Autonomy and Performance in Teams: The Multilevel Moderating Effect of Task Interdependence[†]

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The author predicts that the interaction between individual- and team-level autonomy influences team performance and that their combined effects are contingent on the level of task interdependence. Multiple regression analysis of data from 89 teams in a manufacturing setting confirm these expectations, demonstrating that team performance depends on the combination of individual and team autonomy. These findings suggest that the optimal combination of individual and team autonomy depends on the level of task interdependence in a team. Implications for future research, particularly in the areas of cross-level analyses and contingency theory, are discussed as well.

Keywords: *autonomy; task interdependence; teams; self-management; performance*

Organizational researchers have pointed to the potential tension between team autonomy and individual autonomy within the team, suggesting that team performance may depend on the combination of the two. Markham and Markham (1995) suggested that it may be difficult to incorporate considerable individual autonomy and group autonomy in the same work group simultaneously, echoing similar sentiments by Uhl-Bien and Graen (1998) and Manz and

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Angle (1993). Similarly, Neck, Stewart, and Manz (1996) argued that the goal in designing an effective work team should be to achieve a balance between individual and group autonomy. However, to date, no mechanism has been suggested that would either explain this tension or link both kinds of autonomy to performance in a contingency model. I propose that *task interdependence* not only provides that mechanism but explains both the tension between the constructs and their relationship with performance, consistent with a structural contingency approach (Fry & Slocum, 1984; Thompson, 1967). Slocum and Sims (1980) theorized that the allocation of control at different levels in an organization should be contingent on task interdependence, and I expect this contingency to operate at both the individual and team level simultaneously. The differences in the expected interactions across levels of analysis suggest a model in which team performance depends on the combination of individual and team autonomy.

I am not denying the possibility that team-level effects also influence individual-level outcomes—after all, the social psychological literature demonstrates numerous such effects (Hare, 1993)—but I am limiting my investigation to team-level performance outcomes. Therefore, in this study, the team is the focal unit, or level, of theory (Klein, Dansereau, & Hall, 1994; Rousseau, 1985). As such, it is important to clarify the different constructs and levels and to distinguish conceptually between individual-level autonomy and team-level autonomy. In the following section, I will define the constructs and develop hypotheses surrounding the interactions between task interdependence, individual autonomy, and team autonomy.

Theory

Constructs and Hypotheses

Task interdependence and team autonomy are both considered critical elements of team performance (Campion, Medsker, & Higgs, 1993; Cohen & Bailey, 1997; Kiggundu, 1983; Stewart & Barrick, 2000). Building on the work by Stewart and Barrick (2000) and Langfred (2000a), I define team-level autonomy as the extent to which a team has considerable discretion and freedom in deciding how to carry out tasks. Given the cross-level nature of my model, it is particularly important to differentiate team autonomy from individual autonomy. Individual-level autonomy is the amount of freedom and discretion an individual has in carrying out assigned tasks (Hackman & Oldham, 1976). In other words, the aggregated level of individual autonomy in a team is conceptually distinct and independent from team-level autonomy. Any team can thus be described in terms of both the level of team autonomy that the team has *and* the average level of individual autonomy that members of the team have—and it is the combination of the two that I suggest will influence team performance in concert with task interdependence.

Task interdependence is considered one of the most important structural variables that influences team performance (Saavedra, Earley, & Van Dyne, 1993) and is defined as the degree to which the interaction and coordination of team members are required to complete tasks (Guzzo & Shea, 1992). In addition, it has been pointed out that task interdependence often indirectly influences performance by moderating the effects of other variables on perfor-

mance (Langfred & Shanley, 2001). Because of the importance of task interdependence, a variety of researchers have developed ideas about its categorizations and characterizations. For example, Thompson (1967) categorized types of pooled, reciprocal, and sequential interdependence; Wageman (1995) distinguished between task and outcome interdependence, and Kiggundu (1983) differentiated between initiated and received task interdependence (with subdimensions of scope, resource, and criticality). For my purposes, I limit the discussion to a relatively generalized notion of task interdependence (Liden, Wayne, & Bradway, 1997), consistent with Thompson's (1967) notion of "pooled" and Kiggundu's (1983) dimension of "critical" task interdependence (i.e., unless all team members perform adequately, team performance is jeopardized).

At the team level, I expect that the documented performance benefits of autonomy (Cohen & Bailey, 1997; Macy & Izumi, 1993) depend on the level of task interdependence in the team. Given the coordination and effort required for a team to implement team-level autonomy and decision making, teams that perform highly interdependent tasks, and thus have substantial interaction and coordination already in place (Guzzo & Shea, 1992), are well positioned to take advantage of the benefits of team autonomy without incurring extra coordination costs. Less interdependent teams, on the other hand, may experience significant process loss from having to coordinate and interact sufficiently to take advantage of team autonomy, often resulting in performance degradation greater than the benefits of the team autonomy (Cummings, 1977; Pearce & Ravlin, 1987).

Such an interaction (between task interdependence and team autonomy) is consistent with the findings of several field studies. Teams characterized by higher levels of task interdependence have been shown to have higher performance and motivation associated with team autonomy (Janz, Colquitt, & Noe, 1997; Langfred, 2000b) or team control (Liden et al., 1997). In teams with lower levels of task interdependence, on the other hand, team autonomy is often associated with performance and motivation losses. These studies all reveal similar disordinal interactions, indicating that greater team autonomy results in benefits when task interdependence is high and in harm when task interdependence is low. These considerations suggest the following hypothesis:

> *Hypothesis 1:* Task interdependence and team-level autonomy will interact such that the relationship between team autonomy and team performance will be positive when task interdependence is high and negative when task interdependence is low.

I expect a similar but reversed interaction between individual-level autonomy and task interdependence. By *reversed*, I mean that teams with lower task interdependence are expected to benefit from high levels of individual autonomy, whereas teams with higher task interdependence can be harmed by high levels of individual autonomy. Taken together, both interactions would imply that under conditions of high task interdependence, team autonomy is beneficial but individual autonomy can be harmful, whereas under conditions of low task interdependence, individual autonomy is beneficial but team autonomy can be harmful.

In practice, individual autonomy is often associated with low task interdependence and might appear to be at odds with high task interdependence. However, it is worth noting that individual autonomy and task interdependence are independent and conceptually distinct. In

other words, there is no theoretical reason that any particular combination of autonomy and interdependence could not exist within the same team. For instance, a team characterized by low task interdependence does not automatically imply that members will enjoy considerable individual autonomy. It is possible for an individual to work independently of other team members, yet still be very constrained by rules and procedures in carrying out his or her individual task. By the same token, although high task interdependence in a team may often be associated with lower individual autonomy, it is a design choice, not a causal effect. A manager or a self-managing team can easily decide to grant considerable individual autonomy to members in such a team. While all combinations are possible, I suggest that some are more beneficial than others.

At the individual level, it has been noted that autonomy can be at odds with high interdependence because highly interdependent teams require high levels of interaction and close coordination of members' actions in timing and sequence (Wageman, 1995). High task interdependence, by definition, means that individual team members need to effectively coordinate their efforts for team tasks to be successfully accomplished (Guzzo & Shea, 1992). This increased dependence on others in the team is inconsistent with high levels of individual autonomy (Stewart & Barrick, 2000). Thus, I expect a negative relationship between performance and the level of individual autonomy in a team when task interdependence is high.

When task interdependence is low, on the other hand, Stewart and Barrick (2000) pointed out that work can be structured with individual autonomy. The performance benefits of individual autonomy (Argote & McGrath, 1993; Hackman & Oldham, 1976) are much more likely to occur when team members work relatively independently of one another, without the need to coordinate or interact frequently. Working more independently allows individual team members to take advantage of unique task-specific knowledge that may only be available to them (Latham, Winters, & Locke, 1994) without interfering with team coordination. Orton and Weick (1990) observed how important it is for individuals to adapt and independently adjust to change when interdependence is low, and individual autonomy facilitates such mutual adjustment (Thompson, 1967). The above considerations suggest the following hypothesis:

Hypothesis 2: Task interdependence and individual autonomy will interact such that the relationship between individual autonomy and performance will be negative when task interdependence is high and positive when task interdependence is low.

The importance of a cross-level approach is evident when both interactions occur in the same team because the benefits of both individual-level autonomy and team-level autonomy are contingent on the degree of task interdependence. Taking both interactions into account, I expect that if a team is characterized by high task interdependence, greater team autonomy is beneficial, but greater individual autonomy is harmful—suggesting an ideal combination of high team autonomy and low individual autonomy. If, on the other hand, a team is characterized by low task interdependence, greater team autonomy is harmful, but greater individual autonomy is beneficial—suggesting a very different ideal combination of low team autonomy and high individual autonomy. This implies that the performance of any team, given a particular level of task interdependence, will depend on the combination of team and individual

autonomy. In other words, when one controls for the effects of task interdependence, the interaction of individual autonomy and team autonomy will influence team performance. This prediction is consistent with Manz and Angle (1993), Markham and Markham (1995), and Uhl-Bien and Graen (1998), who suggested the importance of considering the combination of individual- and team-level autonomy.

The implications of both interactions are that higher performance will be associated with either the combination of high individual and low team autonomy (when task interdependence is low) or the combination of low individual and high team autonomy (when task interdependence is high). Lower team performance, on the other hand, will be associated with either the combination of high individual and high team autonomy, or the combination of low individual and low team autonomy (regardless of task interdependence). These implications suggest the following hypothesis:

Hypothesis 3: After controlling for the effects of task interdependence, individual-level autonomy and team autonomy have a significant interaction effect on team performance.

In summary, I make three predictions. I expect that task interdependence will not only moderate the relationship between team-level autonomy and team performance but will also moderate the relationship between individual-level autonomy in the team and performance. Furthermore, I believe the joint interactions will create a situation in which team performance is influenced by the combination (or interaction) of individual-level and team-level autonomy.

Method

Setting

Data were collected from two midwestern facilities of a manufacturer of personal care and household products. The data collection took place across all types of teams in the two plants. Although the vast majority of teams surveyed were in manufacturing (involved in actual production), some were from other functions, including administration, inventory control, and quality management. Tasks performed by teams ranged from relatively unskilled tasks involving the production, packaging, warehousing, and shipping of products to more complicated technical work in accounting or human resources. Because the two plants produced a variety of products, there was no typical team in terms of particular tasks. However, the great majority of the teams sampled were production teams directly involved in manufacturing. Although the particular product might differ, the teams were generally very similar in terms of their work and conditions.

Respondents and Procedure

I sampled team members across both manufacturing facilities during the course of 4 weeks. A total of 164 teams were surveyed, and respondents from 108 teams (65.8%) completed the

surveys. The median team size was eight, and teams were excluded from the analysis if less than three team members responded to the survey, resulting in a final sample of 89 teams and a usable response rate of 54.3%. Of the teams, 78.6% were involved in production; 10.1% performed administrative tasks; and the remaining 11.2% fell into various other categories, including warehousing and shipping. The average age of respondents was 32.4 years, and the respondents were 67.6% female. The ethnic composition was approximately 70% White, 17% African American, 7% Hispanic, and 6% other/missing.

Measures

All survey items were 9-point Likert-type scales, ranging from *strongly disagree* to *strongly agree*. The constructs and their measurement are described below, and scale items are listed in the appendix.

Individual autonomy. The nine-item scale is based on Breaugh's (1985) well-validated and frequently used scale for the measurement of individual job autonomy; it had a reliability (Cronbach's) alpha of .90. Sample items from the scale include "I am able to choose the way to go about my work in the team" and "I can decide when to do particular activities as part of my work in the team."

Task interdependence. I used a seven-item scale adapted from Kiggundu (1983). It yielded a reliability (Cronbach's) alpha of .88. The scale measured both received task interdependence (the extent to which a team member is affected by the work of other team members) and critical task interdependence (the extent to which team success depends on coordination among members) to capture an overall measure of generalized task interdependence. Sample items are the following: "Most of my work activities are affected by the activities of other people on the team," "my work cannot be done unless other people do their work," and "team members have to work together to get group tasks done."

Team-level autonomy. A number of researchers have attempted to develop scales for the measurement of team-level autonomy, including Langfred (2000a) and Janz et al. (1997). Others have measured similar concepts, such as group control (Liden et al., 1997). For the purposes of this study, I consider the most useful scale to be an adapted version of Breaugh's (1985) Individual Autonomy Scale. I believe that in exploring the simultaneous effects of individual- and team-level autonomy, the importance of consistency in the operationalization of autonomy itself—at both the team and individual level—outweighs the advantages of other, more established scales. This adapted scale uses Breaugh's individual-level items but applies them to the team instead of to an individual. Sample items from the adapted scale are "the team is free to choose the method(s) to use in carrying out teamwork" and "the team has control over the scheduling of teamwork." In preliminary scale development conducted in a separate data set of 133 respondents, the scale had strong discriminant validity and internal reliability. In this data set, it had a reliability (Cronbach's alpha) of .91.

Team performance. The company provided an internal measure of team performance, calculated every quarter. This measure incorporates quantitative production and quality measures and is reduced to a 5-point rating assigned to each team. In this way, I avoided the bias of having the same source for both independent and dependent variables, making the measure as objective as possible. This composite score was made up of several different measures of productivity (depending on the particular task of the teams) but always included the degree to which production goals, quality standards, and deadlines were met. Other factors, such as adherence to equipment maintenance schedules (if relevant), safety or other policy violations, operator mistakes, absenteeism, and tardiness were also factored into this algorithm to provide an overall global measure, but the productivity factors were weighed most heavily. As such, this is primarily a productivity measure, but it incorporates other facets as well to capture a richer overall measure of team performance. The company provided the measure for the quarter ending after I administered the surveys.

Control variables. Team size was included as a control variable, as were the type of team and the gender and average age of team members (which was correlated with team type, in that administrative and R&D teams often had older team members than manufacturing teams).

Discriminant validity and reliability. The indicators for each of the independent variable constructs all loaded on the expected factors, with no significant cross-loadings. The rotated factor matrix and reliability scores are displayed in the appendix.

Analysis

Aggregation. Studying team-level variables based on perceptual data collected at the individual level invariably raises the issue of aggregation from the individual-level measures to the team level of analysis (George & James, 1993). Several methods for evaluating the appropriateness of such aggregation exist, among them the within-group interrater reliability statistic (James, Demaree, & Wolf, 1984), later revised to an interrater agreement statistic (James, Demaree, & Wolf, 1993), and the within- and between-analysis approach (Yammarino & Markham, 1992). Both approaches have their strengths and proponents, but in the interest of accuracy, I used both the r statistic developed by James et al. (1984, 1993) and the intraclass correlation coefficient (ICC) (Shrout & Fleiss, 1979).

Statistical procedure. I used moderated multiple regression to test for the expected interaction between individual autonomy and task interdependence, as recommended by Baron and Kenny (1986). Interactions were plotted by deriving separate equations for the high and low (1 *SD*) conditions, as recommended by Aiken and West (1991). To test for statistical significance, I examined both the beta weight of the interaction term and the change in the R of the cumulative model (Aiken & West, 1991). To test for the simultaneous effects of multiple interactions, I simultaneously included the terms in the same regression model. Because the regression analysis involves multiple interactions, the main-effect terms and product terms may be

Table 1
Means, Standard Deviations, and Intercorrelations

	M	*SD*	1	2	3	4	5	6	7
1. Individual autonomy	5.59	1.52	1.00						
2. Team autonomy	4.67	1.38	–.22*	1.00					
3. Task interdependence	5.88	1.89	–.03	–.06	1.00				
4. Performance	3.61	0.95	.13	.25*	–.13	1.00			
5. Team size	7.45	1.79	–.12	–.09	.08	–.26*	1.00		
6. Average age	32.41	6.44	.16	.05	.03	.18	–.04	1.00	
7. Team type	1.53	1.01	.23*	.07	.04	–.05	–.03	.36**	1.00
8. Gender	0.68	0.28	–.10	–.03	.01	–.19*	.27**	–.09	–.23*

*$p < .05$
**$p < .01$

highly correlated, raising the issue of multicollinearity, which can make regression coefficients unstable and difficult to interpret (Cohen & Cohen, 1983). Variables in the study were therefore centered to reduce potential multicollinearity (Aiken & West, 1991).

Results

An overview of the data (means, standard deviations, and intercorrelations) is displayed in Table 1.

Aggregation and Multicollinearity

The Team-Level Autonomy Scale has an r_{wg} of .90 and an ICC of .86, the Task Interdependence Scale has an r_{wg} of .91 and an ICC of .88, and the Individual Autonomy Scale has an r_{wg} of .93 and an ICC of .90, indicating that aggregation is appropriate in all cases (regardless of which approach is used). To check for multicollinearity, I calculated variance inflation factor (VIF) scores for the variables in each regression model. All VIF scores are below 2 (even with a three-way interaction included), indicating that multicollinearity is not a problem in the analysis.

Hypothesis Testing

To test Hypothesis 1, I examine the significance of the hypothesized interaction between team-level autonomy and task interdependence. The beta weight for the interaction of team autonomy and task interdependence is significant ($t = 2.77$, $p < .01$), as shown in Table 2. The interaction is also graphed and is shown in Figure 1. As can be seen, there appears to be a positive relationship between team autonomy and team performance under conditions of high task

Table 2
Regression Results With Team Performance Dependent Variable

	Step 1		Step 2		Step 3		
Independent Variables	β	*SE*	β	*SE*	β	*SE*	
Team type	–.15	.104	–.16	.094	–.16	.094	
Average age	.23	.016*	.17	.014	.15	.015	
Team size	–.20	.055	–.09	.052	–.09	.053	
Gender	–.16	.361	–.15	.325	–.16	.327	
Individual autonomy	–.13	.101	–.10	.092	–.10	.092	
Team autonomy	.19	.098*	.13	.093	.14	.093	
Task interdependence	–.11	.094	–.12	.086	–.14	.088	
Task Interdependence × Team Autonomy			.26	.086**	.23	.093*	(Hypothesis 1)
Task Interdependence × Individual Autonomy			–.26	.086**	–.27	.086**	(Hypothesis 2)
Individual Autonomy × Team Autonomy			–.19	.092*	–.21	.094*	(Hypothesis 3)
Individual Autonomy × Team Autonomy × Task Interdependence					–.10	.086	
Multiple *R*	.46		.61		.62		
Adjusted R^2	.14		.30		.30		
R^2 change			.17**		.01		
Regression *F*	3.05**		4.81**		4.46**		
df	7, 81		10, 78		11, 77		

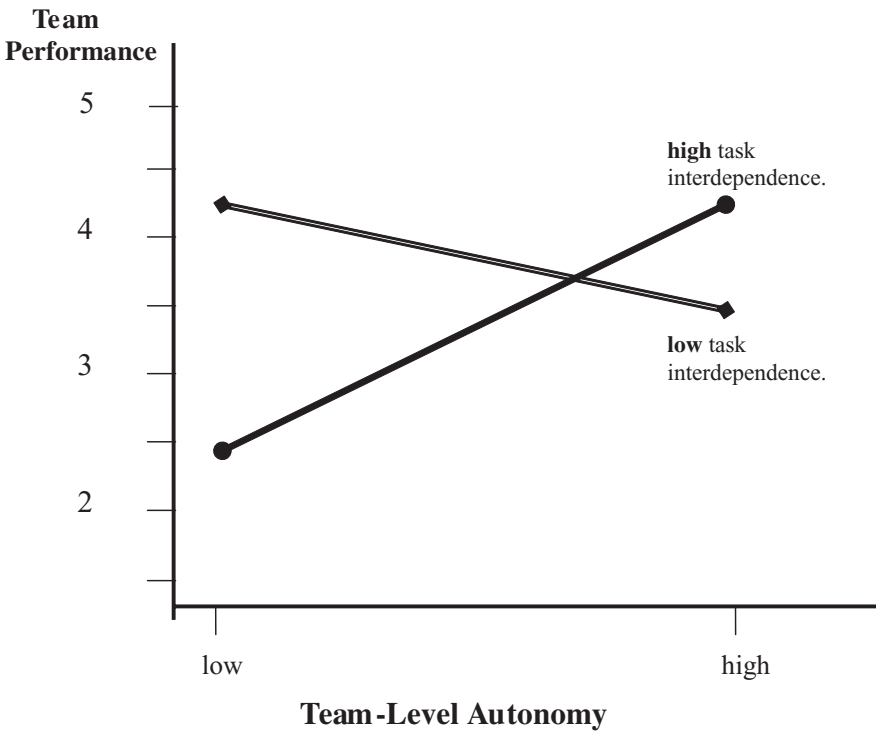
*$p < .05$
**$p < .01$

interdependence and a negative relationship between team autonomy and team performance under conditions of low task interdependence. This provides strong support for Hypothesis 1 and is consistent with previous findings.

For Hypothesis 2, the regression results in Table 2 also show a significant interaction effect for Individual Autonomy × Task Interdependence ($t = –2.66$, $p < .01$). The graph of the interaction between individual autonomy and task interdependence is shown in Figure 2. There appears to be a negative relationship between individual autonomy and team performance under conditions of high task interdependence, as well as a positive relationship between individual autonomy and team performance under conditions of low task interdependence. This provides strong support for Hypothesis 2 and is not only consistent with my expectations but also illustrates how both individual and team autonomy can interact simultaneously with task interdependence, but in very different ways.

For Hypothesis 3, the regression results in Table 2 also show a significant interaction effect for Individual Autonomy × Team Autonomy ($t = –2.03$, $p < .05$). Figure 3 shows the interaction between individual autonomy and team autonomy and illustrates the expected interaction when task interdependence is held constant. Higher performance is associated with either the combination of high individual autonomy and low team autonomy or the combination of low individual autonomy and high team autonomy. Lower performance, on the other hand, is asso-

Figure 1
Results—The Interaction of Team-Level Autonomy and Task Interdependence (Hypothesis 1)

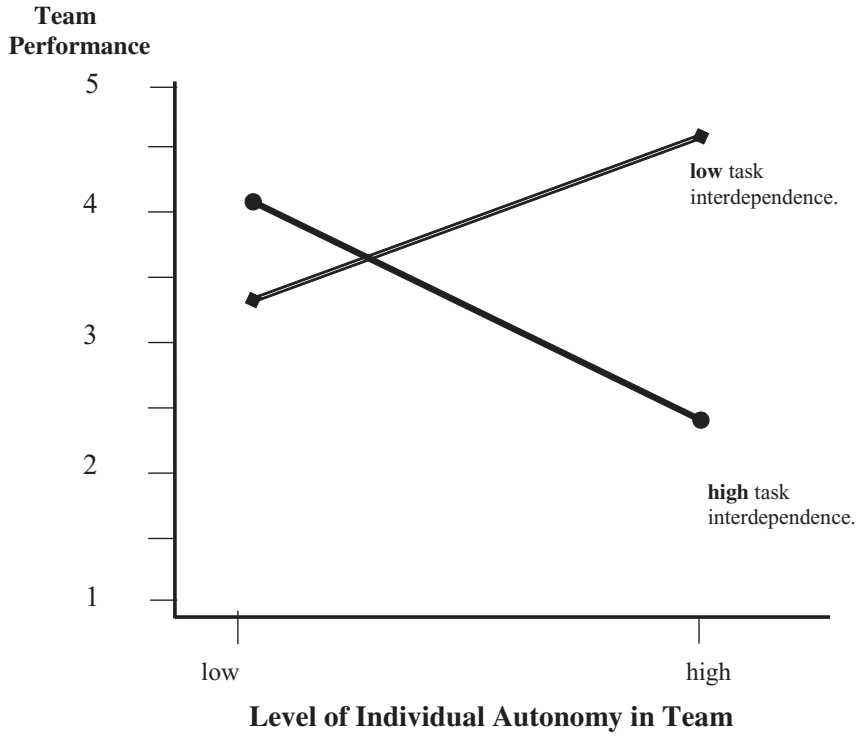


Low task interdependence: $y = -.34x + 3.70$
High task interdependence: $y = .58x + 3.28$

ciated with the combination of either high levels of both or low levels of both. This provides support for Hypothesis 3 as well as my expectations surrounding the nature of the interaction.

Finally, although not explicitly hypothesized, I also explored the three-way interaction between task interdependence, individual autonomy, and team autonomy. To do so, I added another regression equation with the three-way multiplicative term included (shown in Step 3 in Table 2). Neither the interaction term beta weight nor the change in R^2 from the previous equation are significant, indicating that there is no detectable three-way interaction in these data.

Figure 2
Results—The Interaction of Individual Autonomy and Task Interdependence (Hypothesis 2)

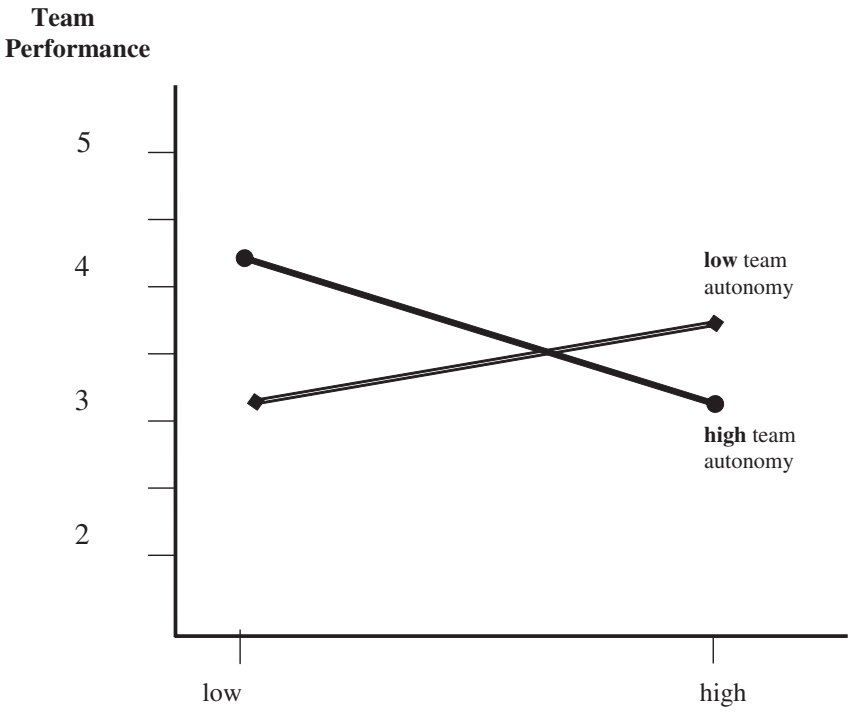


Low task interdependence: $y = .34x + 3.70$
High task interdependence: $y = -.53x + 3.28$

Discussion

Following a structural contingency approach, I predicted that team performance would be influenced by the combination of individual- and team-level autonomy, and that the effects of both on team performance depend on the level of task interdependence. My findings support these expectations. Specifically, teams characterized by high task interdependence performed better with high levels of team autonomy, but worse with high levels of individual autonomy. In contrast, teams characterized by low task interdependence performed worse with high lev-

Figure 3
Results—The Interaction of Individual Autonomy and Team Autonomy (Hypothesis 3)



Low team autonomy: $y = .17x + 3.32$
High team autonomy: $y = -.37x + 3.66$

els of team autonomy, but better with high levels of individual autonomy. In addition, I demonstrate that team performance was influenced by the combination of team-level and individual-level autonomy in the team. This suggests that team performance is not only influenced by the combination of individual- and team-level autonomy but that the optimal combination may depend on the level of task interdependence in the team.

The finding that team performance depends on the combination of individual and team autonomy contributes significantly to existing theory. There is a relative dearth of theory surrounding the effects of autonomy on team performance. Empirically, studies of teams with

autonomy (such as self-managed teams, autonomous work groups, etc.) are often categorical and qualitative and usually neither theorize nor test a particular relationship or mechanism. Although some theory linking individual autonomy to individual job performance exists (Hackman & Oldham, 1976), little research has related individual autonomy to performance in or of teams. Furthermore, no theory or empirical work has explored the possible interaction between individual- and team-level autonomy, or their combined effect on performance.

Although many researchers have suggested that tension exists between individual and team autonomy (Langfred, 2000a; Markham & Markham, 1995; Neck et al., 1996; Uhl-Bien & Graen, 1998), none have explained exactly how it might operate. By specifying task interdependence's moderating effect on both variables simultaneously, I have significantly advanced the theoretical basis for understanding autonomy in teams and have also revealed implications for both research and practice.

In terms of implications for research, I have (a) advanced theory in the area of autonomy as well as the contingency approach to team performance (Fry & Slocum, 1984) by illustrating the importance of cross-level research (Rousseau & House, 1994) and (b) demonstrated how contingencies can operate at multiple levels in the organizations simultaneously. In terms of research on team design, the disordinal interactions I analyzed also illustrate the importance of achieving "fit" (Drazin & Van de Ven, 1985) as well as avoiding "misfit" (Greshov, 1989). For teams to be successful, the allocation of autonomy at the team level has to be considered in concert with the allocation of autonomy at the individual level and in the context of the overall task interdependence associated with the team's task. The suggestion that the combination of high individual and high team autonomy may not be ideal (shown in Figure 3) is particularly important for the design of self-managed teams, in which such combinations are often found (Langfred, 2000a).

There are several practical implications to my findings as well. The design implications for teams suggest that the allocations of individual- and team-level autonomy should largely be determined by the level of task interdependence in the team. If task interdependence is driven by task technology and cannot easily be changed, then managers should be aware of the contingent nature of the effects of individual and team autonomy on performance to avoid dysfunctional allocations and team designs. If task interdependence is not fixed, however, then it would be possible to design teams with high individual autonomy or high team autonomy (whichever is preferable for the organization), which would then determine the optimal corresponding level of task interdependence. Thus, from a managerial perspective, not understanding the contingencies and the importance of "fit" can lead to dysfunctional team designs and can harm organizational effectiveness. However, a number of unanswered questions remain, as well as possible exceptions and additional contingencies.

Boundary Conditions, Limitations, and Future Directions

There are several important limitations to this study, including causal inference and generalizability. Issues of causality raised by the cross-sectional nature of my data suggest the importance of developing research designs that allow better causal inference. Such studies

might be based on multiple observations over time in a field setting, or a quasi-experimental design, or ideally would take place in a controlled laboratory setting. Establishing causal relationships in a controlled setting could provide substantial insight and is highly recommended as a future direction for research, particularly given the lack of established theory in research on autonomy in teams. One of the benefits of a field setting is the increased generalizability. Although my study was conducted in a field setting across multiple sites, generalizability is still limited. Exploring these interactions in cross-cultural settings and in different industries, for example, would extend the generalizability of the findings.

It is also important to acknowledge that the benefits of various combinations of individual- and team-level autonomy described in this article (in Figure 3) are not meant to imply that other combinations would always be dysfunctional. My findings are not going to generalize to all organizational contexts, tasks, or even types of teams. For example, the combination of high individual- and high team-level autonomy could, under some circumstances, possibly be quite effective. Some multifunctional teams may be a particularly good example of this—perhaps consulting teams or medical research teams. Similarly, there may be particular situations or organizational settings in which the combination of low individual and low group autonomy is the most effective team design for a given task. Exploring such particular types of teams and investigating the circumstances under which such combinations might result in high performance is another avenue for future research. Thus, there is a variety of different boundary conditions that both limit the generalizability of these findings and point to possible future directions to extend this research. The relative lack of theory on how autonomy operates in teams provides an area rich in research opportunities.

By demonstrating that team performance depends on the combination of individual and team autonomy, contingent on task interdependence, I have advanced theory and provided significant practical managerial value. Whereas past researchers have studied the effects of individual autonomy on individual performance and the effects of team autonomy on team performance, I have provided a new understanding of team performance by studying both simultaneously. My findings confirm the expectations of other researchers but do so by developing and testing new theory and expanding our understanding of team design and performance.

APPENDIX
Factor Analysis Results (N = 461)

	Individual (n = 461)			Team (n = 91)		
	1	2	3	1	2	3
I am free to decide how to go about getting my work done.	.675			.933		
I am free to choose how to carry out my work.	.642			.845		
I am able to choose the way to go about my work in the team.	.886			.951		
I can decide when to do particular activities as part of my work in the team.	.884			.967		
I have control over the scheduling of my work in the team.	.792			.883		
I have some control over the sequencing of my activities in the team.	.856			.938		
I am able to decide for myself what my objectives are.	.464			.621		
I have some control over what I am supposed to accomplish in the team.	.898			.961		
I can influence how I am evaluated, so I can emphasize some aspects of what I do and play down others.	.650			.870		
The team works best when we coordinate our work closely.		.780			.918	
Team members have to work together to get group tasks done.		.762			.909	
The way individual members perform their jobs has a significant impact on others in the team.		.733			.961	
My work cannot be done unless other people do their work.		.856			.948	
Most of my work activities are affected by the activities of other people on the team.		.881			.968	
Team members frequently have to coordinate their efforts with each other.		.473			.951	
We cannot complete a project unless everyone contributes.		.892			.966	
The team is free to decide how to go about getting work done.			.710			.885
The team is free to choose the method(s) to use in carrying out work.			.907			.956
The team is able to choose the way to go about its work.			.488			.660
The team can decide when to do particular activities.			.878			.967
The team has control over the scheduling of teamwork.			.817			.916
The team has control over the sequencing of team activities.			.897			.951
The team is able to decide team objectives.			.718			.887
The team has some control over what it is supposed to accomplish.			.635			.810
Cronbach's α (scale reliability)	.90	.88	.91	.95	.86	.95

Note: Factor loadings of less than .300 are not displayed.

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