© Academy of Management Journal
2007, Vol. 50, No. 3, 623–643.

LEVEL AND DISPERSION OF SATISFACTION IN TEAMS: USING FOCI AND SOCIAL CONTEXT TO EXPLAIN THE SATISFACTION-ABSENTEEISM RELATIONSHIP

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We develop an integrative theory regarding the effects of mean levels and dispersion of satisfaction predicting absenteeism. Differential interactive predictions are derived for two satisfaction foci and tested in two distinct samples. Among student teams, absenteeism from team meetings was highest when team (internally focused) satisfaction mean and dispersion were both lower, but low when course (externally focused) satisfaction mean and dispersion were both lower. Moreover, given lower dispersion, the mean team satisfaction-absenteeism relationship appeared stronger, whereas the same relationship involving course satisfaction appeared weaker than meta-analyzed individual-level relationships. We replicated these results among manufacturing teams using team and job satisfaction foci.

The nature of the relationship between satisfaction and withdrawal behaviors such as absenteeism continues to captivate researchers. Yet most of the studies of the satisfaction-absence relationship have been conducted at the individual level, with meta-analyses indicating a negative and moderate relationship (Hackett, 1989; Harrison, Newman, & Roth, 2006). Although informative, these cumulative results and near-singular focus on the individual level leave at least two fundamental issues unresolved. First, despite wide acceptance of the premises that workplace interactions play a substantial role in the development of individuals' attitudes and behaviors (e.g., Bliese & Halverson, 1998; Salancik & Pfeffer, 1978) and that absenteeism has social and normative roots (e.g., Gellatly, 1995; Harrison & Martocchio; Mathieu & Kohler, 1990), the literature generally fails to capture the social-contextual underpinnings of the satisfaction-absenteeism relationship, prompting a need for more thorough investigations (Johns, 2006).

Second, and in line with a social-contextual perspective, it is uncertain whether the satisfaction-absenteeism findings obtained at the individual level would be expected to materialize at higher levels of analysis, such as the team level. Led by Morgeson and Hofmann (1999), Kozlowski and Klein (2000), and Chen, Mathieu, and Bliese (2004), there is a growing interest in the question of whether typical individual-level findings are representative of corresponding higher-level relationships. Concerning satisfaction relationships, Judge, Thoresen, Bono, and Patton wrote, "Comparing the relative predictive power of job satisfaction at various levels of analysis would be a worthwhile topic for future research, as would further theoretical development underlying expected differences" (2001: 391).

At first glance, it might seem reasonable to expect a vertical synthesis of the satisfaction-absenteeism relationship—that is, mean levels of satisfaction in teams would relate negatively to mean levels of absenteeism in teams. However, Ostroff and Harri-

We thank Jason Colquitt, Dan Brass, Philip Podsakoff, Krish Muralidhar, Jackie Thompson, Associate Editor Brad Kirkman, and three anonymous reviewers for their assistance. Partial funding was provided by the Teaching and Learning Center and the Forester Professorship fund at the University of Kentucky.

son (1999) argued that social or normative team factors might cause this relationship to differ at the team level of analysis, whereas Rentsch and Steel (2003) dissuaded researchers from assuming that individual-level absence theories would necessarily transfer across levels. For example, individuals enjoy interacting with others who hold similar psychological characteristics such as attitudes, and this attraction may occur whether shared attitudes are negative or positive (Harrison, Price, Gavin, & Florey, 2002). Thus, although research indicates a negative relationship between satisfaction and absenteeism at the individual level, a common level of dissatisfaction among team members may render those members less rather than more prone to absenteeism if they develop a sense of unity in the face of the dissatisfying stimulus. Indeed, it is possible that some of the individuals included in meta-analyzed studies have indicated low job satisfaction but have worked alongside others with similarly low job satisfaction. Common in-group dynamics (Brewer & Brown, 1998) may have attenuated absenteeism levels in these studies, leading to attenuated meta-analyzed relationships between satisfaction and absenteeism. It is clear, then, that both the mean level of satisfaction and the distribution or dispersion of satisfaction are important to consider if a social-contextual view of the satisfaction-absenteeism relationship is to be taken.

Thus, new theory development and empirical testing that accounts for the social context in which satisfaction is experienced by investigating relationships at a higher level of analysis is warranted. We take steps in this direction here. Specifically, we address whether the negative but moderate relationship found in individual-level meta-analyses (Hackett, 1989; Harrison et al., 2006) extrapolates to the team level and, further, we explore how levels of similarity might differ depending on satisfaction foci and levels of dispersion. Previous theoretical (Lindsley, Brass, & Thomas, 1995) and empirical (Kirkman & Rosen, 1999; Prussia & Kinicki, 1996) work has addressed likely similarities in the function of constructs such as empowerment, efficacy, and affective evaluations across levels of analysis. In keeping with these studies, our focus is not on an explicit within-study comparison of individual- and team-level relationships. Rather, we adopt *functional homology* as a guiding perspective (e.g., Chen et al., 2004) and attend to how homology, or similarity in the functional relationship between satisfaction and absenteeism across levels, is likely to manifest. Specifically, we compare our team-level results with the individual-level results previously obtained via meta-analysis. Thus, we specifically assess the *function* of satisfaction in predicting absenteeism at the team level of analysis when dispersion levels and foci are taken into account, rather than how its specific *structure* may or may not differ (Morgeson & Hofmann, 1999).

We define *dispersion* as differences in satisfaction among team members, a definition that is consistent with Chan's (1998) typology. According to Chan (1998), dispersion is a group-level property consisting of variability originating at the individual level that may include mutable underlying attributes (e.g., satisfaction levels; see also Jackson, May, and Whitney [1995] and Milliken and Martins [1996]). This view is also consistent with research conceptualizing within-team attitudinal differences as a form of "deep-level," or nonvisible, diversity (Harrison, Price, & Bell, 1998; Kirkman & Shapiro, 2005). We define and differentiate satisfaction foci following Siders, George, and Dharwadkar's (2001) dichotomy of internal/external commitment foci. That is, we argue that the joint effects of mean and dispersion levels of team member satisfaction with fellow teammates (internally focused) and team member satisfaction with other people or entities exclusive of fellow teammates (externally focused) differentially predict team absenteeism levels.

The article is organized as follows. First, we review research that has examined attitudinal means and dispersion in relative isolation and argue for the importance of considering them simultaneously when examining relationships involving satisfaction at the team level of analysis. Second, to provide additional clarity and integration, we argue that the nature of the satisfaction-absenteeism relationship differs depending on internal or external satisfaction focus. Third, we develop an integrative framework and hypothesize how mean and dispersion levels of internally focused (team) and externally focused (course or job) satisfaction levels relate to absenteeism. This framework suggests that levels of functional homology with meta-analyzed individual-level relationships vary depending on levels of dispersion and satisfaction foci. Fifth, we report tests of the hypotheses in a study of classroom teams and replication tests using manufacturing teams. Finally, we discuss implications of the results for theory and management practice.

THEORETICAL FOUNDATION AND HYPOTHESIS DEVELOPMENT

As noted above, meta-analytic evidence suggests that satisfaction and absenteeism are negatively related at the individual level (Hackett, 1989; Harrison et al., 2006). Although this relationship has received little research attention at the team level,

there is similar reason to expect that average or mean satisfaction levels within a team will relate negatively to mean levels of absenteeism. For example, Ostroff (1992) and Ryan, Schmit, and Johnson (1996) found positive relationships between mean levels of satisfaction and unit-level performance.

The research on attitudinal dispersion in teams also provides a rather consistent pattern of evidence. For example, the deep-level diversity perspective suggests that lower levels of satisfaction dispersion are associated with greater cohesiveness, with relationships being stronger among longer-tenured teams (Harrison et al., 1998). Teams with lower dispersion on associated characteristics are also argued to have greater social integration, an enhanced sense of common in-group identity, and reduced fragmentation (Boone, Van Olffen, & Van Witteloostuijn, 2005; Brewer & Brown, 1998; Harrison et al., 2002), all factors that should be associated with lower team absenteeism levels (Gellatly, 1995; Somers, 1995).

Few studies simultaneously examine mean levels and dispersion of team characteristics, despite growing recognition that models may be underspecified if both are not incorporated (e.g., Kirkman & Shapiro, 2005). Indeed, from a broad perspective, the results from studies focusing only on mean attitudinal levels (Ostroff, 1992) or only on dispersion (e.g., Harrison et al., 1998) are not fully compatible and have somewhat paradoxical (Poole & Van De Ven, 1989) predictions. On the one hand, the literature suggests that lower mean levels of satisfaction in teams should be associated with inferior team-level outcomes, including higher absence levels. Yet research also suggests that lower dispersion or greater agreement about satisfaction is associated with more optimal group outcomes. This latter conclusion holds presumably for all mean levels of satisfaction (low to high), a view that is not fully compatible with the mean-level results. An open question, for example, is what absenteeism levels would be expected when mean levels and dispersion of satisfaction within a team are simultaneously low. Addressing this issue, Weeks recently made the intriguing suggestion that lower levels of job satisfaction may not always lead to negative outcomes such as absenteeism, because if team members *share* a sense of job dissatisfaction, "these complaints can help strengthen social bonds and build a sense of community" (2004: 20).

A plausible reason for this lack of integration is the fact that many unit-level studies are based on a *direct consensus* approach to aggregation, whereby minimum standards of within-group agreement must be met for aggregation (Gonzalez-Roma, Peiro, & Tordera, 2002; Kozlowski & Klein, 2000; Ostroff & Bowen, 2000). Although informative, these studies ignore potential effects of attitudinal dispersion or "climate strength" by minimizing within-group variation in predictors (Chan, 1998). A growing number of authors have argued that direct consensus models have hidden the substantive importance of dispersion in predicting work-related outcomes (Bliese & Halverson, 1998; Boone et al., 2005; Brown, Kozlowski, & Hattrup, 1996; Chan, 1998; Kirkman & Shapiro, 2005).

In a team context, individual satisfaction levels are experienced relative to the satisfaction levels of other team members. Because satisfaction is thought to be influenced by both social-contextual and dispositional elements (e.g., Bowling, Beehr, Wagner, & Libkuman, 2005; Staw, Bell, & Clausen, 1986), these satisfaction levels may be widely or narrowly dispersed. Hackman (1992) argued, for example, that team members may have different satisfaction levels because the stimuli they experience are either ambient or discretionary. In particular, ambient stimuli (commonly experienced by everyone on a team) should lead to less dispersion in satisfaction levels, whereas discretionary stimuli (experienced differently by individuals on a team) might lead to greater dispersion in satisfaction. Other scholars have focused on satisfaction's dispositional roots (Staw et al., 1986), which suggests a preexisting level of natural dispersion among team members. Still others have viewed social information processing (Salancik & Pfeffer, 1978) or contagion processes (Mason & Griffin, 2002) as resulting in *decreased* satisfaction dispersion in teams over time. For example, Bowling and colleagues recently highlighted the stability of job satisfaction yet went on to claim that it is influenced by both dispositions and workplace events. Given these dispositional and social-contextual determinants, the need to examine both mean and dispersion levels of satisfaction is apparent. Our theoretical development accounts for both simultaneously and suggests conditions under which different levels of homology might be expected in comparing team-level satisfaction-absenteeism relationships to typical individual-level relationships (Harrison et al., 2006).

In particular, by examining the satisfaction-absenteeism relationship at the team level, we extend (1) research linking mean levels of satisfaction to aggregate outcomes (e.g., Ostroff, 1992), (2) deep-level diversity research (e.g., Harrison et al., 1998), (3) team climate research (e.g., Schneider, Salvaggio, & Subirats, 2002), and (4) theories of common in-group identity or "community of fate" (e.g., Brewer & Brown, 1998; Shaw, Duffy, & Stark, 2000).

A key to integrating these literatures lies in the consideration of attitudinal focus (i.e., internal or external). A growing body of work suggests the necessity of differentiating between internal and external attitudinal foci (e.g., Bishop & Scott, 2000; Siders et al., 2001). For example, Siders and colleagues (2001) found that employees' commitment to their supervisor and organization related to organizationally relevant performance outcomes, whereas employees' commitment to customers related to customer-relevant outcomes. The authors viewed their distinction between commitment foci as useful in explaining the typically weak relationships found between broader commitment measures and performance. Building on Becker's (1992) work, Clugston, Howell, and Dorfman (2000) also argued that it is necessary to differentiate not only among various bases, but also among various foci of commitment.

We propose two possible patterns of relationships between absenteeism and mean and dispersion levels of team member satisfaction. Figure 1 graphically depicts the two proposed patterns. Specifically, Figure 1a shows the pattern that is more predictive of absenteeism when internally focused satisfaction is considered, whereas Figure 1b's pattern is more predictive when externally focused satisfaction is considered. In terms of our homology perspective, Figure 1a (an internal satisfaction focus) suggests that when dispersion is lower, a stronger relationship between satisfaction and absenteeism is expected at the team level than has typically been found at the individual level (e.g., Hackett, 1989), whereas a weaker relationship that is more homologous with individual-level findings is expected when dispersion is higher. Figure 1b also suggests, similarly to individual-level findings, a weak relationship between mean levels of satisfaction and absenteeism when dispersion is higher. However, satisfaction and absenteeism are not expected to be related when dispersion is lower, suggesting a lack of homology with what has typically been found at the individual level.

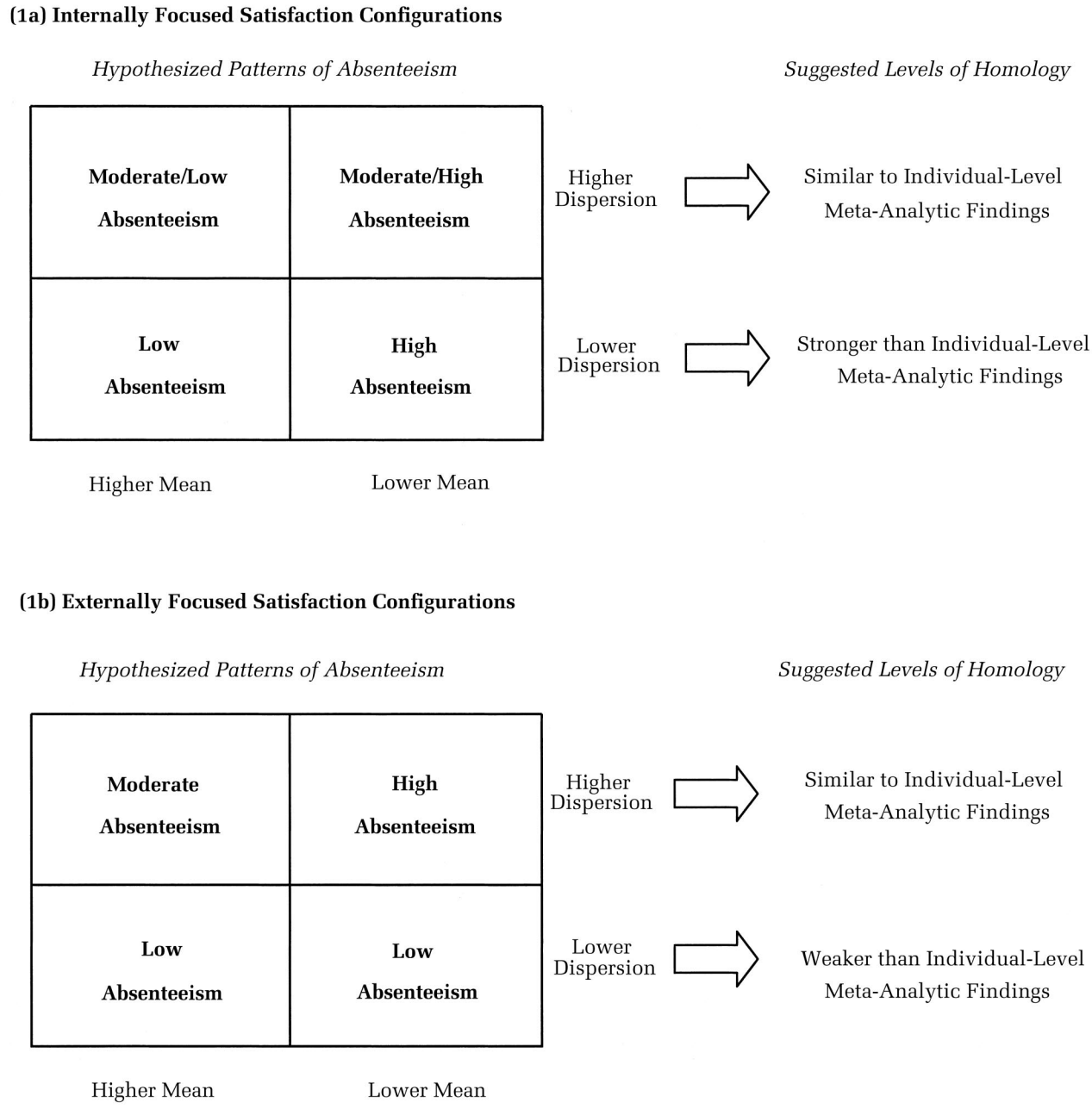
In team-based work situations, individuals clearly develop attitudes toward their fellow team members as well as toward their broader job or organization. Thus, in Study 1 (a sample of student teams), we examined team members' satisfaction with others on their team (internally focused satisfaction) as well as their satisfaction with the course they were taking (externally focused). In Study 2 (manufacturing teams), we again examined team members' satisfaction with others on their team (internally focused) and also examined members' satisfaction with their jobs (externally focused). In the ensuing sections, we discuss how prior theory and research support the predicted patterns.

Internally Focused Satisfaction Configurations and Absenteeism

The few studies that have looked at both mean and dispersion levels of team characteristics have done so primarily through a team climate lens (e.g., Colquitt, Noe, & Jackson, 2002; Gonzalez-Roma et al., 2002; Schneider et al., 2002). This research addresses the possibility that lower dispersion of team characteristics (i.e., greater climate strength) *augments* the relationship between mean levels and outcomes. For example, Colquitt et al. (2002) found that a strong procedural justice climate (low dispersion of justice) heightened the negative effects of low mean levels of procedural justice. This example, and others (e.g., Boone et al., 2005; George, 1990) provides evidence suggesting the negative relationship between satisfaction and absenteeism will be homologous at the team level and that this relationship will be even stronger when satisfaction dispersion is low. More generally, this research is similar to the classic work showing that the relationship between cohesion and team performance is not straightforward (Stodgill, 1972) but depends on task norms, with cohesion leading to more negative performance outcomes if task norms are low (e.g., Gammage, Carron, & Estabrooks, 2001; Goodman, Ravlin, & Schminke, 1987).

A closer look at these studies, however, reveals a key to their interpretation. Specifically, the Colquitt et al. (2002) study and other similar studies have tended to focus on perceptions related to fellow team members. Extending these findings, we argue that this pattern—stronger relationships between satisfaction and absenteeism when dispersion is lower—will hold only when internally focused satisfaction (i.e., team satisfaction) is considered. For example, per Figure 1a, if team members all tend to be dissatisfied with each other (lower team satisfaction mean, lower dispersion), the least amount of social integration seems likely, and it is reasonable to expect an augmentation effect of dispersion on means that is such that absenteeism among those team members will be relatively higher. That is, although the deep-level diversity literature would imply higher levels of social integration when satisfaction diversity is low (e.g., Harrison et al., 2002), we argue that consensus does not always translate into solidarity, and in this case social integration should be lower because the lower satisfaction dispersion concerns negative attitudes toward *fellow teammates*. In this scenario, lower mean levels of team satisfaction should be

FIGURE 1
Absenteeism Levels Predicted by Internally and Externally Focused Satisfaction Configurations in Teams, with Suggested Levels of Associated Functional Homology



associated with *higher* absenteeism. In contrast, when teammates all tend to report high levels of satisfaction with their team (higher mean, lower dispersion), social integration should be higher, resulting in *lower* absenteeism.

Finally, evidence from team climate research suggests that the relationship between mean levels of internally focused satisfaction and absenteeism will be weaker when satisfaction dispersion among teammates is higher, a finding that would be consistent with typical individual-level findings. In particular, a higher level of team satisfaction dispersion will result in a moderately negative satisfaction-absenteeism relationship (see the top two cells of Figure 1a). Thus, we propose:

Hypothesis 1. Mean and dispersion levels of internally focused (i.e., team) satisfaction ex-

hibit a joint relationship with absenteeism that is such that mean team satisfaction exhibits a weaker, negative relationship with absenteeism when dispersion is higher and a stronger, negative relationship with absenteeism when dispersion is lower.

Externally Focused Satisfaction Configurations and Absenteeism

Despite advances in the team climate literature, its basic findings are not fully compatible with the main effects of attitudinal agreement proposed in other literatures (e.g., the deep-level, or nonvisible, diversity literature). In particular, we expect the combined effects of mean and dispersion levels of *externally focused satisfaction* (i.e., course or job satisfaction) to produce a differential pattern of findings (see Figure 1b).

First, we propose, in contrast to the augmentation effect resulting from lower internally focused satisfaction dispersion, a neutralization effect, resulting from lower externally focused satisfaction dispersion, on the relationship between mean externally focused satisfaction and absenteeism, so that social integration is higher and absenteeism lower over *all mean levels of satisfaction* when dispersion is lower. In particular, the lower left quadrant of Figure 1b shows a predicted lower level of absenteeism when mean levels of externally focused (i.e., job or course) satisfaction are higher and dispersion is lower. This combination suggests that lower absenteeism results from favorable evaluation of a context (e.g., higher mean job satisfaction), stronger in-group identity resulting from a common attitude toward an external entity, and increased social integration resulting from a lack of deep-level diversity.

Unlike Figure 1a, Figure 1b also shows predicted low absenteeism when mean levels and dispersion of externally focused satisfaction are both lower (lower right quadrant). This prediction is grounded in the deep-level diversity and common in-group identity literatures (Brewer & Brown, 1998; Harrison et al., 1998). In addition, the community of fate perspective suggests that lower dispersion neutralizes mean-level effects, despite lower mean satisfaction levels (Shaw et al., 2000). When individuals within a team hold uniformly unfavorable attitudes toward an external entity that exists beyond their immediate experience in the team (such as their jobs), in-group salience likely increases, and they may become more committed to each other in an attempt to deal effectively with the common enemy. This consequence is similar in nature to the lower performance that might result from highly cohesive teams if performance norms are low. In essence, this argument suggests that lower job or course satisfaction dispersion can "compensate" for lower mean levels of a characteristic (e.g., Barsade, Ward, Turner, & Sonnenfeld, 2000; Harrison et al., 2002; Harrison & Klein, in press). Thus, instead of enhancing the negative effects of lower mean levels of externally focused satisfaction, as the team climate literature would indicate, lower dispersion should create team solidarity, foster the formation of a stronger in-group identity (Brewer & Brown, 1998), and *reduce* absenteeism, regardless of the lower mean satisfaction level. Indeed, Weeks (2004) suggested that people are drawn together through affirmations of shared suffering. This idea further suggests that the potential to commiserate with teammates acts more strongly than the desire to avoid an aversive situation by withdrawing, which is logical given that withdrawal negates one's ability to commiserate with and receive affirmation from those teammates. In such a case then, lower dispersion ameliorates rather than enhances the otherwise deleterious effects of low job satisfaction by providing a functional, expressive outlet for the dissatisfaction. This argument further suggests a lack of homology with typical individual-level relationships when dispersion in externally focused satisfaction is lower.

By contrast, when job or course (externally focused) satisfaction dispersion is higher, common in-group dynamics do not materialize and, thus, identity and community of fate effects are less applicable. Rather, predictions based on the deep-level diversity literature and literature examining mean levels of attitudes can be used to generate absenteeism predictions for these cells ranging from moderate to high (see the top two quadrants of Figure 1b). First, as in the cohesiveness-performance findings reviewed earlier, moderate absenteeism is predicted when an externally focused satisfaction mean and dispersion are both higher. Specifically, the literature relating mean levels of satisfaction to outcomes suggests, on the one hand, a lower level of absenteeism based on the higher mean level of course or job satisfaction in a team (e.g., Ostroff, 1992). On the other hand, dispersion in satisfaction is relatively higher, suggesting lower social integration and thus *higher* absenteeism, according to the deep-level diversity literature.

Combined, these two perspectives suggest overall moderate absenteeism for the mean and dispersion levels represented in the top left quadrant of Figure 1b. Finally, when mean levels of course or job satisfaction are lower and dispersion is higher (top right quadrant of Figure 1b), higher absenteeism is predicted. That is, these teams experience

lower social integration owing to the greater deep-level diversity (Harrison et al., 1998). Lower social integration along with lower course (job) satisfaction contributes to higher absenteeism. Accordingly:

Hypothesis 2. Mean and dispersion levels of externally focused (i.e., job or course) satisfaction exhibit a joint relationship with absenteeism that is such that absenteeism is lower across mean levels of job (course) satisfaction when dispersion is lower, whereas mean levels of job (course) satisfaction exhibit a moderately negative relationship with absenteeism when dispersion is higher.

STUDY 1 METHODS

Sample and Procedures

Participants in this study were 450 upper-division undergraduate students enrolled in 11 different business administration classes at a large southern U.S. university. Participants' average age was 22 years, and 63 percent were male. Participants were guaranteed confidentiality and assured that participation was voluntary. Teams (n = 103) remained intact throughout the term and averaged four members who collaborated on projects in and outside class, including textbook cases, exercises, and written term projects. Questionnaires were administered at the end of the course (16 weeks after teams were formed).

Measures

We operationalized externally focused satisfaction as an individual's evaluation of his or her level of satisfaction with the course. *Course satisfaction* was assessed with three items adapted from Cammann, Fichman, Jenkins, and Klesh's (1983) global job satisfaction measure (seven-point Likert-type scale; α = .89; e.g., "All in all, I am satisfied with this class"). *Team satisfaction* was assessed with three parallel items (α = .85; e.g., "All in all, I am satisfied with my group in this class"). We assessed the convergent validity of the adapted course satisfaction scale in a pilot study of 29 graduate business students. Correlations between this measure and measures adapted from the Minnesota Satisfaction Questionnaire (MSQ; Weiss, Dawis, England, & Lofquist, 1967) and Overall Job Satisfaction Scale (OJS; Brayfield & Rothe, 1951) were .82 and .94, respectively, indicating strong convergence.

Our satisfaction constructs were assessed at the individual level and used to generate descriptive team-level satisfaction mean and dispersion variables (Barrick, Stewart, Neubert, & Mount, 1998; Chen et al., 2004). First, *mean course and team satisfaction* were conceptualized as additive team-level constructs in Chan's (1998) typology and operationalized as the mean level of course and team satisfaction among team members. We did not adopt Chan's consensus and referent shift models, which mandate agreement among team members, given our expectation of a certain level of dispersion due to dispositional or stimulus-based differences among members (Hackman, 1992; Staw et al., 1986). Given this expectation, s*atisfaction dispersion* was also substantively meaningful according to our theorizing, and it was conceptualized under Chan's (1998) dispersion model as a configural property of a team (Kozlowski & Klein, 2000). In particular, our conceptualization is what Harrison and Klein (in press) termed "separation," meaning differences in position along a continuum that represent dissimilarity in characteristics such as attitudes.

Team and course satisfaction dispersion constructs were operationalized as the standard deviation among team member satisfaction levels. Harrison and Klein (in press) recommended the standard deviation as an appropriate index for separation-type diversity. Klein, Conn, Smith, and Sorra (2001) and Harrison et al. (2002) have also provided convergent validity evidence supporting use of a standard deviation dispersion index, and use of the standard deviation is consistent with procedures followed in several other studies of this type (e.g., Boone et al., 2005; Kirkman & Shapiro, 2005; Schneider et al., 2002). Thus, conceptual and operational support exists for the construct validity of this dispersion index. Finally, *absenteeism* was conceptualized under Chan's (1998) additive model and operationalized at the team level as the mean of team member responses to the question, "About how many times did you miss group meetings?"

Given that those with heavier course loads might have experienced external conflicts that caused unintentional absences, we controlled for team member average course load by asking participants to indicate the number of hours they were taking during the semester. We also controlled for team size, because it is associated with absenteeism (Markham, Dansereau, & Alutto, 1982), and for gender and ethnic diversity (using Teachman's index), given the possible effects of surface-level diversity in these relatively short-tenured teams (Harrison et al., 1998).

Analyses

We used polynomial regression analysis (Cohen, Cohen, West, & Aiken, 2003; Edwards & Parry, 1993) because of its added precision in examining joint relationships between variables (Kristof-Brown, Barrick, & Stevens, 2005; Van Vianen, De Parter, Kristof-Brown, & Johnson, 2004), and because curvilinearity was possible in the relationships examined. For example, in regard to climate, Lindell and Brandt noted that "in addition to the fact that climate quality and climate consensus are not statistically independent of each other, their joint effects on organizational outcomes do not necessarily take the form of simple linear relations" (2000: 336; see also Van der Vegt & Bunderson, 2005). Specifically, the restriction in range of means at higher levels of dispersion suggests that relationships between mean levels of satisfaction and absenteeism may be attenuated when higher levels of dispersion exist, which in turn suggests possible curvilinearity in the joint relationship of satisfaction mean and dispersion and absenteeism.

Cortina (1993) suggested that when the component terms of an interaction are interdependent or when curvilinearity is possible, squared terms corresponding to each component should be entered. He argued that what appears to be an interaction effect may actually be a curvilinear effect of one or both independent variables if those variables are themselves highly related (see also Edwards, 1994; Ganzach, 1997; Lubinski & Humphreys, 1990). This approach allows a researcher to interpret significant interaction terms after having accounted for this alternative explanation. However, because insufficient theoretical clarity and empirical evidence exist to predict the specific nature of potential curvilinearity in the relationship between satisfaction mean and dispersion and absenteeism, we followed Edwards's (1994) suggestion by proceeding in an exploratory analytic fashion in Study 1, with the intent of cross-validating results in Study 2. Prior to conducting analyses, we standardized variables to reduce collinearity and facilitate interpretation (Cohen et al., 2003). Because our analytical approach in Study 1 was exploratory, we assessed the significance of each block of regression terms and created and analyzed surface plots corresponding to the final significant step in each equation (Edwards & Parry, 1993; Kristof-Brown & Stevens, 2001). The final step included a mean by dispersion product term and squared mean and dispersion terms, with full support for our hypotheses resting on a significant interaction term (Van Vianen et al., 2004).

STUDY 1 RESULTS

Table 1 presents the means, standard deviations, and correlations among Study 1 variables at the team level of analysis. Prior to analyses, we examined the distribution of residuals in the team-level absenteeism variable, given that the overall distribution was positively skewed. Q-Q plots and the Cook-Weisberg procedure failed to uncover evidence of nonnormality or heteroscedasticity of residuals; thus, we proceeded using the raw absenteeism scores. Also, because influential observations can disproportionately affect polynomial regression results (Edwards & Parry, 1993), we screened each equation for these observations by examining diagonal values of the hat matrix (i.e., leverage values), studentized residuals, and Cook's *D*-statistic (see also Edwards & Rothbard, 1999). Two such observations ex-

TABLE 1
Means, Standard Deviations, and Correlations among Study 1 Variables[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. Team size	4.37	0.79								
2. Gender diversity	0.48	0.26	.11							
3. Ethnic diversity	0.26	0.34	.19	.05						
4. Course load[b]	13.23	2.55	.07	.09	−.00					
5. Team satisfaction level	5.70	0.69	−.09	−.11	−.10	−.03				
6. Team satisfaction dispersion	0.90	0.62	−.08	.02	.15	.04	−.55**			
7. Course satisfaction level	5.56	0.70	−.02	−.09	.03	.00	.42**	−.33**		
8. Course satisfaction dispersion	0.93	0.56	.13	.08	−.06	−.07	−.20*	.31**	−.67**	
9. Absenteeism	0.24	0.29	.22*	−.05	−.04	−.13	−.23*	.04	−.17	.20

[a] $n = 101$ teams.
[b] In hours.
* $p < .05$
** $p < .01$
Two-tailed tests.

ceeded Bollen and Jackman's (1990) minimum levels on all three screening criteria and fell in the tail of the absenteeism distribution; they were thus deleted from analyses.

Table 2 presents results of the regression analyses for Study 1. The final step of the regression equations involving internally (team) and externally (course) focused satisfaction explained an additional 8 and 7 percent ($p < .05$) of the variation in absenteeism, respectively. However, although variance explained was similar, coefficients from step 3 were opposite in sign for the two foci (see Table 2). First, the interaction term was significant in the team satisfaction analysis, suggesting the relationship between mean team satisfaction and absenteeism depends on team satisfaction dispersion (Van Vianen et al., 2004). We plotted the form of this relationship using a response surface graph to more specifically assess support for Hypothesis 1. Figure 2a, the response surface graph for the relationships of absenteeism with the mean and dispersion of team satisfaction, our internal focus, indicates a high level of consistency with the pattern of relationships predicted in Figure 1a and Hypothesis 1. Specifically, a stronger, negative relationship between team satisfaction and absenteeism is evident when dispersion in team satisfaction is lower (i.e., when there was strong agreement regarding team satisfaction: points A to B in Figure 2a). A weaker negative relationship suggesting homology with in-

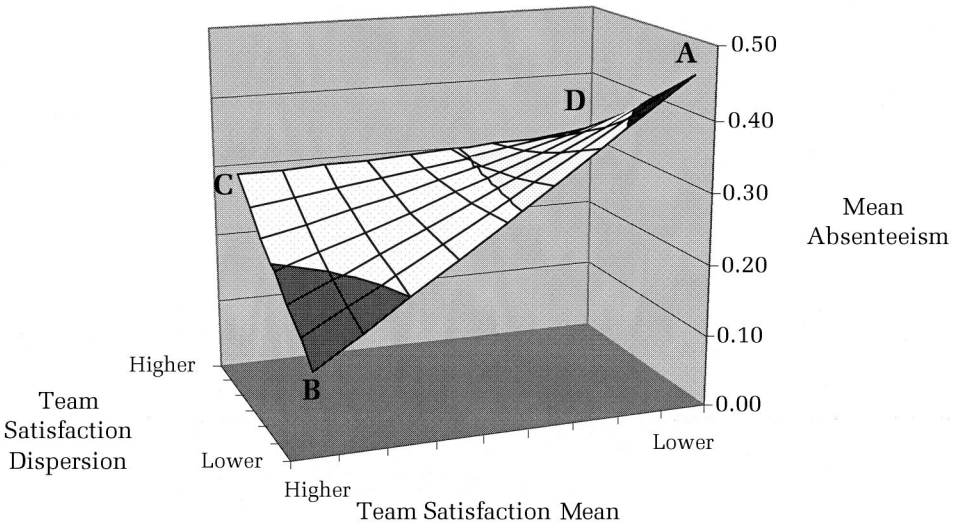
TABLE 2
Study 1 Regression Analysis Results[a]

Variables	Model 1	Model 2	Model 3
Control			
Team size	.25*	.23*	.22*
Gender diversity	−.06	−.09	−.10
Ethnic diversity	−.08	−.09	−.10
Course load	−.15	−.15	−.19
Independent			
Team satisfaction mean		−.27*	−.23
Team satisfaction dispersion		−.07	.04
Higher-order terms			
Team satisfaction mean squared			.03
Team satisfaction dispersion squared			.07
Team satisfaction mean × dispersion			.34*
R^2	.08	.14*	.21**
ΔR^2	.08	.05	.08*
Control			
Team size	.25*	.24*	.21*
Gender diversity	−.06	−.08	−.11
Ethnic diversity	−.08	−.07	−.08
Course load	−.15	−.14	−.12
Independent			
Course satisfaction mean		−.12	−.20
Course satisfaction dispersion		.07	.19
Higher-order terms			
Course satisfaction mean squared			−.21
Course satisfaction dispersion squared			−.38*
Course satisfaction mean × dispersion			−.19
R^2	.08	.11	.19*
ΔR^2	.08	.03	.07*

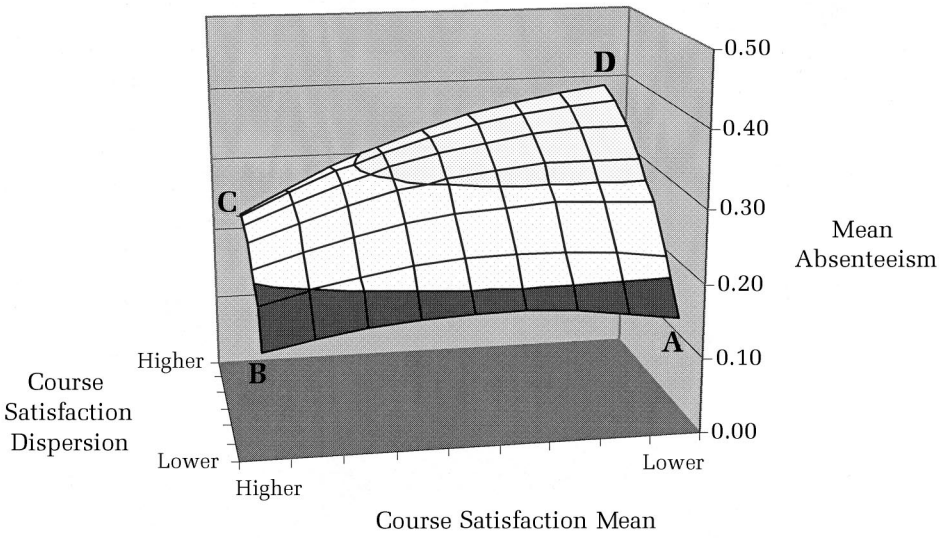
[a] The dependent variable is absenteeism. Standardized regression coefficients are shown.
* $p < .05$
** $p < .01$

FIGURE 2
Study 1 Relationships of Satisfaction Mean and Dispersion with Absenteeism by Foci[a]

(2a) Team Satisfaction (Internally Focused)



(2b) Course Satisfaction (Externally Focused)



[a] For interpretation, graphs rotated with means shown right to left from −1.0 (lower) to +1.0 (higher) standard deviations. Dispersion shown front to back from −1.0 (lower) to +0.5 (higher) standard deviations to account for the restricted range of means at higher dispersion levels.

dividual-level findings is also apparent when dispersion is higher (points D to C). Overall, absenteeism is lowest when mean team satisfaction is higher and dispersion is lower (point B), and it is highest when both mean team satisfaction and dispersion are lower (point A). Thus, Hypothesis 1 received support.

By contrast, the interaction term relating course satisfaction mean and dispersion to absenteeism did not reach a conventional level of significance, failing to fully support Hypothesis 2. This may be a consequence of the small sample size and lack of power to detect the effect. However, because the final step was significant (explaining 7 percent of the variance in absenteeism) and because comparison with Study 2 results was desirable, we plotted the form of the relationship, which is seen in Figure 2b. As predicted, the pattern relating course satis-

faction mean and dispersion to absenteeism is markedly different from the pattern exhibited for team satisfaction. When course satisfaction dispersion is higher, absenteeism is moderate when mean course satisfaction is higher (point C), and it is higher when mean course satisfaction is lower (point D). Thus, a moderate satisfaction-absenteeism relationship is indicated, suggesting homology with meta-analyzed individual-level results. By contrast, when dispersion is lower, absenteeism remains lower over all levels of mean course satisfaction (points A to B). This pattern of findings supports both the common in-group and community of fate perspectives while suggesting a weaker overall relationship than typically found at the individual level. Overall, this pattern of relationships is highly consistent with the hypothesized pattern depicted in Figure 1b.

STUDY 2 CONTEXT AND REPLICATION ANALYSES

The Study 1 results contribute to our understanding of attitudinal diversity in teams in general and shed light on the satisfaction-absenteeism relationship in particular (e.g., Hackett, 1989; Judge et al., 2001) by demonstrating that different patterns of absenteeism are evident at the team level of analysis when satisfaction focus and the social context in which satisfaction is experienced are considered. However, Study 1 examined student-based teams; thus, the findings may have limited generalizability to work teams in organizational settings. To investigate the external validity of the Study 1 findings and cross-validate the pattern of results, in the Study 2 sample we included manufacturing teams with longer intrateam tenure, no predefined disbanding date, and team operation in a paid (as opposed to a graded) context.

STUDY 2 METHODS

Sample and Procedures

Participants were 1,457 employees in 70 work teams in seven plants of an automobile parts manufacturing company. Teams performed a wide variety of production-related tasks and had an average tenure of 32 months. Participants completed a questionnaire during work time and were assured confidentiality. These data were part of a larger data set that Colquitt and his colleagues (2002) used in a different set of analyses. Whereas they examined issues related to procedural justice climate level and strength, the present study extends their approach and cross-validates the Study 1 findings. Furthermore, Colquitt et al. did not examine job or team satisfaction (the primary focus of the present research), did not use polynomial regression, and overlapped with the present study only in regard to the absenteeism variable.

Measures

Measures were adapted from the literature and tailored to the manufacturing context with input from organizational representatives. All items were assessed using five-point scales. *Team satisfaction* (internally focused) was measured with the item, "Are you satisfied with the members of your work team?" Externally focused satisfaction in this context was *job satisfaction* (assessed with "Are you satisfied with your job?"). Whereas the reliability of one-item measures cannot be definitively established, Wanous, Reichers, and Hudy (1997) endorsed their use and estimated a minimum reliability of .70 for these types of measures. Their meta-analysis showed that single-item measures of overall job satisfaction exhibited a corrected correlation of .72 with the group of scale measures that focus on overall job satisfaction rather than a summation of facets. Moreover, the pilot study described in Study 1 revealed that the job satisfaction item correlated .77 with the MSQ, .80 with the OJS, and .90 with the satisfaction scale used in Study 1. Finally, *team absenteeism* data were obtained from facility records for the three months following survey administration (they were not available for each individual employee). Absenteeism was operationalized as average hours of absence from work per team member over this period. Because plant operations were team-based, work absences were thus comparable to the absences from team meetings in Study 1.

We sought to account for other potential sources of variance in absenteeism by including several control variables. These included mean and dispersion of perceived status in the team, operationalized using Luhtanen and Crocker's (1992) collective self-esteem construct (three items based on their membership subscale, including, "I feel I am an important member of this team," $\alpha = .82$) and self-efficacy (mean and standard deviation, assessed with the item, "I think I am able to meet the challenges posed by my work"). Both have been linked to cognitive withdrawal or withdrawal behavior, including absenteeism, in prior work (e.g., Harrison & Klein, in press; McDonald & Siegall, 1993; Phillips, 2002; Phillips, Douthitt, & Hyland, 2001; Van Dick & Wagner, 2002). For example, levels of self-efficacy relate to persistence of effort, which could extend to absenteeism. And disper-

sion of self-efficacy among teammates suggests higher absenteeism if some members do not believe they can adequately contribute to the team effort. Finally, both self-esteem and efficacy have been identified as core self-evaluation facets, with core self-evaluations being dispositional predictors of satisfaction (Judge & Bono, 2001).

Because two of the plants were considerably smaller than the other five, we controlled for whether a team was from a small or large plant. Use of these controls was consistent with work showing significant effects of contextual/environmental factors on team outcomes (e.g., Kirkman, Tesluk, & Rosen, 2004) or specific relationships between factory size and absenteeism (Porter & Lawler, 1965). We also controlled for team size and median team tenure. We did not control for gender or ethnic diversity because teams were of considerably longer tenure in Study 2 than in Study 1 (Harrison et al., 1998), and these controls were not significant in Study 1.

STUDY 2 RESULTS

Table 3 presents the means, standard deviations, and correlations among Study 2 variables at the team level of analysis. The distribution of residuals again suggested retaining the raw absenteeism measure. Following Bollen and Jackman's (1990) guidelines, we removed two influential data points prior to conducting analyses.

Table 4 gives the results of our Study 2 regression analyses. The final step of the regression equation predicting absenteeism from team satisfaction mean and dispersion was significant and explained an additional 13 percent of the variance in absenteeism ($p < .01$) in a pattern consistent with Figure 1a. Supporting Hypothesis 1, a significant interaction term indicated that the mean team satisfaction-absenteeism relationship depended on team satisfaction dispersion. Figures 3a and 3b present response surface graphs for the relationships of satisfaction mean and dispersion with absenteeism for our Study 2 internal and external foci. Figure 3a indicates that the relationship between mean team satisfaction and absenteeism is negative when team satisfaction dispersion is lower (points A to B), as predicted, but relatively flat when dispersion is higher (points D to C). Of particular interest is that absenteeism levels are again highest when team members are dissatisfied with each other and exhibit lower dispersion (point A) and lowest when members are satisfied with each other and exhibit lower dispersion (point B); this pattern suggests stronger satisfaction-absenteeism relationships among less dispersed teams than is typically found at the individual level (e.g., Harrison et al., 2006).

With respect to job satisfaction, the final step explained an additional 12 percent of the variance in absenteeism ($p < .05$; see Table 4), with a significant mean by dispersion interaction term providing support for Hypothesis 2. Figure 3b shows the

TABLE 3
Means, Standard Deviations, and Correlations among Study 2 Variables[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11
1. Team size	21.21	11.55											
2. Team tenure median[b]	23.78	17.49	−.20										
3. Collective self-esteem mean	3.39	0.32	−.24*	−.15									
4. Collective self-esteem dispersion	0.83	0.22	.40**	−.17	−.27*								
5. Self-efficacy mean	4.25	0.24	−.01	−.32**	.28*	.12							
6. Self-efficacy dispersion	0.82	0.22	.32**	−.10	−.32*	.28*	−.55**						
7. Team from a small plant[c]	0.03	0.17	−.02	−.05	.29*	−.02	.20	−.09					
8. Team satisfaction level	3.62	0.36	−.31*	.08	.66**	−.40**	−.03	−.16	.32**				
9. Team satisfaction dispersion	0.97	0.26	.38**	−.15	−.36**	.58**	.12	.24	−.15	−.60**			
10. Job satisfaction level	3.62	0.30	−.17	−.21	.35**	.01	.19	−.20	.19	.40**	−.18		
11. Job satisfaction dispersion	0.95	0.21	.35**	−.17	.03	.39**	.16	.20	−.03	−.22	.34**	−.34**	
12. Absenteeism[d]	24.43	8.67	.18	−.13	−.13	.15	.02	.22	−.29*	−.28*	.06	−.11	.14

[a] $n = 68$ teams.
[b] Tenure (in months) was assessed using the median given that over half the teams had a negatively skewed within-team tenure distribution (Harrison et al., 1998).
[c] 0 = "no," 1 = "yes."
[d] In days.
* $p < .05$
** $p < .01$
Two-tailed tests.

TABLE 4
Study 2 Regression Analysis Results[a]

Variables	Model 1	Model 2	Model 3
Control			
Team size	.09	.09	.15
Team tenure	−.02	.01	−.12
Collective self-esteem mean	.00	.17	.15
Collective self-esteem dispersion	−.00	.06	.01
Self-efficacy mean	.24	.25	.19
Self-efficacy dispersion	.29	.35*	.30
Team from a small plant	−.32*	−.28*	−.25*
Independent			
Team satisfaction mean		−.38*	−.40*
Team satisfaction dispersion		−.33	−.34*
Higher-order terms			
Team satisfaction mean squared			.52*
Team satisfaction dispersion squared			.50**
Team satisfaction mean × dispersion			.82**
R^2	.18	.25*	.38**
ΔR^2	.18	.08	.13*
Control			
Team size	.09	.08	−.04
Team tenure	−.02	−.03	−.08
Collective self-esteem mean	.00	.02	.04
Collective self-esteem dispersion	−.00	.01	−.16
Self-efficacy mean	.24	.24	.39*
Self-efficacy dispersion	.29	.29	.35*
Team from a small plant	−.32*	−.32*	−.36**
Independent			
Job satisfaction mean		−.04	−.06
Job satisfaction dispersion		−.02	.08
Higher-order terms			
Job satisfaction mean squared			−.36**
Job satisfaction dispersion squared			−.39*
Job satisfaction mean × dispersion			−.38*
R^2	.18	.18	.30*
ΔR^2	.18*	.00	.12*

[a] The dependent variable is absenteeism. Standardized regression coefficients are shown.
* $p < .05$
** $p < .01$

surface plot, which is generally consistent with the pattern of results involving course satisfaction in Study 1. Absenteeism is relatively low across levels of job satisfaction when dispersion is lower (points A to B) and actually lowest when team members exhibit lower dispersion regarding job dissatisfaction (point A). In contrast, absenteeism ranges from a lower level to its highest level when job satisfaction dispersion is higher (points C to D). These results suggest that the team-level relationship between externally focused satisfaction and absenteeism is more homologous with individual-level findings when dispersion is higher but less homologous when dispersion is lower.

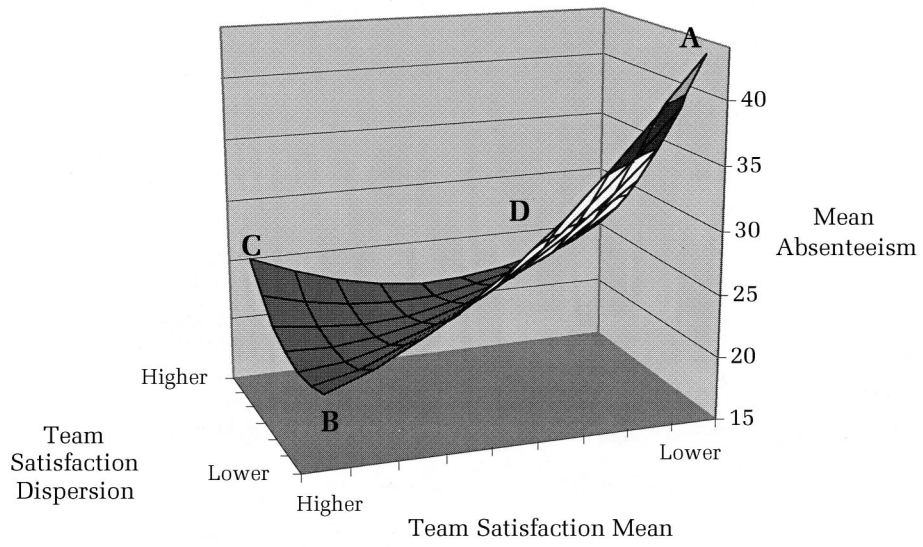
SUPPLEMENTAL MONTE CARLO SIMULATION

An issue worthy of additional exploration is the potentially problematic interdependence between mean and dispersion constructs in team-level research. Scholars have suggested that controlling for mean and dispersion main effects prior to examining higher-order terms accounts for variance attributable to the interdependence between these constructs (Bliese & Halverson, 1998; Lindell & Brandt, 2000). Yet it is possible that this interdependence still makes it more difficult to detect interactions between the two.

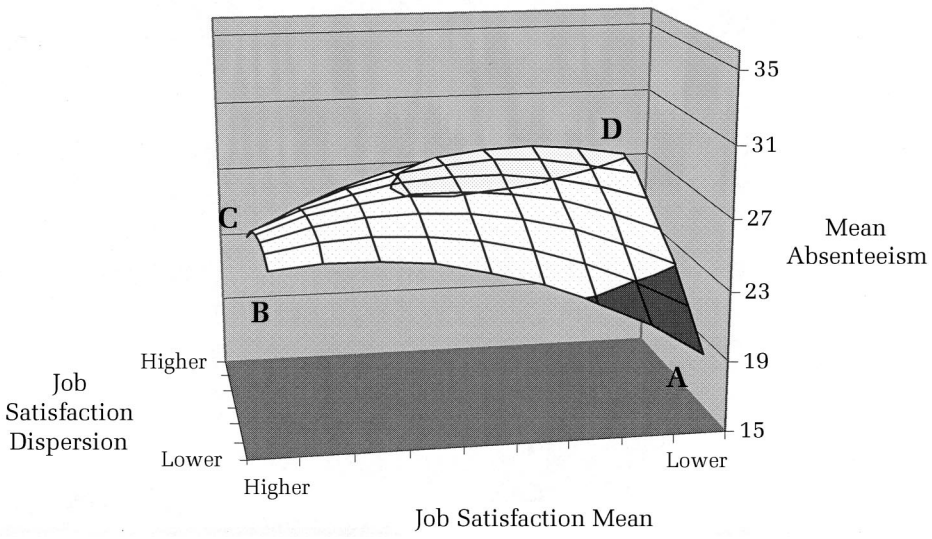
The Cortina (1993) approach discussed earlier is

FIGURE 3
Study 2 Relationships of Satisfaction Mean and Dispersion with Absenteeism by Foci[a]

(3a) Team Satisfaction (Internally Focused)



(3b) Job Satisfaction (Externally Focused)



[a] Means are shown right to left from −1.0 (lower) to +1.0 (higher) standard deviations. Dispersion is shown front to back from −1.0 (lower) to +0.5 (higher) standard deviations to account for the restricted range of means at higher dispersion levels.

useful in dealing with linearly correlated predictors when examining interactions between them, but it is uncertain how the approach might work when predictors exhibit the theoretical inverse U-shaped relationship that exists between means and standard deviations (Lindell & Brandt, 2000) or a nonsymmetrical inverse U-shaped relationship such as the one we discovered in our data. To directly examine this issue, we conducted a Monte Carlo simulation where, for each of the four analyses reported in Tables 2 and 4, we assessed the incremental increase in variance explained (R^2) for the interaction term over 10,000 samples generated under three different distributional assumptions. Each of the simulated samples was the same size as those in the respective studies (n = 101 in Study 1 and 68 in Study 2). In particular, we first generated 10,000 samples that replicated, on average, the actual distributional properties of our mean and standard deviation constructs (X and Z). Then, for each

of these 10,000 samples, we computed slope estimates for the five regression terms (X, Z, X^2, Z^2, XZ), as well as an overall R^2 value, and compared this value to one where the interaction term was excluded. Incremental R^2 values (averaged over all 10,000 samples) were then compared to incremental R^2 values that resulted when distributional properties were changed in such a way that (1) X and Z were normally distributed and completely uncorrelated and (2) X was normally distributed, with Z a symmetrical inverse U-shaped function of X, reflecting the theoretical relationship between mean and standard deviation (Lindell & Brandt, 2000).

Taking the team satisfaction mean-dispersion relationship with absenteeism from Study 1 as an example, one sees the mean and standard deviation of sampling means (from Table 1) were 5.70 and 0.69, whereas the mean and standard deviation of sampling standard deviations were 0.90 and 0.62. Team satisfaction mean and standard deviation were related in an inverse U-shaped fashion with a correlation of −.55, but the relationship was nonsymmetrical, with fewer cases in the left half of the distribution. The 10,000 simulated samples each included a normally distributed random error term (with a mean of zero and variance commensurate with that in the actual data) that allowed us to replicate these distributional properties. We then assessed the impact of these properties over the 10,000 samples on our ability to detect an interaction effect by comparing incremental R^2 values to similar values arrived at when using the uncorrelated and symmetrical inverse U-shaped distributions (10,000 samples each).

Results for the four sets of analyses were consistent in showing that incremental R^2 values for the interaction term were nearly identical when X and Z variables that were either uncorrelated or related in a symmetrical inverse U-shaped fashion were considered. However, given samples averaging the actual, nonsymmetrical distributional properties apparent in our data, incremental R^2 values for the interaction term were lower for each of the four analyses. For example, for team satisfaction in Study 1, incremental R^2 values were .11 (uncorrelated X and Z distributions), .10 (symmetrical inverse U), and .05 (replication of our actual data).[1] These simulations indicate that our study results are conservative. Thus, to the degree that means and dispersion are related in a symmetrical inverse U-shaped fashion, confidence in being able to detect an interaction effect between the two when using the Cortina (1993) approach appears justified, whereas a nonsymmetrical curvilinear relationship (like that found in our samples) appears to increase the difficulty of detecting interaction effects.

[1] Additional details regarding this simulation are available from the first author upon request.

GENERAL DISCUSSION

The study results indicate that relationships between satisfaction and absenteeism typically found at the individual level are not necessarily homologous at the team level of analysis when satisfaction foci and dispersion are taken into account. In two diverse samples, mean levels of course or job (externally focused) satisfaction were unrelated to absenteeism when satisfaction dispersion among team members was lower. By contrast, when dispersion in team (internally focused) satisfaction was lower, mean levels of team satisfaction strongly related to absenteeism. For both satisfaction foci, results more homologous with individual-level findings tended to materialize only when satisfaction dispersion was higher.

These findings advance understanding of satisfaction and absenteeism at the team level by explaining and then demonstrating how their relationship differs across dispersion levels and satisfaction foci. Our research answers calls to incorporate the social context into studies of organizational phenomena (Johns, 2006; Kozlowski & Klein, 2000) and offers a potential explanation for why the negative relationship between satisfaction and absenteeism at the individual level is not stronger. Indeed, the widespread use of teams in organizations makes studying relationships involving individually held attitudes such as job satisfaction in team contexts even more critical, given that these attitudes are shaped, in part, by the attitudes of other team members. Previously, the effects of coworker satisfaction levels on an individual's own satisfaction might have been weaker because contact and information exchange between these employees were lower.

The study further addresses the likelihood that effects on absenteeism vary differentially depending on satisfaction focus and that the functional homology of the satisfaction-absenteeism relationship at the team level may differ with both dispersion and satisfaction focus. These considerations appear to be important, as they provide more detailed information regarding the satisfaction-absenteeism relationship that has previously been veiled by a near-singular focus on individual-level studies. Indeed, Hackett concluded his meta-analysis by acknowledging the oversimplicity of a direct

relationship between absence and work attitudes, and it is possible that social-contextual factors have been present but unaccounted for in studies conducted at the individual level, leading to attenuated results. It is thus encouraging that researchers are starting to recognize the dearth of studies using a dispersion model of aggregation as well as the criticality of extending research in this area (e.g., Boone et al., 2005; Klein et al., 2001; Ostroff & Bowen, 2000), and we endorse future work of this type.

We expected that when satisfaction judgments were focused internally on other team members, mean team satisfaction would be strongly and negatively related to absenteeism only when team satisfaction dispersion was lower and that this relationship would be weaker and fairly homologous with individual-level findings when dispersion was higher. We expected, however, to see a contrast with individual-level findings for externally focused satisfaction judgments. In view of common in-group and community of fate arguments, we did not expect mean satisfaction and absenteeism to relate when satisfaction judgments were externally focused (i.e., on a course or job) and satisfaction dispersion was lower. We found considerable support for our hypotheses in a college class setting and strong support among manufacturing teams. The divergent findings for the two satisfaction foci are particularly remarkable given the positive correlations between team and course (job) satisfaction, which ranged from .40 to .42 in the samples.

Theoretical Implications

First, the pattern of results for externally focused satisfaction was highly consistent with predictions based on the combination of common in-group and community of fate perspectives, as well as the deep-level diversity literature and studies linking mean levels of attitudes to outcomes. A particularly interesting finding, generally consistent over the two samples, was that individuals who were dissatisfied with the external entity—their course or job—were not the most likely to be absent from team meetings or work, but rather were *less likely* to be absent from team meetings or work if their teammates held similarly negative evaluations of their external work context. To our knowledge, this is the first study to conceptually differentiate and empirically demonstrate such a pattern of relationships. Although seemingly counterintuitive and lacking homology with individual-level findings, the pattern evidenced here is consistent with recent accounts of actual employee behavior (Weeks, 2004) as well as with the common in-group identity and community of fate perspectives (Brewer & Brown, 1998; Shaw et al., 2000). These perspectives all suggest that the creation of a "common enemy" through shared negative attitudes (viz., an undesirable job) can actually create bonding among team members. Given this social-contextual influence, members may enjoy showing up for team meetings or for work, perhaps to commiserate with teammates or simply to support one another and receive affirmation for their sense of dissatisfaction. This finding is also similar to the classic negative cohesion–performance relationship in which teams adopt low performance norms.

By contrast, lower dispersion regarding levels of internally focused satisfaction augments the negative effects of means on absenteeism, resulting in a *greater likelihood* of absenteeism when teammates are similarly dissatisfied with each other. This pattern suggests that team-level findings might be stronger than individual-level findings when dispersion is lower, which is consistent with the team climate literature. However, it also calls into question the notion that attitudinal consensus is always beneficial (Harrison et al., 1998).

Taken together, the results emphasize the importance of Chan's (1998) typology of composition models. In particular, we provide a conceptual foundation for treating dispersion as a unit-level construct with meaningful variation for team-level theory building. It is likely that our pattern of results has not previously been demonstrated because prior research has tended either to adopt direct consensus models of aggregation (Chan, 1998), thereby treating dispersion as error variance and requiring sufficient within-group agreement to justify aggregation (Ostroff, 1992), or to relegate mean attitude levels to control variable status in diversity studies (Harrison et al., 1998). Yet, from a theoretical standpoint, it is reasonable to expect that dispersion in satisfaction will exist, given that individuals might experience discretionary stimuli or bring dispositions toward varied levels of satisfaction with them to a team context (Hackman, 1992; Staw et al., 1986).

Another important theoretical contribution is our differentiation between internally and externally focused satisfaction among team members. This differentiation parallels that made in research distinguishing between foci of commitment (e.g., Becker, 1992; Clugston et al., 2000; Siders et al., 2001). Along with social-contextual considerations, our differentiation helps to further elucidate the precise nature of the satisfaction-absenteeism relationship. In particular, whereas team climate research and our results suggest that agreement regarding lower levels of internally focused satisfaction is detrimental in terms of higher absenteeism,

we find strikingly different results for externally focused satisfaction. Here, a unified sense of dissatisfaction directed toward an external entity appears to draw team members together, causing them to attend work or team meetings to a greater extent.

Also of interest is that the relative impact of dispersion or mean levels of satisfaction on absenteeism appears to differ for the two satisfaction foci. For example, Tables 2 and 4 (model 2) both indicate main effects for mean levels when internally—but not externally—focused satisfaction is under consideration. Similarly, correlational evidence from Tables 1 and 3 shows stronger relationships between mean team satisfaction and absenteeism than between mean course (job) satisfaction and absenteeism. Correlational evidence from teams whose dispersion was below the median also might facilitate understanding of weak individual-level meta-analytic results while illuminating the degree to which homology with individual-level relationships varies by the foci. For example, among teams with lower dispersion, the average team satisfaction-absenteeism relationship was −.42 across studies, and the average corresponding course (job) satisfaction relationship was −.09, whereas meta-analytic estimates at the individual level are in the −.21 to −.23 range (Hackett, 1989). In keeping with Figure 1, these findings suggest that when internally focused satisfaction is considered and teams exhibit lower satisfaction dispersion, the satisfaction-absenteeism relationship is stronger than it is at the individual level, whereas when externally focused satisfaction is considered and dispersion is lower, the relationship is weaker than it is at the individual level. Indeed, if one were to overlay Figure 2a onto Figure 2b, and 3a onto 3b, it would become apparent that satisfaction-absenteeism effects are cancelled out.

Finally, it is possible that the determinants of satisfaction among team members may differ depending on its focus. For example, average team tenure levels were correlated −.23 with job satisfaction dispersion, yet only −.03 with team satisfaction dispersion in Study 2. This pattern suggests that, relative to the dispositional aspect, the social-contextual aspect of satisfaction may be more influential over time for externally but not internally focused satisfaction, an idea that is consistent with the solidifying influence of common in-group dynamics. Continued distinction between these two foci is therefore encouraged. Researchers might also strive to refine this distinction to account for potential differences in relationships involving externally or internally focused attitudes that are either interpersonal or not interpersonal in nature.

Strengths, Limitations, and Directions for Future Research

The study conclusions are particularly robust because divergent patterns of results were replicated in two extremely diverse samples. The samples differed on setting (students at a university versus adults working full-time in industry), rewards (graded versus paid), task type (knowledge-based versus manufacturing-based), and expected tenure (16 weeks versus ongoing). In addition, concerns over measurement limitations—for example, the self-report absenteeism measure in Study 1 or the single-item satisfaction measures in Study 2—are reduced by the replicated results across the two samples.

Despite the strengths of these two studies in combination, limitations exist. For example, course satisfaction, team satisfaction, and absences from team meetings were assessed on the same survey in Study 1. This raises concerns about common method variance and our presumed causal sequence, although common method bias does not provide a logical explanation for differential higher-order findings. Moreover, some recent research provides initial evidence suggesting the precedence of attitudes to behaviors (Harrison et al., 2006). Also, the limited team tenure in Study 1 likely contributed to the weaker overall effects (e.g., the effects of deep-level diversity may grow stronger over time [Harrison et al., 1998]), and neither study explicitly accounted for unintentional absences (e.g., legitimate illnesses).

It is quite possible that the modest relationship between satisfaction and other outcomes such as performance (the "holy grail" of organizational research [cf. Judge et al., 2001]) might be due in part to a lack of consideration of the joint effects of mean levels of satisfaction as they exist in a team, as well as the dispersion in satisfaction among members. We also encourage researchers to look more closely at the black box surrounding the relationship between attitudinal constellations and outcomes. For example, the social support and common in-group identity thought to develop when attitudes converge should be scrutinized, perhaps by investigating specific patterns of social interaction among team members. In addition, common in-group or community of fate dynamics might differ by cultural type (e.g., degree of team member collectivism). To expand the criterion domain, researchers should also examine mean levels and dispersion in relation to an overall effectiveness construct that includes withdrawal and in- and extra-role performance (see Harrison et al., 2006). Efforts to more precisely examine the homol-

ogy of other attitude-outcome relationships in terms of differences in specific parameters across levels would be valuable, as would efforts to better elucidate the specific structure of attitudes in order to justify assessing mean levels (e.g., if an attitude is more of a shared-unit property of a team), dispersion (if a configural property), or both (if an attitude is thought to contain both shared unit and configural elements, or as a "conservative" approach if their relative balance is uncertain). In general, researchers are advised to ground simultaneous examinations of team-level means and dispersion in relevant theory (Harrison & Sin, 2005).

Researchers might also pursue other means of incorporating dispersion as a substantive construct. In the present study, level and dispersion were both derived from the same measures. Although mutual derivation is the most common practice in research in this stream, it introduces the issue of interdependence discussed earlier. Those making future efforts might consider using a more direct approach. For example, respondents could be directly asked about their satisfaction levels and their perceptions of how strongly they believe other members of their team share their attitude. A positive correlation between a dispersion index and the mean of the perceived shared attitude index might provide construct validity evidence for the dispersion index.

Managerial Implications

The study results suggest that, in attempting to influence outcomes such as absenteeism, managers should look beyond individual worker satisfaction or mean satisfaction and instead focus on relative satisfaction among team members. Indeed, this recommendation suggests a shift of attention from trying to predict whether a happy worker shows up to work to whether a worker's happiness relative to teammates' predicts attendance. By extension, managers should consider that enacting change to counter dissatisfaction may not always be immediately necessary, a sentiment echoed by Weeks (2004). In fact, shared dissatisfaction does not appear to be problematic if it is externally focused, at least in terms of absences.

Perhaps even more interesting, however, is the suggestion that managers dedicate more effort to enhancing team satisfaction rather than job satisfaction. Indeed, the results depicted in Figures 2 and 3 imply that attempts to raise average team satisfaction levels have a greater payoff than do attempts to raise course or job satisfaction levels, especially when dispersion in satisfaction is lower. For example, absenteeism decreases substantially from points A to B in Figures 2a and 3a as team satisfaction is enhanced, but points A to B in Figures 2b and 3b show that absenteeism remains relatively unchanged as course (job) satisfaction levels are enhanced. Thus, managers might benefit more by focusing on appropriate team composition rather than on job design. For example, they might vary team composition to ensure similarity in values among team members, without having to change the nature of the jobs performed. Doing so might decrease relationship conflict (Jehn, Northcraft, & Neale, 1999) and promote a consistent sense of team satisfaction.

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