information condition to have sufficient informational resources for a relatively confident opinion about the case, compared with subjects in the incomplete information condition. As in Experiment 1, confidence scores were operationally defined in terms of absolute distances from the midpoint of our Likert scale ranging from *extremely confident that the defendant is not guilty* (0) to *extremely confident that the defendant is guilty* (8). These results are summarized in Table 1.

A two-way analysis of variance (ANOVA) performed on these data yielded, as expected, a significant main effect of the case information variable, $F(1, 70) = 16.87, p < .001$. Subjects in the complete information condition reported on the average greater confidence in their verdicts ($M = 2.53$) than did subjects in the incomplete information condition ($M = 1.63$).

If subjects in the noisy condition experienced higher need for cognitive closure, they should manifest greater confidence in their prediscussion verdicts when an information basis for an opinion was available. No such difference was expected to appear in the absence of an informational base, considered a necessary condition for confident opinions. The predicted two-way interaction between noise and information was significant, $F(1, 70) = 3.94, p < .05$. Additional planned comparisons yielded results consistent with our predictions: Greater confidence was exhibited in the noisy versus the quiet conditions in the complete information case, $F(1, 45) = 11.738, p < .001$, whereas no significant differences in confidence between these conditions appeared in the incomplete information case.

Table 1
Mean Absolute Confidence in Prediscussion Verdict Rating as Function of Environmental Noise and Informational Base: Experiment 2

Informational base	Environmental noise: Noise	Environmental noise: Quiet
Complete		
M	3.00	2.08
SD	0.905	0.929
n	23	24
Incomplete		
M	1.64	1.62
SD	1.082	0.768
n	14	13

Need for Agreement

If subjects in the noisy (vs. quiet) condition experienced higher need for cognitive closure, they should have also experienced greater subjective need to reach agreement with their partner and do so quickly, as this might have enabled them to promptly gratify their desire for closure. Subjects' responses to the two items tapping their desire to reach agreement with their partner (the need to reach agreement and the need to reach agreement quickly) were highly correlated in all cells of our design (average $r = .9387$). Consequently, we computed a combined Need for Agreement Index by summing across those two items.

An ANOVA performed on these data yielded a significant main effect of noise. As expected, subjects in the noisy condition scored higher on the Need for Agreement Index than subjects in the quiet condition ($M = 10.97$ and $M = 7.84$ for the noisy and quiet conditions, respectively, $F[1, 70] = 34.723$, $p < .0001$). No other effects were significant.

Partner Preferences

If environmental noise contributes to the desire for cognitive closure, and if this, in turn, heightens the person's judgmental confidence when an informational base for an opinion exists, complete information subjects in a noisy (vs. quiet) environment should exhibit greater preference for a discussion partner who would readily accept their opinion over one who would resist it, jeopardizing their sense of closure.

Subjects rated the desirability of a partner described as (a) having an opinion similar to their own, (b) having an opinion different from their own, (c) unsure of him or herself, (d) confident, (e) persistent, and (f) persuasive. Answers were recorded on 9-point scales ranging from *not at all desirable* (0) to *extremely desirable* (8), and Questions 5 and 6 were reverse scored. In all cells of the design, ratings on all six of those items were highly intercorrelated (average $r = .6986$, $p < .01$), reflecting the degree to which a confident, persuasive partner was preferred over an unsure, easy to persuade one. We, therefore, computed a Persuasive Partner Preference Index by summing across the different items. A two-way ANOVA performed on these data yielded a significant interaction effect between the noise and the information variables, $F(1, 70) = 25.087$, $p < .001$. As shown in Table 2, in the complete information group, subjects in the noisy condition expressed lower preference for a persuasive partner than those in the quiet condition, $t(70) = -3.843$, $p < .0001$, whereas in the incomplete information group they expressed a higher such preference, $t(70) = 3.37$, $p < .001$.

Table 2
Mean Preference for a Persuasive Partner as a Function of Environmental Noise and Informational Base: Experiment 2

Informational base	Environmental noise: Noise	Environmental noise: Quiet
Complete		
M	1.70	6.875
SD	3.866	4.919
n	23	24
Incomplete		
M	14.00	8.00
SD	4.674	5.196
n	14	13

Table 3
Mean Pre- to Postdiscussion Verdict Shifts as a Function of Environmental Noise and Informational Base: Experiment 2

Informational base	Environmental noise: Noise	Environmental noise: Quiet
Complete		
M	1.48	3.04
SD	2.020	1.628
n	23	24
Incomplete		
M	4.64	3.23
SD	1.598	1.739
n	14	13

To summarize, the confidence, need to reach agreement, and partner-preference data suggest that our environmental noise manipulation affected subjects' need for closure in the desired direction. Specifically, in the noisy (vs. the quiet) environment, subjects expressed greater need to reach agreement and, in the complete information condition, reported greater confidence and greater preference for a persuadable partner. In the incomplete information condition, subjects' reported confidence did not differ between the noisy and quiet conditions, but those in the noisy (vs. the quiet) condition exhibited a stronger preference for a persuasive partner.

Persuadability

Our critical prediction has been that in the complete information condition subjects in the noisy environment would be less persuadable than those in the quiet environment, whereas in the incomplete information condition, they would be more persuadable. We expected persuasion to be reflected directly by the magnitude of shifts in verdict ratings toward the opposing position from pre- to postdiscussion, and reflected inversely by discussion length (assumed to indicate resistance to the confederate's advocacy).

Verdict shifts. The verdict shift data are summarized in Table 3. A 2 × 2 analysis of variance was performed on these results, with two levels of environmental noise (noisy and quiet) and two levels of case information (complete and incomplete) as the independent variables. The two-way interaction was statistically significant, $F(1, 70) = 12.053$, $p < .001$. Planned comparisons indicated, as expected, that in the complete information condition, subjects exhibited lesser shifts in their verdicts in the noisy versus the quiet conditions, $F(1, 45) = 8.57$, $p < .01$. Also as expected, the opposite trend was manifest in the incomplete information condition, in which subjects exhibited greater shifts in the noisy versus the quiet condition, $F(1, 45) = 4.83$, $p < .05$.

A similar analysis of variance was also performed on the discussion-length data (in minutes) displayed in Table 4. The critical two-way interaction was statistically significant, $F(1, 70) =$

Table 4
Mean Deliberation Time (in Minutes) as a Function of Environmental Noise and Informational Base: Experiment 2

Informational base	Environmental noise	
	Noise	Quiet
Complete		
M	6.987	6.25
SD	0.8050	1.212
n	23	24
Incomplete		
M	3.887	5.667
SD	.526	.860
n	24	23

ons (M = 3.04 and M = 3.41, respectively).
cant difference here suggests that the rela
se and persuadability was not mediated by
sal.
items designed to tap subjects' affect were
rrelated ($p < .001$, average $r = .86$). Hence,
posite affect index by summing across the
e means of this index did not significantly
ion and the quiet conditions (M = 3.48 and
spectively). Again, the lack of a significant differ-
gests that the relationship between noise and per-
was not mediated by noise-based differences in
es' behavior. It is possible that the confederate
ity in the noisy versus the quiet environment and
navioral differences affected his or her persuasive-
ubjects. For instance, in the presence (vs. absence)
confederate may have inadvertently displayed a
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nce to persuasion in the complete information
reduced resistance in the incomplete condition
are such hunches itself in need for . . . To check on this possibility, two independent raters unaware of the experimental condition observed the videotaped deliberations and rated the confederates' nonverbal behavior on several dimensions (friendliness, aggressiveness, confidence, defensiveness, persuasiveness, and nervousness). The average interrater reliability was high ($r = .9101$). But on none of the evaluative dimensions were there significant differences between the noisy and quiet conditions for either confederate. These data fail to support the hypothesis that persuasion effects were mediated by systematic differences in confederates' behavior in the noisy versus the quiet conditions.

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en the incomplete and the complete in-
we performed a separate analysis for
incomplete condition, three regression
d. First, the need for agreement was re-
able. Second, persuasion (as indexed by
ssed on noise. Finally, persuasion was
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ct of noise on need for agreement, $t(25$
e first equation. Also as expected, the
sion was significant in the second equa-
Finally, in the third equation the effect
was rendered nonsignificant, $t(24)$ =
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Discussion

The data of Experiment 2 support our predictions. First, our manipulation of need for closure by means of environmental noise appears to have been successful: As predicted, subjects in the complete information, but not in the incomplete information condition, exhibited higher confidence in their verdicts in the noisy versus the quiet environment. Such a difference may be expected if environmental noise indeed heightened subjects' need for closure, yet its specific gratification additionally required the availability of relevant information. Furthermore, the data fail to support the hypothesis that persuasion effects were mediated by systematic differences in confederates' behavior in the noisy versus the quiet conditions.

A similar analysis was performed for the complete condition. Here, the effect of noise on need for agreement was significant in the first equation, $t(45) = 4.17$; $p < .001$. Furthermore, the effect of noise on persuasion was significant in the second equation, $t(45) = -2.93$, $p < .01$. Finally, in the third equation the effect of noise on persuasion was rendered nonsignificant, $t(44)$ = .37, p = .71, once need for agreement was controlled for. Again, the need for agreement effect remained significant in this analysis, $t(44) = -8.01$, $p < .001$. These results suggest that in the complete condition, too, the effect of noise on persuasion was mediated by the need for agreement.[3] The results of each of the aforementioned mediational analyses are presented in Figure 1.

Subjective arousal. Thayer's (1967, 1978) five items composing the arousal measure were highly intercorrelated ($p < .001$ in all cases, average $r = .85$). Consequently, we computed a composite arousal index by summing over the separate items. The means of this index did not significantly differ between the noisy and the quiet conditi
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The effect of the need for
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[3] Using discussion length as a measure of persuadat
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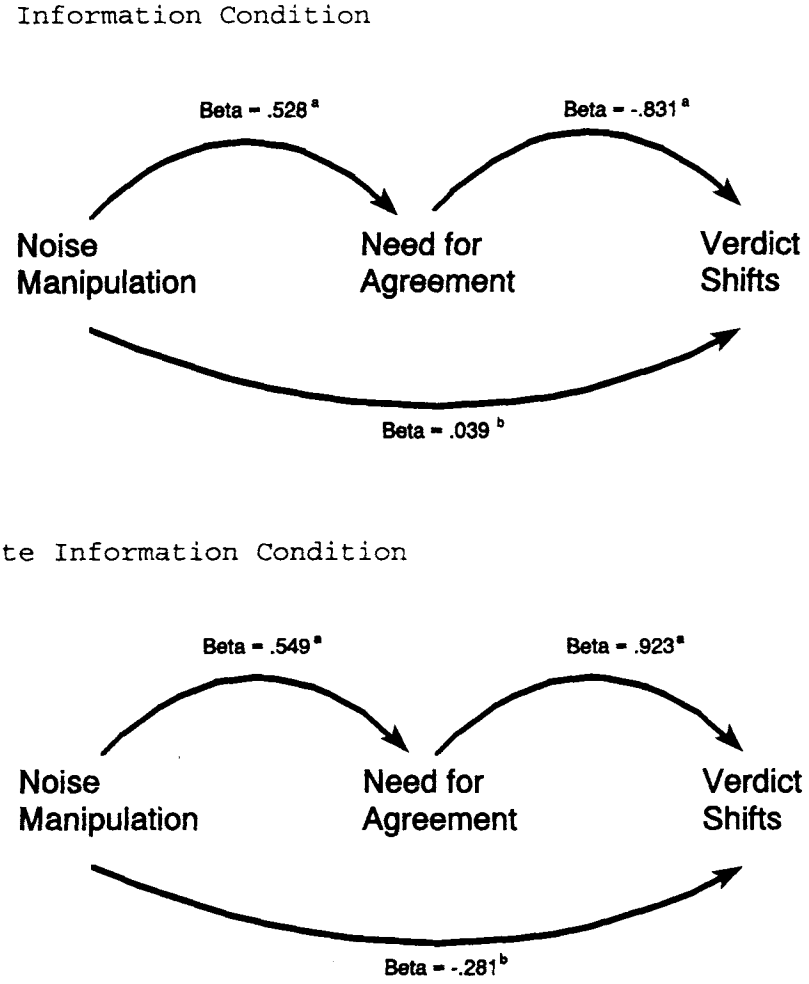

Figure 1. Need for agreement as a mediator of the relationship between noise and persuasion: Experiment 2. (When verdict shifts were regressed on noise individually, $\beta = -.400$, $p \geq .01$, in the complete information condition and $\beta = .403$, $p \leq .05$, in the incomplete information condition. [a]Significant at $p \leq .01$. [b]Not significant.)

heightened need for closure may be expected to enhance subjects' desire to reach agreement with their partners and to do so quickly. Indeed, stronger such desire was reported by subjects in the noisy versus the quiet conditions.

Finally, need for closure should foster different partner preferences in the complete versus incomplete informational conditions. Specifically, in the complete information case, high (vs. low) need for closure should foster a preference for an easy-to-persuade partner, relatively lacking in confidence. Such preferences were more characteristic of subjects in the noisy versus the quiet conditions. By contrast, in the incomplete information case, high (vs. low) need for closure should foster a preference for a confident and persuasive partner. Indeed, such preferences were more characteristic of subjects in the noisy versus the quiet conditions.

Of particular interest, the data of Experiment 2 support our persuasion prediction. Both the verdict shift and the discussion length data suggest that when in possession of prior informational resources, subjects under high (vs. low) need for closure (i.e., those in the noisy environment) were less persuadable, whereas in the absence of informational resources such subjects were more persuadable.

The foregoing results imply that the findings of Experiment 1 reflect, at least in part, lesser persuadability of subjects with high (vs. low) need for closure under complete informational conditions. Such results provide convergent valid findings through disparate modes of varying the sure (i.e., through preselection on a personality me nipulation by means of environmental noise). Ad comparability of our two studies seems limited by cedural differences (e.g., the use of confederates v cussion format and the collection of additional me thermore, so far, we examined the relation betwee differences in need for closure and persuasion on plete information condition (used in Experiment seem of interest to investigate whether these two va the opposite relation in the incomplete informatio To address those issues, we performed a third stu

ceptually replicated Experiment 2 by treating the need for closure as a measured individual difference rather than as a manipulated variable.

Experiment 3

Overview

The design of this experiment was a 3 × 2 factorial with three levels of case information (*complete-proplaintiff, complete-prodefendant,* and *incomplete*) and two levels of a dispositional need for closure (*high* and *low*) as the independent variables. In accordance with the results of Experiment 2, we expected that in the complete information condition, individuals with high scores on our need for closure scale would be less persuaded by an opposing confederate than those with low scores, and that in the incomplete information condition, those with high (vs. low) scores would be more persuadable.

Method

Pretest and Subjects

Several weeks before the commencement of the experimental sessions, 361 introductory psychology students completed the NFCS as part of a departmental mass testing. The scores ranged from 109 to 207, with a mean of 156.75 (SD = 16.18). As no sex differences appeared in our previous two studies, and for availability reasons, only female subjects were recruited for this experiment. Women scoring above the 75th percentile composed the population from which our high need-for-closure subjects were sampled, and those scoring below the 25th percentile comprised the low need-for-closure population. In all, 41 female subjects took part in the experiment, 18 classified as high and 23 as low on the need for closure.

Procedure

Except for omitting the environmental noise, the present experimental procedure followed in most details that of Experiment 2. After examining the case information, subjects were asked to indicate their prediscussion verdicts. They then completed an additional questionnaire including items used in Experiment 1 and tapping their partner preferences. An interaction with a confederate followed, in which she argued for the opposite position. The confederate was blind to the subject's need for closure classification. After 7.5 min of discussion, an alleged half-time break took place. Subjects entered their (mid-discussion) verdicts and rated the extent to which they had felt a need to reach agreement with their partner and do so quickly. In addition, subjects were given 10 min to list all their current thoughts. They then responded to two additional questionnaire items. One asked subjects to rate their partner as a "credible source of information." Responses to this item were recorded on a 9-point scale anchored at the ends by *not at all credible* (0) and *extremely credible* (8). The second item asked subjects to estimate how different their initial opinion was from that of their partner's. Again, responses were recorded on a 9-point scale anchored at the ends by *not at all different* (0) and *extremely different* (8). Because the procedure in this case omitted environmental noise, we excluded from the present study measures of subjective arousal and mood used in Experiment 2.

Results

As in Experiment 2, no differences were expected between the two complete case-information conditions (proplaintiff and prodefendant) on any of the variables measured. Appropriate planned comparisons confirmed this expectation. Consequently, we collapsed across the complete information condition, reducing the case information variable to two (rather than three) levels, namely of complete and incomplete information. Consequently, all our analyses were based on a 2 × 2 design, with case information and need for closure as the independent variables.

Table 5
Mean Absolute Confidence in Prediscussion Verdict Rating as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

Informational base	Dispositional need for closure: High	Dispositional need for closure: Low
Complete		
M	3.13	1.69
SD	0.835	0.751
n	8	13
Incomplete		
M	1.50	1.50
SD	0.527	0.527
n	10	10

Confidence Ratings

We expected subjects in the complete information condition to possess adequate resources for forming a relatively confident opinion about the case and subjects in the incomplete information condition to lack such resources. Consistent with this prediction, a two-way ANOVA performed on the confidence data yielded a significant main effect of the case information variable, with subjects in the complete condition professing greater confidence in their prediscussion verdicts than subjects in the incomplete condition (M = 2.24 and M = 1.50, respectively), $F(1, 37) = 15.2$, $p < .001$. The interaction term also was significant, $F(1, 37) = 11.35$, $p < .01$. Replicating Experiment 2, in the complete information condition subjects with high (vs. low) need for closure expressed greater confidence in their verdicts, $t(37) = -4.75$, $p < .001$; no comparable differences were manifest in the incomplete information condition. The relevant confidence ratings are shown in Table 5.

Need for Agreement

As in Experiment 2, the two items tapping subjects' felt need for agreement with their partners (the need to reach agreement and to reach agreement quickly) were highly intercorrelated in all cells of our design (average r = .9189, $p < .001$). Consequently, we computed a Need for Agreement Index by summing across those items. Conceptually replicating Experiment 2, our high (vs. low) need-for-closure subjects attained significantly higher average scores on this index (M = 5.26 and M = .88, respectively), $F(1, 37) = 49.156$, $p < .001$. No other effects were significant on this measure.

Table 6
Mean Preference for a Persuasive Partner as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

itional need	for closure	
base	High	Low
	1.50	3.46
	0.7560	1.713
	8	13
e		
	4.10	2.30
	1.37	1.494
	10	10

Table 7
Mean Pre- to Postdiscussion Verdict Shifts as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

Dispositional need	for closure	
Informational base	High	Low
Complete		
M	5.25	12.69
SD	6.04	3.59
n	8	13
Incomplete		
M	21.00	14.30
SD	3.05	4.45
n	10	10

Informational
Complete
M
SD
n
Incomplete
M
SD
n

ngth. The discussion length data are summa-
A 2 × 2 ANOVA performed on these results
t two-way interaction between case informa-
r closure, $F(1, 37) = 28.556$, $p < .0001$.
ons indicated further that in the complete in-
on, discussion length was greater for subjects
need for closure, presumably reflecting their
Persuasive Partner Preference index in the manner
eriment 2. The relevant data are shown in Table 6. A
NOVA performed on these data yielded a significant
effect between the noise and the information vari-
37) = 27.384, $p < .001$. Replicating Experiment 2,
plete information condition, subjects high on the
osure exhibited lower preference for a persuasive
subjects low on this need, $t(37) = 3.885$, $p < .0001$,
the incomplete information condition, they exhib-
preference for such a partner, $t(37) = -3.514$, $p <$

ary, the confidence, need to reach agreement, and
ference data suggest that subjects preselected on the
ir high and low scores on the NFCS exhibited the
fferences in our experimental situation, paralleling
2, where need for closure was manipulated by
vironmental noise.

lity

postdiscussion verdict shifts. Our critical predic-
ed lesser persuadability of the high (vs. low) need
ubjects in the complete information condition, and
adability in the incomplete information condition.
verdict shift data (toward the confederate's posi-
played in Table 7.
NOVA performed on these results yielded a signifi-
ion between case information and need for closure,
17.087, $p < .001$. Planned comparisons indicated
cted, in the complete information condition, high
d-for-closure subjects exhibited smaller shifts, $t(37)$
$< .01$. Conversely, in the incomplete information
igh (vs. low) need-for-closure subjects exhibited
$t(37) = 2.804$, $p < .01$.

Partner Preferences

As in Experiment 2, we expected subjects' partner preferences to vary as a function of their informational and motivational conditions. The six items tapping partner preferences (described in reference to Experiment 2) were highly intercorrelated (average $r = .5948$, $p < .01$ in all cases). Accordingly, we

greater resistance to persuasion, $t(37) = -3.25$, $p < .01$. Conversely, in the incomplete information condition, discussion length was less for subjects with high (vs. low) need for closure, presumably reflecting their greater persuasion, $t(37) = 4.31$, $p < .001$.

Mediational analyses. We further investigated whether the observed relation between stable differences in need for closure and persuasion was mediated by the situational manifestations of this motivation, as indexed by the need for agreement ratings. As in Experiment 2, separate analyses for the incomplete and complete conditions were performed. Thus, in the incomplete condition, three regression equations were estimated. First, need for agreement was regressed on the need-for-closure scores. Second, persuasion (as indexed by verdict shifts) was regressed on need for closure. Finally, persuasion was regressed

Table 8
Mean Deliberation Time (in Minutes) as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

	Dispositional need for closure	
Informational base	High	Low
Complete		
M	7.31	5.60
SD	0.372	1.606
n	8	13
Incomplete		
M	4.20	6.467
SD	1.355	0.5190
n	10	10

2. Discussion le
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on both the need for closure and need for agreement variables. Those analyses yielded a significant effect of need for closure on need for agreement, $t(18) = 9.84$, $p < .001$, $\beta = .918$, in the first equation. Also as expected, the effect of need for closure on persuasion was significant in the second equation, $t(18) = 4.43$, $p < .001$, $\beta = .722$. Finally, in the third equation, the effect of need for closure on persuasion was rendered nonsignificant, $t(17) = -.34$, $p = .74$, $\beta = -.112$, when need for agreement was controlled for. The need for agreement effect remained significant in this analysis, $t(17) = 2.25$, $p < .02$, $\beta = .92$. These findings are consistent with the notion that the effect of stable need for closure on persuasion was mediated by the situational need for agreement.

A similar analysis was performed for the complete condition. Here, the effect of need for closure on need for agreement was significant in the first equation, $t(18) = 9.3$, $p < .001$, $\beta = .90$. Furthermore, the effects of need for closure on persuasion were significant in the second equation, $t(18) = -5.07$, $p < .001$; $\beta = .76$. Finally, in the third equation, the effect of need for closure on persuasion was rendered nonsignificant, $t(17) = -1.41$, $p = .17$, $\beta = -.284$, once need for agreement was controlled for.

However, controlling for need for closure in the same analysis rendered the effect of need for agreement on persuasion also nonsignificant, $t(17) = -.80$, $p = .43$, $\beta = -.28$. The latter result could reflect the low statistical power to detect an effect when two variables have a high degree of multicollinearity. Specifically, the correlation between need for closure and need for agreement was .90. Assuming a medium effect size and an n of about 20 (our actual $n = 19$ in the complete information condition), the statistical power to detect an effect in this case is only .50 (Cohen, 1988, p. 452).

Of interest, substituting deliberation time for verdict shifts as an index of persuasion continues to support the mediating role of the need for agreement. Specifically, in this analysis, the effect of need for closure on need for agreement was significant in the first equation, $t(19) = 9.28$, $p < .001$, $\beta = .90$. The effect of need for closure on deliberation time was significant in the second equation, $t(19) = 6.24$, $p < .001$, $\beta = .81$, and it was rendered nonsignificant ($p < .79$) in the third equation, where need for agreement was controlled for. The need for agreement effect on deliberation time remained significant in the latter equation, $t(18) = 4.36$, $p < .001$, $\beta = .96$. By and large, then, our data are consistent with the notion that in the present study too, the effect of dispositional need for closure on persuasion was mediated by the situational need to agree with one's discussion partner.

Thought Listings

1. Number of thoughts generated. The strong desire for an opinion may limit the extent of thought high (vs. low) need for closure subjects may devote to the discussion. To explore this possibility, an index was computed of total discussion-relevant thoughts listed by each subject. These thoughts were independently coded by two raters (average interrater reliability = .90). A 2 × 2 ANOVA performed on these data yielded only one significant effect—that of the need for closure, $F(1, 37) = 35.32$, $p < .001$. As expected, subjects with high need for closure generated fewer discussion-relevant thoughts than subjects with low need for closure ($M = 3.89$ and $M = 6.70$, respectively).

2. Heuristic versus systematic thoughts. To investigate the kind of information processing engendered by the need for closure, we classified the thoughts generated by our subjects as heuristic vs. systematic (Chaiken, 1987; Chaiken et al., 1989). *Heuristic* thoughts were those classified as relevant to the discussion yet unrelated to the arguments' contents, for instance, "I *feel* I am right" or "My partner seems to know what she is talking about." *Systematic* thoughts were those classified as dealing specifically with contents of the arguments, for instance, "Brooks should have performed the maintenance check before the plane was allowed to fly since there was a foreseeable risk involved." Again, the coding was performed by two independent raters (average interrater reliability = .86). The relevant proportions of heuristic to systematic thoughts are given in Table 9.

As shown, subjects high on the need for closure generated a higher proportion of heuristic to systematic thoughts than subjects low on the need for closure, $F(1, 37) = 21.09$, $p < .001$. No other effects were significant.

3. Self- versus other-focus. A yet different way of looking at the thought data is to consider whether they are self- or other-focused. The self- versus other-focus classification cuts across the heuristic versus systematic distinction in that both self-focused and other-focused thoughts could be either heuristic (e.g., "I just feel I am right" and "My partner knows what she is talking about," respectively), or systematic, that is, consisting of substantive arguments related to one's own or the partner's position (e.g., "Brooks should have performed the maintenance check"; "The fire that consumed the lumber was unrelated to the plane crash"). The coding was performed by two independent raters (interrater reliability = .87). The proportions of self- versus other-focused thoughts in the complete and incomplete informational conditions are given in Table 10.

A 2 × 2 ANOVA performed on these results yields a main effect of information completeness, $F(1, 37) = 7.14$, $p < .01$, qualified by a significant two-way interaction between completeness and need-for-closure, $F(1, 37) = 7.00$, $p < .05$. The thoughts of high need-for-closure subjects in the complete information condition exhibit a predominant self-focus. By con-

Table 9
Proportion of "Heuristic" Versus "Systematic" Thoughts Generated as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

Informational base	Dispositional need for closure: High	Low
Complete		
Proportion	.58	.24
n	8	13
Incomplete		
Proportion	.61	.28
n	10	10

Note. These proportions refer to the number of heuristic thoughts divided by the total number of heuristic and systematic thoughts.

Table 10
Proportion of "Self-Focused" Versus "Other-Focused" Thoughts Generated as a Function of Dispositional Need for Closure and Informational Base: Experiment 3

Informational base	Dispositional need for closure: High	Low
Complete		
Proportion	.72	.46
n	8	13
Incomplete		
Proportion	.35	.44
n	10	10

Note. These proportions refer to the number of self-focused thoughts divided by the total number of self- and other-focused thoughts.

trast, high need-for-closure subjects in the incomplete information condition exhibit a predominant other-focus. The simple effect of information completemenss is significant for high need-for-closure subjects, $F(1, 16) = 10.32$, $p < .01$. By contrast, the thought focus of low need-for-closure subjects does not substantially differ between the complete and incomplete informational conditions, in both cases exhibiting a relative lack of bias toward self or other. These findings support the notion that high need-for-closure subjects are close-minded to external (source and message) information when possessing a prior informational base and are open-minded to external information when lacking such a base.

4. Self- versus other-support. Is persuasion related to the subjects' thought contents? To answer this question, we coded these contents as self- or other-supportive. Self-supportive thoughts were ones that endorsed subject's own position and doubted or disagreed with the partner's position. Other-supportive thoughts endorsed the partner's position and doubted or disagreed with subject's own position. The classification of thoughts as self- or other-supportive is conceptually distinct from the heuristic versus systematic distinction and from the self- versus other-focused distinction. The coding of thoughts as self- or other-supportive was performed by two independent raters (interrater reliability = .91). In both the incomplete and the complete information condition, the ratio of self- to other support was significantly correlated with our persuasion index (in the incomplete condition, $r = -.79$, in the complete condi-

Discussion

The data of Experiment 3 conceptually replicate several findings of Experiment 2: Just as did subjects in the noisy (vs. quiet) environments of Experiment 2, our high (vs. low) need-for-closure subjects indicated a greater need to reach an agreement, greater prediscussion confidence, and greater preference for a persuadable partner in the complete information condition. Also replicating Experiment 2, in the incomplete information condition high (vs. low) need-for-closure subjects did not differ in prediscussion confidence, but they did express a greater preference for a persuasive partner. Collectively, these results suggest that stable individual differences in need for closure have similar manifestations in our experimental context, as does a situational manipulation of this need by means of environmental noise.

Of central interest, the present results replicate the persuasion findings of Experiment 2, indicating lesser persuasion of *high* (vs. *low*) need-for-closure subjects in the complete information condition and greater persuasion in the incomplete information condition. That highly similar data patterns appeared with diverse operational definitions of the need for closure lends further credence to our hypotheses as to its effects on persuasion.

General Discussion

The present results form a consistent pattern. In Experiment 1, given an informational base for an opinion, subjects with high scores on the NFCS were less persuaded by their low need-for-closure partners to a greater extent than vice versa. This trend reemerged in our subsequent two studies that additionally demonstrated the opposite trend, that is, greater openness to persuasion of high (vs. low) need-for-closure subjects when an informational base for an opinion was absent.

Besides demonstrating greater resistance to persuasion of high (vs. low) need-for-closure subjects with prior information, findings of Experiment 1 could reflect their greater *persuasiveness* to their partners. This possibility was not examined in this study and it must await further empirical probing for its validation.

The notion that the judgmental effects of need for closure depend on initial informational conditions is consistent with findings of Kruglanski, Peri, and Zakai (1991). In their research, subjects under high (vs. low) need for closure exhibited a less extensive informational search (paralleling lesser persua-

greater resistance to persuasion of subjects with high (vs. low) access to attitude-relevant information. Access to attitude-relevant information may be functionally equivalent to an informational base; moreover, the experimental procedures used by Wood (1982) and Wood et al. (1985) may well have induced a substantial need for closure, as they explicitly asked subjects to form an opinion. The present interpretation suggests, therefore, that persuasion differences between high and low access persons would be substantially reduced if subjects' motivation for closure was appropriately lowered. This implication could be fruitfully pursued in future research.

Alternative Interpretations

We have assumed that our persuasion results were mediated by a motivated process: Because of their need for closure, subjects may have resisted the persuasive message when they possessed a prior opinion (hence, closure) on the issue and may have been keen to accept it when they lacked such an opinion. Before considering this analysis further, let us examine several competing interpretations of our findings.

Distraction

Greater persuasion of subjects in the noisy (vs. quiet) cell of the incomplete information condition is, perhaps, explicable in terms of a noise-induced distraction (Allyn & Festinger, 1961; Festinger & Maccoby, 1964). Such an account, however, seems inapplicable to lesser persuasion under noise in the complete information condition. Petty, Wells, and Brock (1976) demonstrated that distraction may increase persuasion when the persuasive arguments are of low quality (because of interference with counterarguing) and decrease persuasion when the persuasive arguments are of high quality (because of lowered attention to and amount of favorable thought elicited by those convincing arguments). Note, however, that the partner's arguments were identical in the incomplete and complete conditions of our research. If anything, it could be argued that the quality of the partner's arguments should have appeared higher in the incomplete condition, in which subjects lacked a well developed set of own arguments than in the complete condition, in which they possessed such arguments. Thus, in the incomplete condition, noise-produced distraction should have reduced the amount of favorable thought elicited by the partner's (relatively superior) arguments, reducing persuasion. Similarly, in the complete condition, noise-produced distraction should have reduced the amount of counterarguing against the partner's (relatively inferior) arguments, increasing persuasion. Yet, exactly the opposite was found, that is, lesser persuasion under noise (vs. no-noise) in the complete condition and greater persuasion under noise in the incomplete condition. Hence, the cognitive-response explanation of Petty et al. (1976) does not seem readily applicable to the present findings.

Cognitive Resource Reduction

Although not originally studied in persuasion contexts, a phenomenon demonstrated by Gilbert, Pelham, and Krull (1988) could provide an alternative account for the effects of noise in Experiment 2. Gilbert et al. (1988) had some subjects perform an additional mental task while forming an impression of a target person. These "cognitively busy" perceivers exhibited an increased tendency to attribute the target's behavior to his or her disposition as compared with control subjects who were not mentally occupied. Presumably the dispositional attribution in this case is the "default" judgment that may be corrected by taking into account relevant additional considerations (i.e., that the target was situationally constrained to perform the behavior). Such a correction process may be impeded by the cognitive load manipulation that Gilbert et al. (1988) interpret as a cognitive resource reduction (p. 734).

Extrapolating to the present situation, it may be argued that the "default" judgment in our present experiments differed between the complete and incomplete information conditions. Specifically, in the complete condition, it may have been the subject's previously formed opinion, whereas in the incomplete condition, it may have been the partner's (the confederate's) opinion. If noise may be assumed to increase cognitive load, it should increase the tendency to adhere to one's own opinion in the complete information condition and increase the tendency to accept the partner's opinion in the incomplete information condition, precisely the results obtained. Thus, it is possible that our noise effects were due to cognitive capacity limitations rather than a motivated process.

In considering the foregoing interpretation note, first, the noise manipulation appears to have produced a variety of strictly motivational effects. As noted earlier, the preference pattern for a given type of partner was quite different in the noisy (vs. quiet) conditions, the nature of those differences depending on the information completeness variable. Under complete information, subjects in the noisy (vs. quiet) condition preferred a less persuasive partner, whereas under incomplete information, subjects in the noisy (vs. quiet) condition preferred a more persuasive partner. Moreover, across informational conditions, subjects under noise expressed a greater need for agreement with their partners than subjects in the quiet environment. Most important, our path analyses demonstrated that in both informational conditions, effects of noise on persuasion were mediated by the need for agreement. Finally, the conceptual replication of Experiment 2 findings with a personality measure of the need for closure, in Experiment 3, further supports the motivational exegesis of our effects.

Escaping Discomfort

The finding that in the incomplete information condition of Experiment 2, subjects were more readily persuaded in the noisy (vs. quiet) condition might suggest that persuadability in this case was prompted by the desire to escape the aversive condition as quickly as possible. Indeed, in the incomplete information condition, the discussion took somewhat longer in the noisy (vs. quiet) groups. Recall, however, that the very opposite was obtained in our complete information condition, in which the discussion took longer on the average in the noisy (vs. quiet) condition. A simple desire to escape seems incapable of accounting for these findings. Rather, it appears that the noise-induced discomfort heightened subjects' desire for closure, resulting in their quick acceptance of partners' advocacy in the

incomplete information condition and in persistent adherence to their own views in the complete information condition, ironically lengthening their exposure to the aversive situation. Such a conclusion is further strengthened by findings of Experiment 3, in which a similar interaction between information and need for closure emerged, even though the latter was operationalized in individual-differences terms to which an escape-type explanation seems inapplicable.

Arousal

It is possible to argue that in Experiment 2, noise-induced arousal induced cognitive narrowing (Easterbrook, 1959), resulting in the tendency to base one's judgments on early cues, that is, the prediscussion information, or the partner's views in the complete and incomplete informational conditions, respectively. Recall, however, that no differences in arousal between the noisy and quiet conditions appeared on Thayer's (1967, 1978) activation scale. Furthermore, mere differences in arousal seem unfit to account for our partner-preference or need for agreement data and do not seem applicable to Experiments 1 and 3, in which use of an individual-differences measure renders the arousal argument irrelevant.

In summary, the various alternative explanations discussed above seem pertinent only to limited portions of our data and irrelevant to if not inconsistent with other portions. By contrast, a need-for-closure-based explanation offers a comprehensive account of our various findings and, in this sense, provides a more parsimonious explanation.

Persuasion Process

The present results contribute to our understanding of the persuasion process, in particular how persuasive effects of factors like noise or personality orientation may be mediated by a need to agree with one's discussion partner and how this may interact with the individual's prior knowledge: When an individual lacks prior knowledge, such need may reduce resistance to persuasion, that is, promote attempts to attain agreement through the strategy of changing self (Festinger, 1950).

By contrast, when an individual has prior knowledge, need for closure may induce resistance to persuasion. In latter circumstances, such need might induce an increased tendency to influence one's discussion partner or change other (Festinger, 1950). Such motivated differences in *frequency of influence attempts* remain to be demonstrated. We do find, however, in other research, that when influence attempts fail, subjects under high (vs. low) need for closure tend more to reject the deviate and extol the conformist (Kruglanski & Webster, 1991).

The "microprocesses" whereby motivation affects persuasion require further research attention. Thus, in our Experiment 3 we found that the relative ratio of self- to other-supportive thoughts was significantly related to persuasion yet unrelated to the need for closure. It is possible that our thought-listing measure was insufficiently sensitive: It was collected after the persuasion outcome had occurred, hence it may have been disproportionately driven by such outcome rather than by the preceding process. Alternatively, need-for-closure effects on persuasion may be mediated by something other than the relative proportion of self- versus other-supportive thoughts, for instance, the *relative weight* subjects assign them. Those possibilities should be sorted out in future research.

Our thought-listing data were useful in illuminating other intriguing aspects of information processing in persuasion contexts. Recall our suggestion that in the complete information condition subjects under high (vs. low) need for closure may be more resistant to persuasion either because they are disinclined to extensively process their partner's message or because they process it in a defensively biased manner. Although merely suggestive, the present thought-listing data seem to favor the former over the latter alternative. Specifically, subjects with high (vs. low) need for closure generated lesser overall volume of discussion-relevant thoughts and greater proportion of "heuristic" to "systematic" thoughts, both possibly indicative of a reluctance to process topic-relevant information extensively. Furthermore, subjects with high (vs. low) need for closure tended to be more self-focused in the complete information condition and more other-focused in the incomplete information condition, that is, in both cases oriented more toward a source (self or other) apparently capable of providing closure more readily and effortlessly.

On the other hand, the self- versus other-support data did not reveal a tendency for high (vs. low) need-for-closure subjects to be more defensively biased in their thoughts. Admittedly, the thought-listing data do not constitute definitive evidence regarding process, if only because they were collected after the judgmental outcome had occurred, that is, after an opinion had been formed. More systematic research is needed to explore the conditions under which opinions formed to fulfill a need for nonspecific closure may acquire intrinsic value, instilling a need for a specific closure.

The present data contribute to our understanding of the way in which prior knowledge and current motivation interact to determine people's reactions to persuasion. Wood, Rhodes, and Biek (in press) recently proposed that when coupled with minimal affect, knowledge may enable objective and dispassionate processing of new information, hence increasing receptivity and attitude change. By contrast, when coupled with strong attitudes, knowledge may bias the processing of new attitude-relevant information in the direction of the originally held position. Finally, Wood et al. (in press, Footnote 6) suggested that "people who believe themselves knowledgeable might reject an appeal because they think they already possess substantial support for their own judgment, rendering further consideration of the topic unnecessary." The present data suggest that the need for cognitive closure may constitute one factor that renders such a rejection likely.

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(Appendix follows on next page)

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Appendix

Items in the Need for Closure Scale

1. I think that having clear rules and order at work is essential for success.
2. Even after I've made up my mind about something, I am always eager to consider a different opinion.[a]
3. I don't like situations that are uncertain.
4. I dislike questions which could be answered in many different ways.
5. I *like* to have friends who are unpredictable.[a]
6. I find that a well ordered life with regular hours suits my temperament.
7. When dining out, I like to go to places where I have been before so that I know what to expect.
8. I feel uncomfortable when I don't understand the reason why an event occurred in my life.
9. I feel irritated when one person disagrees with what everyone else in a group believes.
10. I hate to change my plans at the last minute.
11. I don't like to go into a situation without knowing what I can expect from it.
12. When I go shopping, I have difficulty deciding exactly what it is that I want.[a]
13. When faced with a problem I usually see the one best solution very quickly.
14. When I am confused about an important issue, I feel very upset.
15. I tend to put off making important decisions until the last possible moment.[a]
16. I usually make important decisions quickly and confidently.
17. I would describe myself as indecisive.[a]
18. I think it is fun to change my plans at the last moment.[a]
19. I enjoy the uncertainty of going into a new situation without knowing what might happen.[a]
20. My personal space is usually messy and disorganized.[a]
21. In most social conflicts, I can easily see which side is right and which is wrong.
22. I tend to struggle with most decisions.[a]
23. I believe that orderliness and organization are among the most important characteristics of a good student.
24. When considering most conflict situations, I can usually see how both sides could be right.[a]
25. I don't like to be with people who are capable of unexpected actions.
26. I prefer to socialize with familiar friends because I know what to expect from them.
27. I think that I would learn *best* in a class that *lacks* clearly stated objectives and requirements.[a]
28. When thinking about a problem, I consider as many different opinions on the issue as possible.[a]
29. I like to know what people are thinking all the time.
30. I dislike it when a person's statement could mean many different things.
31. It's annoying to listen to someone who cannot seem to make up his or her mind.
32. I find that establishing a consistent routine enables me to enjoy life more.
33. I enjoy having a clear and structured mode of life.
34. I *prefer* interacting with people whose opinions are very different from my own.[a]
35. I like to have a place for everything and everything in its place.
36. I feel uncomfortable when someone's meaning or intention is unclear to me.
37. When trying to solve a problem I often see so many possible options that it's confusing.[a]
38. I always see many possible solutions to problems I face.[a]
39. I'd rather know bad news than stay in a state of uncertainty.
40. I do not usually consult many different opinions before forming my own view.
41. I dislike unpredictable situations.
42. I *dislike* the routine aspects of my work (studies).[a]

[a]Reverse scored.

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