

# **Group influences on judgments concerning the future**

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# Group Influences on Judgments Concerning the Future

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## 1. Introduction

Decision making and judgment under group conditions has often been shown to differ from that which occurs in individual settings, and research on such group phenomena frequently follows the assumption that the principles governing group behavior differ qualitatively from those governing the behavior of individuals. The present work deals with the question of whether this assumption is justified. It may be, for example, that the group situation is no more than a special condition under which individual action occurs, so that the behavior that takes place in either setting can be accounted for by a common set of behavioral principles.

In this paper, groups and individuals will be compared with respect to their judgments concerning the future. Since the criteria for such judgments are highly subjective, one can assume that judges will feel rather uncertain about their judgments' correctness and will be open to re-evaluation and possible change. Of special interest will be the comparison of the conditions under which group and individual judgments are most subject to subsequent alteration.

Part 2 deals with this problem in terms of group extremization and polarization, while part 3 is devoted to a discussion of some information processing approaches to judgmental change. In part 4, several experiments on judgments in groups and under individual conditions are presented, the empirical findings of these experiments being discussed in part 5, along with some characteristics for a general theory of judgmental change.

## . Group influences on decision making and judgments

Group situations provide especially interesting settings for studying the determinants of decision making and the formation of judgments. Besides enabling the study of group processes, such situations allow us to examine general psychological principles under special, easily definable conditions.

### 2.1. Development of research on group influences

Interestingly, research on group-induced change in decisions and judgments has focused primarily on group processes and has often neglected the study of individual psychological processes. This has been the case, for example, in research on the risky shift (e.g. Stoner, 1961; Kogan & Wallach, 1967) and on group-induced extremization and polarization (e.g. Moscovici & Zavalloni, 1969). Since the classic studies on attitude change of individuals in groups (Lewin, 1948) and the studies on the improved problem-solving ability of groups as compared to individuals (Shaw, 1932), further experiments on these topics have been directed towards specifying the conditions that have to be met in order for these group effects to arise (cf. Kelley & Thibaut, 1969; Lamm & Trommsdorff, 1973).

Recent interest on group-induced risky shift and attitude/judgment polarization and extremization has stimulated extensive research on the group processes underlying these phenomena (cf. Pruitt, 1971a,b; Lamm & Myers, 1978). Though individual processes have been taken into account (such as need for social approval - cf. Lamm, Schaub & Trommsdorff, 1971; Lamm, Trommsdorff & Rost-Schaude, 1972 - or individual decision making and information seeking - cf. Myers, 1973; Vinokur & Burnstein, 1974; Lamm, Rost-Schaude & Trommsdorff, 1978), such change in decisions, judgments and attitudes following group discussion had been considered as being a group-specific phenomenon.

## 2.2. Some theoretical explanations of group influences on decision and judgment change

It has been found that the polarizing effects of group discussion extend beyond decisions in hypothetical risk-taking situations, affecting attitudes, judgments, interpersonal impressions, risk-taking decisions, pro- and antisocial behavior, conflict resolution in Prisoner's Dilemma games and negotiations (cf. Lamm & Myers, 1978). The present study is concerned with the effect of group discussions on judgments concerning possible desirable or undesirable future developments dealing with private and public aspects of life.

Of the various theoretical explanations for group effects, only a subset seems relevant here. We can exclude, for example, explanations based on the notions of the diffusion and "infusion" of responsibility and concentrate instead on those having to do with: (a) commitment, (b) influence of the majority, (c) influence of the group leader, and (d) social comparison and value theory (cf. Trommsdorff, 1975, 1978).

(a) According to Moscovici and Zavalloni (1969), group discussion increases individuals' *commitment* and involvement in their original positions, thus causing these positions to become more extreme and bringing about an increase in the certainty with which they are held. According to the *commitment* approach, the degree of judgment and/or decision change should depend on the individual's initial position and reflect (1) group extremization (i.e., movement away from the neutral point, measured in terms of the absolute difference between the group mean and the scale midpoint) (cf. Doise, 1969; Moscovici & Zavalloni, 1969); (2) individual extremization (i.e., the mean distance of the individual positions from the scale midpoint) (cf. Kogan & Wallach, 1964); and (3) polarization (i.e., the strengthening of the dominant response, as reflected by the shift of the group mean to one end of the scale) (cf. Lamm & Myers, 1978).

Though the empirical support for these assumptions has been inconsistent (cf. Kogan & Wallach, 1964), a good part of the problem may lie in the techniques used to measure the various types of change. Measuring changes in group extremization by taking the difference between two mean group extremity values seems to yield no more than a statistical index of group-induced change. In the same way, the index for the individual extremization (which takes into account the individual positions of the group members) yields no direct information concerning individual deviations from the scale mid-point and neglects to take into account the direction of change. This creates problems when judgments change value while their absolute extremity remains the same, as when a person makes a more optimistic judgment in the first place and, later, a more pessimistic judgment - in each case with equal distance from the scale mid-point. In such cases, of course, the real judgmental shift is much greater than would be shown by the index of individual extremization (cf. more detailed comments in Trommsdorff, 1978, p. 200f.).

Despite these reservations about the validity of the group extremization measure, we will, in the following, use both the group and individual extremization indices in line with the traditional studies on group-induced judgmental change.

That commitment results in an increase in group extremization has been verified by several empirical studies (cf. Moscovici & Zavalloni, 1969; Moscovici & Lecuyer, 1972; Moscovici, Doise & Dulong, 1972; Rost-Schaude, 1975). The influence of commitment on decision stability has also been demonstrated for risk-taking decisions, more risky shift occurring when subjects are less committed to their original positions (cf. Trommsdorff, 1971).

(b) According to the *majority-influence* explanation, group extremization occurs as a result of the minority's conformity with the majority. This implies that, whenever extremization occurs, the mean original positions and the mean extremization scores should correlate, something that has not as yet been

empirically demonstrated (cf. Myers & Lamm, 1976). In fact, the contrary often seems to occur, the minority influencing the majority to change their original position following group discussion (cf. Lamm, Trommsdorff & Rost-Schaude, 1973; Moscovici, 1976). In order to test the influence of a majority or minority, some variance of group positions must be given. In dyads where skewedness of positions cannot occur, the operation of majority or minority decision rules cannot be used to explain the dyadic shift.

(c) The *leader-influence* explanation assumes that persons with extreme positions can present their options and judgments much more convincingly and with higher certainty than those with more moderate positions, thus having greater influence on the other group members in the direction of their more extreme positions. According to this assumption, one would predict a positive correlation between extremity and status among members of any given group. In addition, the leader's extreme judgment should not change during the course of the group discussion. Empirical results are contradictory: those of Stroebe and Fraser (1971) partly supported this explanation, while those of Lamm and Sauer (1974) did not.

(d) According to the *social comparison and value* theory, group interaction should produce judgment change whenever it leads group members to perceive that their original positions relied on incorrect or incomplete information or did not conform to the group's values. This position - as presented by Brown (1965) and Pruitt (1971a,b) - derives from Festinger's theory of social comparison processes (1954). The general assumption is that individuals strive to validate their opinions and judgments by orienting themselves to a reference group. Accordingly, group members should change their decisions and/or judgments towards what group discussion reveals as being the group's preferred position. Though the essential features of social comparison theory have received empirical support in the group discussion setting (cf. Codol, 1976; Lamm & Myers,

1978), an experiment by Lamm, Trommsdorff & Rost-Schaude (1972) has shown that the perceived difference between oneself and one's fellow group members does not correlate with the individual shift following group discussion, and that the amount of shift shown by groups strongly underestimating peer positions does not differ from that occurring in groups whose estimates are realistic.

An experiment by Lamm, Schaude and Trommsdorff (1971) shows that personal ideals also play a role in mediating group discussion effects, with people who perceive their initial positions as being largely discrepant from their ideals showing a greater tendency to shift towards the ideal position following group discussion than did those whose initial positions were in greater conformity with their ideals. According to social comparison theory, one might reason that mere knowledge of the group's favorite position is sufficient to induce a shift toward this ideal (Levinger & Schneider, 1969). One could also say that learning that a group member has a position close to one's ideal induces a shift toward greater extremity as a result of a modeling effect. Alternatively, it might be argued that other group members "release" the subject from the constraints of an assumed social norm towards conservatism. The group leader, too, may serve as a releaser and/or model. Somewhat inconsistent with these release and modelling explanations, however, are findings from experiments by Pruitt (1971a,b) and Myers and Kaplan (1976) indicating that merely informing subjects of the average group response was sufficient to induce a polarization of judgments.

*Summary.* All of the above stated theoretical approaches to group-induced judgment change assume that the conditions that give rise to the judgment change are unique to group settings. Furthermore, the above stated theoretical approaches all contain the implicit assumption that changes of judgments following group discussion occur as a result of cognitive processes induced by certain informational influences stemming from the

group discussion. According to the commitment theory, the crucial factor is the individual group member informing other members about his/her preference. According to the majority, minority, leadership-influence, social comparison, value and release theories, it is the reception of information about the position of the other group members that induces the subject to change to a more extreme position.

In the following, some general cognitive principles concerning informational selectivity are discussed with respect to their explanatory value for judgment and decision change.

### 3. Information selection and processing when positions in group or individual situations are changed

If judgmental changes following group discussion are due to informational influences, it should be asked whether such influences are effective only in group situations or whether they are based on fundamental psychological processes that can also occur in individual settings.

#### 3.1. Information processing in groups

##### 3.1.1. Judgment change following presentation of new arguments

Group discussion, as a kind of social influence, affects individual judgment and decision making by means of information transmission. Information, for example, concerning the other group members' preferences may help validate one's own judgment in terms of accuracy, adequacy, or social desirability. In addition, one may simply be interested in hearing further relevant arguments favoring or questioning one's position, and such novel arguments alone - without information concerning the other group members' positions - are often enough to induce judgment change (cf. Vinokur & Burnstein, 1978). In this

latter case, the judgment changes seem to be the product of purely individualistic information processing.

The kind and degree of judgment change after learning about new arguments depend on the arguments' direction, persuasiveness and subjective novelty (Vinokur & Burnstein, 1974; Vinokur, Trope & Burnstein, 1975). A further important characteristic is the degree to which the arguments are consistent with pre-existing cognitive schemata, people tending to prefer arguments that are consistent with what they already believe, while inconsistent arguments are likely to be rejected (Janis, 1972).

Such inconsistent information, however, is not necessarily rejected, disregarded, or devalued. If certain arguments imply that the person's position is wrong or in conflict with the generally accepted judgment, the likelihood of change is high as long as the situation evokes a strong need for accuracy or for conforming with the majority. Under such conditions, the person would expect greater disadvantage should he/she disregard the discrepant information and not make the called-for changes in his/her own judgment.

### 3.1.2. Judgment change as a result of receiving critical arguments on the probability of future social or personal events

This section concerns the process that mediate changes in probability judgments concerning uncertain future events. Since no objective criteria exist for assessing these judgments' validity, they should be especially analysed with regard to situational influences. The typical experimental task is to have the person judge the probability that a given future event will, in fact, occur, the judgment being recorded on a probability scale on which the middle range represents high uncertainty and the two ends either optimism or pessimism, depending on the event's desirability.

Empirical studies dealing with the influence of group discussion on such probability judgments indicate that groups tend to produce arguments that emphasize the possible failure of desirable future developments, thus inducing group members to change their original judgments in the direction of greater pessimism. For example, Kogan and Wallach (1964) report that subjects judged desirable developments in American society as being less likely to occur after having participated in a group discussion than they did prior to the discussion session. Similarly, Madaras and Bem (1968) showed that attractive but risky decision alternatives were judged as being less likely to succeed after a group discussion than they were before. Lamm, Trommsdorff and Kogan (1970) replicated the Madaras and Bem findings with an added control group that indicated that a similar shift towards pessimism does not occur when individual subjects are asked to reconsider their original probability judgments.

The above cited studies deal with probability judgments concerning the success or failure of hypothetical persons or social developments but do not deal with personal success or failure. For this latter type of judgment, it seems plausible that the person him/herself would be better acquainted with the relevant arguments than would the other group members whom he/she had met for the first time in the laboratory. But it might nevertheless be important in such cases for the person to learn more about the arguments of other group members, especially when they disagree with the person's own point of view and/or convey previously unconsidered information. Such arguments may pertain either to facts or values, the latter becoming important if, for example, the person's optimistic expectations are taken to reflect arrogance and immodesty. In such cases, the need to present oneself as a modest but successful person may dictate a tempering of optimism in one's judgments concerning the likelihood of future success.

Experimental data bear out this reasoning. Frey, Götz and Götz-Marchand (1975) demonstrated that subjects who expected feedback on their achievements avoided optimistic estimates since, if their judgments had turned out to be false later on, they would have had to face criticism for an arrogant self-presentation. Results reported by Schneider (1969) can be interpreted in a similar way, subjects' self-presentation being less favorable when the subjects expected feedback on their real achievements. Schneider found that this tendency was especially marked with subjects who had no previous experience of success or failure that they could use as a basis for estimating the probability of future success.

These findings support the general hypothesis that people refrain from positive judgments on their future outcomes when they have reason to believe that these judgments could be interpreted by others as being presumptuous and arrogant; in order to avoid possible negative sanctions, people revise their self-estimates so as to reflect lower optimism. The social comparison processes that occur in groups can convey information about the adequacy of a person's judgments and serve as a basis for these judgments' revision. Since the information generated in group discussions tends to be critical and to emphasize the possibilities of failure for desired future outcomes (cf. Kogan & Wallach, 1964; Lamm, Trommsdorff & Kogan, 1970), it follows that judgments following group discussion should shift primarily in the direction of greater pessimism.

### 3.1.3. Judgment change in individual settings

We return here to the previously raised question of whether the group setting gives rise to special processes that do not occur in individual settings and which render judgment changes in the two situations incomparable. Individuals must often judge alone, apart from a social group; so long as they cannot rely on external criteria for validating their judgments, they

have to refer to internal criteria based on individual experiences, opinions, and cognitive schemata. In the following, two theoretical approaches are presented that allow predictions of judgment change in such situations.

*"Socratic thinking"*. As the individual reflects on these internal criteria, his/her original, spontaneous judgment may appear to be the result of insufficient reasoning, being inconsistent with previous experiences, one-sided, or inadequately based on empirical facts. Such reflections could, of course, serve as grounds for the person's revision of his/her original judgment. Thus, prolonged thinking and reflection - as a process of internal argumentation - may help discover inconsistencies in the original judgment's premises or possible implications, these, in turn, bringing about the judgment's revision.

According to McGuire (1960; 1968), spontaneous judgments often reflect a wishful-thinking component, such that, all else being equal, desirable events are judged as more likely to occur than undesirable events. McGuire demonstrated, however, that inducing people to reflect upon the premises underlying their original judgments can lead them to discover and correct for the logical inconsistencies that result from the wishful-thinking tendency, thus resulting in a revision of their original, overly-optimistic judgments.

*Cognitive schemata*. Since the studies of Heider (1958) and Jones, Kanouse, Kelley, Nisbett, Valins & Weiner (1972), it has been recognized that judgments on social objects are based on subjective, causal schemata characterizable as quasi-logical, cognitive structures. Though attribution theory has been large directed towards understanding how people explain events that have already occurred, recent work by Ross and his colleagues (e.g. Ross, 1977; Ross, Lepper, Strack & Steinmetz, 1977) has studied the effect of these causal schemata on the expectation of future events.

Ross et al. (1977) assume that persons tend to expect higher probabilities of success for those events that are believed to be the logical consequence of certain causal "scenarios". Information that enables the person to construct such scenarios thus leads to an increase in the subjective probability with which the event is expected to occur. These scenarios, furthermore, are remarkably resistant to revision in the face of subsequently received, disproving information; even when shown to bear no correspondence to actual reality, the scenarios still serve as a basis for the person's future expectations (cf. Ross, Lepper & Hubbard, 1975).

Though Ross's work with causal schemata deals exclusively with information and cognitions dealing with events' causal antecedents, information on possible consequences of and obstacles to a future event's occurrence should also be relevant for structuring the cognitive schemata that underlie explanations and predictions. Since information on an event's consequences is necessarily consistent with the expectation that the event in question will occur, such information should support pre-existing cognitive schemata concerning the event and result in an increase in its subjective probability of occurrence. Information on obstacles, on the other hand, would contradict pre-existing causal schemata and, as a result, lead to a decrease in the event's subjective probability.

Another shortcoming of previous work on causal schemata has been that it does not account for the effect of needs and motives on judgment stability or change. If a positivity bias influences a person's judgments, information concerning causal predictions should have a different impact on the subsequent judgments depending on whether the event in question is desirable or undesirable.

#### 3.1.4. Conclusion

The discussion above implies that judgments can be changed not

only in group but also in individual settings, the magnitude and direction of the change depending on the way information processing is directed. As far as the processes that mediate this change are concerned, it should be irrelevant whether such information stems from internal or from external sources. Studies concerning these assumptions will be reported in the next section.

#### 4. Some experimental studies on judgment change: A comparison of group versus individual settings and directed versus nondirected information processing

##### 4.1. Hypotheses

Though derived from assumptions typical to research on group-influenced judgment change, the hypotheses tested in the first three studies reported below are novel in that they concern judgments on the likelihood of occurrence of future, personal and public events and yield differential predictions depending on these events' desirability. The group discussions in all three studies were *undirected*. It was predicted that commitment, influences from the group leader and social comparison processes would all operate to change judgments in the direction of (a) extremization, (b) increased certainty, and (c) decreased optimism.

The second group of experiments discussed below (Experiments IV, V and VI) all concern the general hypothesis that judgment change in group and individual settings does not differ so long as subjects' information processing is *directed*. It was predicted that directing information processing in a way consistent with subjects' cognitive schemata would result in judgment change in the direction of (a) extremization, (b) increased certainty, and (c) increased optimism.

## 4.2 Summary of methods

*Experimental design.* Two main independent variables were manipulated: group versus individual settings (in all experiments), and different ways of directing information (in Experiments IV - VI).

In all experiments, a "before-after" strategy was used to measure judgment change, the first measure being taken at the start of the session and the second at the end, after the subjects had either taken part in a group discussion concerning the future likelihood of the events in question or simply individually listed arguments concerning the likelihood of each event. Experiment I featured an additional, control group in which subjects were not assigned any activity between the two judgment measures.

In the *undirected information processing* treatment, subjects were free to discuss (in the group condition) or write down (in the individual condition) arguments concerning the probability that the given future events would occur before the year 2000. In the *directed information processing* condition, subjects were to discuss or write down arguments on (a) the events' preconditions and consequences (Experiment VI), (b) obstacles (Experiment V) to the occurrence of desirable events, and (c) negative consequences of, and obstacles to, the occurrence of undesirable future events (Experiment VI).

The future events that subjects had to make judgments about were either desirable or undesirable and dealt with either personal matters or matters of larger, public concern. Some examples are: Arabs and Israelis living peacefully together; strikes preventing the production of basic goods and services; I travel around the world; I do not find satisfaction in my work. A major reason for choosing such judgmental material was to make sure that objective criteria for evaluating the correctness of responses were not available and that all subjects would be in a similar position of uncertainty when making their judgments.

*Sample.* Subjects were recruited from the university and high schools in Mannheim. They participated voluntarily and received a small honorarium. The subjects were:

Experiment I, 46 male college students; Experiment II, 40 female college students; Experiment III, 50 female high school pupils; Experiment IV, 64 female college students; Experiment V, 38 female college students; Experiment VI, 96 female high school pupils.

*Dependent variables.* With regard to the probability estimates and judgments of certainty, subjects first estimated the probability of occurrence of the future events on an 11-point scale (0 = not at all probable; 10 = definite) and then indicated how certain they were about this estimate on a 7-point scale (1 = extremely uncertain; 7 = extremely certain). Extremity scores were computed from the probability judgments in the following way: (a) for *individual extremity*, the absolute difference between each subject's probability score and the middle point of the scale (50) was computed (cf. Kogan & Wallach, 1966); (b) for *group extremity*, the absolute difference between the group mean and the middle point of the scale was computed (cf. Moscovici & Zavalloni, 1969). The group extremity score does not, of course, take into account the variance of judgments in the group and involves further difficulties more extensively discussed by Trommsdorff (1978).

*Group interaction analyses.* In order to analyse the process and content of the group interactions, several of the experiments monitored the following indicators: discussion time, frequency of verbal utterances for the various group members (the relation between these first two scores providing an indicator of the relative verbal intensity); frequency of interruptions; frequency of opening a discussion; persuasiveness and attractiveness of each group member as determined by ratings made by other members of his/her group.

The arguments discussed in the groups and noted by subjects in the individual condition were rated by means of content analyses by two independent raters according to the following categories: optimism, pessimism, neutral definitions. These categories were further differentiated according to whether they dealt with preconditions, consequences, or obstacles.

#### 4.3. Results

*Nondirected information processing.* The most interesting results of Experiment I (in which subjects judged the likelihood of 14 desirable, public events) were as follows (cf. Lamm & Trommsdorff, 1974): (a) the group and individual conditions differed significantly with respect to the degree and kind of judgmental change, with group discussions resulting in group but not individual extremization and having no effect on either certainty or pessimism, while in the individual condition, judgments became less extreme and less certain; (b) group extremization did not correlate with discussion intensity; and (c) group members favoring extreme positions were more certain than their fellow group members and caused the others' (individual) extremization to increase.

The main findings of Experiment II (in which subjects judged the likelihood of 10 undesirable, public events) were: (a) in general, judgmental shifts differed between the group and individual conditions: in the group condition, extremization was found on both the group and individual levels, subjects' judgmental certainty was found to increase, but no shift towards pessimism occurred; (b) positive correlations were found for the group condition between judgment extremity and group persuasiveness and certainty.

The primary results from Experiment III (in which subjects judged the likelihood of 6 desirable and 6 undesirable personal events) were as follows: (a) judgmental shifts differed between individual and group conditions: group and individual

extremization and a shift towards pessimism for desired events were found in the group condition; (b) arguments generated during the group discussions were biased towards pessimism.

*Directed information processing.* The main findings of Experiment IV (in which subjects had to generate preconditions or desirable consequences for 10 desirable, public events) (cf. Trommsdorff & Lamm, 1972) were: (a) there were no differences found in judgmental shifts between the group and individual conditions, judgments in both cases becoming more optimistic and more certain; (b) extremization only occurred when information processing was directed towards consequences; (c) subjects in both conditions produced greater numbers of optimistic than pessimistic arguments.

The main results of Experiment V (in which subjects had to generate obstacles to the occurrence of 10 desirable public events) were: (a) there were again no differences found between the judgment shifts in the group, both conditions showing an increase in extremization (increased distance from the scale mid-point for probability estimates) and certainty, but no change with regard to optimism/pessimism; (b) subjects in both conditions produced greater numbers of pessimistic than optimistic arguments.

In Experiment VI (in which subjects generated negative consequences of or obstacles to the occurrence of undesirable public events) there were again no differences in judgment shifts between individual conditions, (a) subjects in both conditions showing greater optimism, less extremity in their probability estimates, and less certainty in their judgments after having generated the negative consequences and (b) greater extremity after having generated obstacles to the events' occurrence.

#### 4.4. Discussion

The results from the Experiments (I-III) that featured *undirected information processing* showed that while group discussion resulted in judgments becoming more extreme and certain

having individuals simply list arguments about the events did not. After *directed information processing*, (Experiments IV-VI), however, the direction and extent of the judgment change following the group and individual treatments were similar. This seems to indicate that the results of Experiments I - III reflect the operation of processes unique to group interactions, while those of Experiments IV - VI are due to processes common to both groups and individuals.

(1) *Experiments I - III on undirected information processing.* The leader-influence and commitment theories (cf. Stroebe & Fraser, 1971; Moscovici & Zavalloni, 1969; respectively) have not been falsified by our data. The leader-influence theory was supported in so far as extreme and very certain group members were regarded by their groups as being persuasive; these "leaders" tended not to change their position, serving rather as the focus towards which the other group members shifted, the judgment of the group in general (Experiment I) and/or the individual group members themselves (Experiments II and III) becoming more extreme. The extremization following group discussion in Experiments I - III also supports the view that committing a group member to a given position leads him/her to defend that position by moving towards greater extremity.

Thus, the first three experiments can be interpreted in the same way as traditional experiments on judgmental shift following group discussion; i.e. as primarily favoring the leadership and commitment approach. It should be noted that both of these two latter approaches assume general processes of social comparison to be operant in group situations.

Experiment III gives further interesting information about the function of such social comparison processes when groups discuss problems concerning their members' personal future, as it supports the claim that the information generated by groups tends to be oriented more towards the possibility of failure than of success (cf. Kogan & Wallach, 1964; Lamm, Trommsdorff

& Kogan, 1970). A shift in judgments towards pessimism occurred, however, only after desirable future events had been discussed, not after the discussion of undesirable events. The discussion of such personal developments presumably activates a need for positive self representation such that an overestimation of one's future success is regarded as socially undesirable and arrogant. The group situation seems to activate group members' fears of being trapped by presumptuousness; thus, the group members try to avoid arguments favoring the probability of success but rather concentrate on arguments describing possible obstacles blocking the attainment of the desired goals. Content analyses showed that arguments were indeed biased towards pessimism. These findings closely parallel those reported by Lamm, Trommsdorff, Burger & Fuchsle (1980) in an experiment using a different set of stimulus even

(2) *Experiments IV - VI on directed information processing.* These studies clearly show that group influences are only one possible precondition for judgmental change. When subjects' information processing is directed in a certain way, judgment change can occur in individual settings as well.

Emphasizing desirable events' positive aspects (preconditions and desirable consequences) resulted in an increase in both the optimism concerning the likelihood of their occurrence and the certainty with which these likelihood judgments were made. This positivity bias may have been due to the fact that the events' desirable aspects were accentuated to such a degree that subjects forgot about the one-sided line of argumentation (cf. Trommsdorff, 1978). Alternatively it may be that - regardless of an event's desirability - merely making its antecedents and consequences salient in subjects' minds suffices to bring about increases in judgments concerning the event's likelihood of occurrence (cf. Ross et al., 1977). Such an analysis, however, could not account for the findings of Experiment VI, where having subjects generate causal information (negative consequences of undesirable future events) resulted in a decrease in probability judgments.

The present experimental studies were not designed to systematically analyse the "causal schemata theory". Further studies should investigate the effect of evaluative factors (e.g. positive and negative antecedents and consequences for desirable and undesirable future events) on the change of probability estimates. It would be especially interesting to analyse the effect on judgments of causal schemata representing possible obstacles to the occurrence of future events. Despite the results of Experiments V and VI, the consideration of such obstacles has been found to lead to greater realism in the estimation of the chances for success (cf. Heckhausen, 1977) and, in decision situations, may result in the choice of a subjectively costly but eventually more successful alternative.

#### 5. Final comments

The assumption that group processes are characterized by unique psychological processes is questioned by our findings on directed information processing. Since the judgmental changes that occurred in the group and individual settings were similar both in form and degree, it seems likely that they were the result of the same underlying processes. The findings thus call for a general theory of judgment change that would allow one to readily establish parallels between processes that occur on group and individual levels. Such a theory would treat, for example, social influences (e.g. mediated by social comparison processes or the influence of a leader) as being the functional equivalent of certain cognitive and motivational processes that mediate an individual's response in directed task settings.

Until now, the primary focus in attribution and other cognitive theories has been on the cognitive processes in information selection, decision making and judgments, neglecting affective and motivational factors (cf. Carroll & Payne, 1976).

However, the evaluation of information, its processing and integration (as a basis of subsequent behavior) relies on subjective criteria that are not at all consistent in a logical sense, and that are variable across different situations. These individual criteria are presumably based on subjective needs and motives.

Depending on the situation and the motives operant, a person trying to arrive at a judgment may either accept a one-sided body of information or reject it as being inadequate. As we have seen above, when a persuasive and attractive group member (leader) favors a certain position, or when group members emphasize arguments on obstacles to positive developments and thus favor modesty in self-presentation, one-sided information is likely to be readily accepted as a basis for revising judgments. Such one-sidedness can occur as well as a result of the wishful thinking tendency, especially when the person does not have an opportunity to compare his judgment with those of others. However, when one-sided information on negative aspect of the future conflicts with the positivity bias, or when the premium placed on veridical judgments is especially high, such one-sidedness is likely to be rejected. The precise form of this balancing and interplay of motives for one-sidedness and veridicality is to be studied by future research.