

Position Power in Hierarchical Teams Influences Decision Accuracy and Confidence

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We examined the process by which group decisions are made in a hierarchy of individuals with varying levels of expertise. Position power in the decisional hierarchy had a stronger influence on decisions than expertise. Improvement in the quality of decisions after advice from subordinates indicates the advantages of participative decision-making in organizations.

Social decision-making in organizations is often hierarchical in nature with advice transmitted across varying levels of expertise and positional power. In the present study, group structure was varied by assignment of persons to positions in the hierarchy according to their pre-existing levels of expertise. Advice flowed over Ascending (lowest to highest level of expertise) or Descending (highest to lowest level of expertise) structures. We tracked modifications in members' confidence and choice accuracy; comparisons were made between the two structures that delineated factors influencing decision-making in hierarchical groups.

Method

Students ($n = 148$) were assigned to one of two Judge-Advisor-Systems, each comprising teams of four members. The two system types (Ascending, Descending) varied with respect to the *ordering* of the four expertise levels of members. In the Ascending structure, Advisor 1 had level 1 (least) expertise, Advisor 2 had level 2, Advisor 3 had level 3, and Judge had level 4 (highest) expertise. A reverse ordering was used for the Descending structure. The task consisted of several two-alternative questions on business topics. Advice was allowed to pass through the system in the prescribed order only. We tallied choice accuracy and confidence of each team member.

Results

Accuracy displayed a trend upward from Advisor 1 to Advisor 3 regardless of structure, suggesting that when an Advisor disagrees and changes advice it is often for the better.

However, the accuracy of Advisor 3 and Judge was in the direction *opposite* of improvement; Judges made thrice as many hurtful reversals of advice (27.1%) than Advisors (9.5%).

Confidence increased from Advisor 1 to 3 in both structures. However, the percentage of Judges showing *loss* of confidence relative to Advisor 3 was 16.6% in the Ascending structure compared to 61.5% in the Descending structure

Experts in the role of Judge (*Ascending*) were more accurate ($M = .72$, $SD = 1.5$), and confident ($M = .83$, $SD = 1.6$), than those in the role of First advisor (*Descending*) (accuracy: $M = .61$, $SD = .89$, $t(23) = 3.38$, $p < .01$; confidence: $M = .78$, $SD = .8$; $t(23) = 1.49$, $p = .09$).

Novices in the role of Judge (*Descending*) were more accurate ($M = .69$, $SD = 1.5$) and confident ($M = .79$, $SD = .9$) than those in the role of First advisor (*Ascending*) (accuracy: $M = .61$, $SD = 1.2$, $t(23) = 6.24$, $p < .01$; confidence: $M = .49$, $SD = 1.6$; $t(23) = 7$, $p < .01$).

Conclusions

Though most members frequently accepted advice from underlings, instances of rejecting correct advice and hurting accuracy were greater for Judges than Advisors. The power associated with final decisional influence rather than mere differences in expertise, seems to have induced greater rejection of advice. Experts benefited the maximum when they received advice from subordinates. This increased both accuracy and confidence, suggesting that experts are positively influenced by advice from subordinates even if the latter have lesser knowledge. This reflects the importance of participative decision-making in groups and the advantage to

decision quality of social mechanisms that encourage the contribution of members from the lower ranks.