Online Supplement

In an effort to understand better the processes within groups that experienced turnover, we analyzed data from groups that experienced turnover separately from those that did not and investigated the effects of communication to and from the new member. We provide detail here on the directionality of communication to the new member and its effects on the group's transactive memory system (TMS) and performance.

Supplemental Table S.1 provides similar OLS models to those presented in Table 2 of the manuscript. As there were three turnover conditions, contrast codes were developed to compare groups using two variables that isolated the effects of centralization and the position of the turned over member (Cohen, Cohen, West, and Aiken 2013). These models compare the effects of centralized versus decentralized groups that experienced turnover with the first contrast coded variable and the effects of turnover in the peripheral versus central positions for the centralized groups in the second contrast coded variable.

As can be seen from Models 1-3 in Table S.1, *dyadic communication*, *dyadic communication to the new member*, and *dyadic communication from the new member* were higher in centralized than decentralized groups. There were no significant differences, however, in these three measures of communication as a function of whether turnover occurred in the peripheral or central positions for centralized groups. *Dyadic communication* (see Model 5), *communication to the new member* (see Model 6), and *communication from the new member* (see Model 7) were all associated with increases in the strength of a group's TMS. When both *communication to the new member* and *from the new member* were included in Model 8, *communication to the new member* was significant, whereas communication *from the new member* was not. Thus, the effect of incumbent members communicating to the new members is a more robust predictor of TMS than communications from the new member for groups that experienced turnover.

Model 9 indicates that network centralization was negatively related to errors, but network centralization was not significant when *dyadic communication* was included in Model 10. Model 11 indicates that TMS was a significant predictor of errors and reduces the effect of *dyadic communication* to a non-significant level when both predictors were included in the model. These findings reinforce the results reported in the manuscript: For groups that experienced turnover, network centralization affects errors through its influence on *dyadic communication* and TMS.

Reference

Cohen, J., P. Cohen, S. G. West and L. S. Aiken 2013. Applied multiple regression/correlation analysis for the behavioral sciences. 3rd ed. Lawrence Erlbaum Associates, Mahweh, NJ.

Supplemental Table S.1

Models of Communication, Transactive Memory Systems, and Errors for Groups that Experienced Turnover

	Dyadic Comm.	Dyadic Comm. (To New)	Dyadic Comm. (From New)	TMS	TMS	TMS	TMS	TMS	Errors	Errors	Errors
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Centralized (.33) vs Decentralized (-.67)	.92***	.60***	.40***	.48	-2.82†	-2.23	-1.36	-2.47†	-1.64*	-.48	-.91
	(.15)	(.11)	(.10)	(1.26)	(1.43)	(1.39)	(1.31)	(1.39)	(.70)	(.85)	(.86)
Centralized CT (.50) vs Centralized PT (-.50)	-.10	-.02	.02	-1.35	-.99	-1.27	-1.42	-1.34	-.01	-.14	-.29
	(.17)	(.13)	(.12)	(1.44)	(1.31)	(1.33)	(1.35)	(1.32)	(.81)	(.78)	(.76)
Dyadic Communication					3.59***					-1.27*	-.71
					(.94)					(.56)	(.61)
Dyadic Communication to New Member						4.52***		3.20*			
						(1.29)		(1.55)			
Dyadic Communication from New Member							4.55**	2.56			
							(1.44)	(1.70)			
TMS											-.15*
											(.07)
R^2	.37	.31	.20	.02	.20	.18	.15	.21	.08	.15	.21
N	67	67	67	67	67	67	67	67	67	67	67

Note 1. Values in parentheses below each coefficient are standard errors.
Note 2. The numbers in parentheses next to the variable names indicate the value of the contrast code developed to control for the effects of both centralization and the position of the departing member. A decentralized group would have a -.67 for the first variable and a 0 for the second.
Note 3. Though Dyadic Communication To and From New Member are correlated at .67, The VIF statistic indicates that collinearity was not a problem in Model 8. The highest VIF statistic in the model was 2.13, well below the typical threshold of 10.
† $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$