

A contingency model of union commitment and participation: Meta-analysis of the antecedents of militant and nonmilitant activities

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Summary

Correlation estimates from a meta-analysis of 108 studies including 126 independent samples and nearly 70 000 participants were used to test multiple path models of the antecedents of militant and nonmilitant union participation. Variables moderating the relationship between union commitment and participation were examined. The magnitude of the relationship between commitment and militant participation was moderated by status-based group membership (i.e., white collar versus blue collar), supporting a contingency model of union participation. Results updated and further developed an integrative model of union participation. Copyright © 2010 John Wiley & Sons, Ltd.

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Unionized employees constitute a sizable portion of the world's workforce, representing approximately 164 million workers during the mid-to-late 1990s (International Labour Organization, Industrial and Employment Relations Office, 1998). Among 27 countries studied, 14 reported that 20 percent or more of the total workforce consisted of union members (Lawrence & Ishikawa, 2005). In the U.S., public and private union membership combined has decreased since 1983 however, when it represented 20.1 percent of the nation's workforce, to roughly 12.5 percent in 2005 (Bureau of Labor Statistics, 2006), a trend similar to most other Organization for Economic Co-operation and Development countries (Visser, 2006). While the decline in union density is a global phenomenon, union membership still constitutes a large number of people in the United States' and international workforces, and some forms of employee participation in union activity can have important effects on many stakeholders. The present study examines militant and nonmilitant participation in union activities.

Militant participation is defined in the current study as any action on the part of union members to withhold work activity, such as a strike or slowdown. A strike is a temporary stoppage of work initiated by employees to express an implicit grievance, whereas a slowdown is an organized decrease in productivity. Militant actions cause at least temporary harm to the stakeholders in an organization, even if the ultimate aim of militant participation is to improve the working conditions of union members. Such militant labor actions were once labeled the most pressing public policy issue caused by trade unions (Ashenfelter & Johnson, 1969). Estimates of their economic impact vary, but they can be severe. According to Becker and Olson (1986), U.S. strikes from 1962 to 1982 accounted for a drop in shareholder equity

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of 4.1 percent, or what was then nearly \$90 million. A single U.S. strike consisting of two production plants and lasting less than two months resulted in one employer sustaining an estimated loss of over 3 billion dollars (Blöse, DeBruine, & Sopariwala, 2002). Even the threat of a strike creates a statistically significant negative effect on a firm's stock market value (Davidson, Worrell, & Garrison, 1988; Dinardo & Hallock, 2002; Kramer & Hyclak, 2002), impacting the U.S. automotive industry by an average decrease in stock value of \$229–\$334 million per strike announcement (Persons, 1995). It has been proposed that an extended shutdown of U.S. West Coast docks by the longshoreman union would cause an international financial crisis, severely harming Asian and North American economies (Cohen, 2002). Although strike activity has been declining in recent decades, these actions remain a powerful tool for unions and a costly event for employers. In the United States alone work stoppages still account for hundreds of thousands of working days lost.

Unlike a work stoppage, nonmilitant participation consists of more mundane behaviors that are unlikely to cause serious or immediate harm to the stakeholders. We define nonmilitant participation as any form of prounion action that does not directly interfere with the operation of the business, such as voting in union elections, reading union literature, or even running for office as an official. Such participation in a union, by itself, is not very likely to have a strong impact or to threaten the well-being of stakeholders. Nevertheless, it is important for union success for its members to engage in this form of participation, because the union's continuing existence and its potential influence with employers depends on having an active and engaged membership; this participation is important if unions want to avoid or reverse the decline in membership (Visser, 2006).

In the current study, we argue that the decision of union members to participate is contingent on participation type. The union member looks at the employing organization and the union itself as different in the sense that the individual works *for* the organization, while the union works *for* the individual (Tetrick, 1995). Monetarily, union employees are compensated by their employer, whereas the union is compensated for its services by the employee via union dues. The employee provides further support to the union in the form of voluntary services. These separate relationships have been investigated in the dual commitment literature (Angle & Perry, 1986; Beauvais, Scholl, & Cooper, 1991; Conlon & Gallagher, 1987; Fukami & Larson, 1984; Magenau, Martin & Peterson, 1988; Thacker & Rosen, 1986), which provides evidence that the union employee can be committed to both organizations and can express interest in the advancement of each. Nonmilitant union participation allows employees to participate in both organizational and union activities, none of which explicitly interfere with the other. In militant participation, however, employees must make a different type of decision about participating in the union, because their actions are not only giving their union preference over the employing organization, but they are directly interfering with the functioning of their employer. The present paper integrates this distinction into a theoretical path model of union participation.

A problem with much of the previous model-based research on union participation, however, is the conceptualization of union participation as one-dimensional. Models relying on a single form of union participation impede a complete understanding of antecedents of participation. The antecedent variables predicting one form of union participation may not predict other forms as well. In a previous meta-analytic review, Bamberger et al. (1999) tested three theoretical models of commitment and participation (Barling, Fullagar, & Kelloway, 1992; Iverson & Kuruvilla, 1995; Newton & Shore, 1992) along with an integrative model. The integrative model appeared to fit the meta-analytic data better than previous models, although fit for all three were below commonly accepted standards regarding goodness of fit, and no attention was given to the potential dimensionality of union participation. We rely on the previous theoretical frameworks used in the integrative model (e.g., frustration-aggression theory, cost benefit analysis, social background), but incorporate a contingency variable approach.

Review of the theoretical model

Starting with the integrative theoretical path model of union participation proposed by Bamberger et al. (1999), the present study expanded and refined it, and tested it with meta-analytic data. This refined model relied on theoretical arguments and empirical trends as the reason for a union member's decision to take part in union activity, but we distinguish union activity as either militant or nonmilitant.

The militant–nonmilitant distinction

There is disagreement on the dimensionality of union participation, with some arguing for a single dimension (Anderson, 1979) and others proposing multidimensional models (McShane, 1986; Parks, Gallagher, & Fullagar, 1995). We argue that, in addition to previous empirical studies of unidimensional models showing low estimates of internal consistency (Anderson, 1979; Nicholson, Ursell, & Lubbock, 1981) and subsequent support for multidimensional models (e.g., McShane, 1986; Parks et al., 1995), distinguishing conceptually between participation types is also important for model building. With such widely varying union activities, ranging from more routine tasks such as voting in officer elections to more personally risky activities such as taking part in a lengthy work stoppage, examining different forms seems likely to enhance our understanding of relationships of antecedents and participation.

For instance, Klandermans (1986) noted that very little participation is normally required of union members, however there are various periods, such as during militant activities, when a high intensity of participation is required. In this regard, militant actions are qualitatively very different from low-intensity nonmilitant actions. A major characteristic of militant union behavior is that it requires individuals to allow their union activity to directly interfere with their jobs. There may be a threshold effect in which people who otherwise support their union in nonmilitant ways would balk at these militant activities. Nonmilitant activities are activities that run parallel to organizational involvement, not directly interfering with work roles. They do not invoke the high intensity commitment and risks of militant participation. Militant participation raises the possibility of unique pressures, such as additional psychological strain (Barling & Milligan, 1987) and permanent replacement (Murrmann, Vest, & O'Brien, 1997).

As already noted, consequences are much different for the organization as well. A work stoppage can have immediate and sharp effects on profit margins (Blöse et al., 2002) and can damage shareholder equity (Becker & Olson, 1986), which would deter investors and create lasting residual effects. A characteristic of militant union activity is the relative duration of its effects. Militant action is likely to create an immediate impact on profitability and organizational culture, which will then slowly return to baseline levels. This is distinct from nonmilitant activity, which is likely to have at most only weak but perhaps protracted effects. The weak to moderate correlations between militant union participation and nonmilitant union activities (e.g., Cohen, 1993a, b; Kelloway, Catano, & Carroll, 2000; Kelloway, Catano, & Southwell, 1992; Martin & Sinclair, 2001; Redman & Snape, 2004) provided additional support for the dichotomy of militant and nonmilitant union participation.

Unfortunately, research on militant action is sparse compared to nonmilitant activities. This is perhaps due to the controversial nature of the construct, the methodological constraints associated with data collection on these sensitive activities, and the infrequency of militant events. Research has therefore focused primarily on correlates of the *propensity*, *willingness*, or *intentions* to take part in a militant activity rather than on past participation (e.g., Barling, Fullagar, Kelloway, & McElvie, 1992). When considering both forms of union participation it is likely that members who take part in militant activities have previously and will subsequently take part in nonmilitant activities, because if they are willing to engage in activities entailing more risk and energy, then it is likely easy for them also to engage in less demanding activities that support the union. The relationship between these two types of participation is expected to be positive, but not strong.

Hypothesis 1a: The correlation between militant and nonmilitant union participation will be positive.

Hypothesis 1b: A path model that separates union participation into militant and nonmilitant activity will provide a better fit than a model relying on a single dimension of union participation.

In accord with the Bamberger et al. (1999) study, job satisfaction, organizational commitment, pronoun attitudes, and union instrumentality all were expected to have direct independent relationships with union commitment, which leads to union participation. In addition, Newton and Shore's (1992) path model provided the proposition that perceived union instrumentality (the union helping to achieve something for the members) would lead to pronoun

attitudes, which in turn would lead to union commitment. This proposed integrative model has been supported and extended in primary, single-sample studies (i.e., Chan, Snape, & Redman, 2004; Tan & Aryee, 2002); therefore our model included a path from union instrumentality to prounion attitudes.

We departed from the Bamberger et al. (1999) integrative model in other ways as well. One departure involved the direct impact of job satisfaction on union participation. Bamberger et al. suggested that poor model fit of their path analysis might be related to job satisfaction; removing it improved fit. They speculated that, “for instance, job satisfaction may have a direct negative effect on union participation” (p. 314). Similarly, Klandermans (1986) suggested that the frustration-aggression hypothesis helped to explain this relationship, whereby union participation is “a reaction to frustration, dissatisfaction, or alienation in the work situation” (p. 190). There is some empirical basis for this argument, because people who perceive low wages, lack of job mobility, lack of personal instrumentality in terms of organizational outcomes, and general job dissatisfaction as a result of an inequitable relationship with the organization are more likely to participate in union activities (Huszczko, 1983; Kolchin & Hyclak, 1984). Empirical evidence has also been given for a strong positive relationship between dissatisfaction with one’s position within an organization (labeled positional frustration) and militant union participation (Schutt, 1982).

Therefore, there may be a direct negative impact of job satisfaction on union participation that warrants consideration. Simply stated, disgruntled employees may act on their dissatisfaction by participating in union activity.

Hypothesis 2: Job Satisfaction has a direct negative relationship with union participation.

Moderators

In the current meta-analysis, we conducted moderator analyses on the relationships between union commitment and both nonmilitant and militant participation. We examined differences in organizational or positional status, or more specifically blue collar and white collar union members, as a potential moderating variable. Different groups of workers often receive dissimilar treatment and, in addition, they often have distinct needs (Bamberger et al., 1999). In typical organizations, an intuitively important characteristic separating employee groups is hierarchy, and a crude but common hierarchical distinction is blue collar versus white collar employees. Although the traditional union worker has been historically conceptualized as a blue collar manufacturing employee or laborer, researchers are increasingly focusing on the white collar union member (e.g., Morishima, 1995), probably because white collar unions have become increasingly common (Mayer, 2004). Due to the prevalence of the white collar versus blue collar distinction in empirical research, we chose to use this variable as an indicator of group status.

According to social dominance theory, human society tends to be based on group statuses or hierarchies, with one group being dominant and others subordinate. The dominant group is afforded more positive social value (material or symbolic), which affords special privileges and resources in comparison to the subordinate group (Sidanius & Pratto, 1999). Distribution of resources within organizations is likely a result of job function and responsibilities, and ultimately job level. At the least, these groups will differ in terms of formal role behaviors, which result from differences in task requirements, but they are also likely to differ with regard to shared norms, beliefs, and attitudes regarding their own behaviors. Group differences in norms, beliefs, and attitudes are likely to lead to differences in subsequent behavior (Fishbein & Ajzen, 1975), and therefore we expected that different categories of union employees will exhibit differences not only in participation, but in the relationship between commitment and type of participation.

Congruent with this argument, white collar union members have more resources to leverage against management (Cook, Clark, Roberts, & Semeonoff, 1978), and therefore their decision-making process may be different from blue

collar employees. Blue and white collar employees typically differ in terms of their economic well-being, and they have their own set of environmental circumstances to consider when choosing to participate in union activity. Higher-level workers (often white collar) have a greater psychological and economic stake in the organization and its subsequent success, and therefore they may be less likely to take part in activities that could damage the company or its profitability. Militant action is an intuitively radical decision; it is expected that white collar employees will exhibit a weaker correlation between union commitment and militant union participation than their blue collar counterparts.

There is empirical evidence to support this argument. Although many studies provide evidence of dual commitment to both the union and the employing organization (Angle & Perry, 1986; Beauvais et al., 1991; Conlon & Gallagher, 1987; Fukami & Larson, 1984; Magenau et al., 1988; Thacker & Rosen, 1986), some studies have shown an inverse relationship between union commitment and militant union participation among white collar employees (Barling, Fullagar, Kelloway, & McElvie, 1992; Klaas & McClendon, 1995) as opposed to the positive relationship displayed by those in lower level jobs (e.g., Mellor, 1990). One interpretation assumes that white collar employees are more highly committed to the organization and may possess an adverse disposition toward striking. That is, they might have more *dual* commitment so that even if they are committed to the union, their commitment to the employing organization attenuates the link between union commitment and participation, especially participation in more radical action.

Hypothesis 3: The relationship between union commitment and militant union participation will be more positive for blue collar employees than white collar employees.

Finally, we note that the theory of reasoned action purports that actions are congruent with intentions (Fishbein & Ajzen, 1975), and therefore reports of intended union participation are likely to be congruent with reports of actual union participation. Some past research measured union participation in each of these ways (intentions versus reported actual behaviors). We examined the meta-analytic estimated true correlation between these two types of measures of participation and also examined the type of union participation measure to see if it was a methodological moderator of the relationship between union commitment and union participation.

Method

Rules for inclusion

The target population was defined as employees with union membership status or those covered under a union contract. Both published and unpublished research was included in an attempt to avoid the file drawer effect. A correlation coefficient was required for inclusion of a primary study. In addition to correlation coefficients, those studies containing other statistics, such as a *t*-test, that could be converted to correlation coefficients were also considered. Finally, all bivariate relationships were required to be measured at the individual level.

Identification of studies

The final series of meta-analyses included 108 studies containing a total of 126 independent samples and nearly 70 000 participants. In order to locate studies of individual union members' participation, job satisfaction, organizational commitment, pronoun attitudes, union instrumentality, and union commitment, we conducted a search of electronic databases (e.g., PsycINFO, ProQuest). We also searched conference proceedings and sent

requests to Organizational Behavior, Human Resource, and Labor Relations email listservs requesting unpublished studies and data. Studies were limited to those conducted after 1980 due to the increase of empirically based union research that took place during this time period. These steps were followed by a manual search of the bibliography of each individual study. In cases where referenced articles could not be found we contacted authors directly.

Coding of variables

In studies where the construct of interest was divided into multiple facets, the average of these correlations was taken. While multiple facets were combined to form one construct of interest, a single facet was not used as a proxy for a complete construct. For example, extrinsic and intrinsic job satisfactions were both combined to form a proxy of general job satisfaction; as were work, pay, coworker, supervisor, and promotion satisfaction. When only one of these facets alone, such as “supervisor satisfaction,” was used the correlation was not included in the present study. Union attitudes are indicators of one’s overall perceptions of unions (Deshpande & Fiorito, 1989), and as stated in Bamberger et al. (1999), the construct of prounion attitudes was conceptualized to reflect this. Therefore variables such as union attitudes, attitude toward unions, value of unions, and belief in unions (unionism) were included as individual proxies of prounion attitudes. It should be noted that the “belief in unionism” facet included on the Gordon, Philbot, Burt, Thompson, and Spiller (1980) union commitment scale was not considered as a proxy. In addition to being part of union commitment scale, one will notice upon review that all of the items are negatively worded, and scores could arguably be more indicative of simply not possessing anti-union sentiment or perhaps being neutral on the topic. For example, “My values and the union’s values are not very similar” and “The only reason I belong to the union is to make sure I get promotions or other transfers of job assignment,” are representative of the six-item sub scale (p. 486).

Multiple types of union commitment scales were included in the analysis. These included affective, value rationality-based, instrumental rationality-based, instrumental, membership commitment, and group/union identification. The majority of correlations relied on union loyalty or general union commitment; however in a limited number of instances those aforementioned commitment types were included. Previous research indicated a high degree of relatedness between sub-facets of organizational commitment (Cooper-Hakim & Viswesvaran, 2005). In single studies wherein a more general type of commitment was not available yet multiple specific types were included, the correlations of the multiple types were averaged. Studies using a specific type of commitment alone were also included (i.e., Aryee & Debrah, 1997; Black, 1983; Iverson & Roy, 1994; Kelly & Kelly, 1994). The same coding principle was used for organizational commitment as was used for union commitment.

The measures of union instrumentality were quite similar, and exactly the same in many cases across the literature, and therefore coding it was rather straightforward, although slight variations were included. For example, a measure labeled “union effectiveness” was used by Mellor, Barnes-Farrell, and Stanton (1999) included previously published items from “union instrumentality” measures, and the other items reported were analogous to instrumentality. In cases such as this the measure was used as a surrogate for union instrumentality.

Many types of participation were used to represent the overall construct of union participation, coded as intentions to participate and self-reported past participation. Perhaps most notable in terms of its ubiquity in the literature and subsequently in this meta-analysis is “willingness to work for the union” (Gordon et al., 1980). This particular scale, while ostensibly a facet of a union commitment scale, includes items such as “If asked, I would serve on a committee for the union,” “If asked, I would run for elected office in the union,” and “I am willing to put in a great deal of effort beyond that normally expected of a member in order to make the union successful.” The factor labeled Union Loyalty, from the same scale, contains items such as, “I feel a sense of pride being a part of this union,” “The record of this union is a good example of what dedicated people can get done,” and “I feel little loyalty toward this union” (reverse coded). These items are indicative of the difference between measures of participation and commitment; the former (Gordon et al.’s “Willingness to Work”) seek to identify either behavioral intentions to participate or reports of past behavior, while the latter (Union Loyalty) appear to measure psychological feelings of commitment to the

union. Therefore in the present study the Gordon et al. Willingness to Work scale was coded as participation, whereas the Union Loyalty scale was coded as union commitment. In the present review, intention and reports of actual participation were usually considered the same variable, but codes were created so that it could also be analyzed as a potential moderator.

In addition to measures associated with union participation, the current study examined blue collar versus white collar workers as a moderating variable. In studies where the sample was not specified as blue or white color, coding was based on the groupings used by the Bureau of Labor Statistics (Herman & Abraham, 1998). Blue collar workers were defined as those in production, craft, and repair; machine operators, assemblers, and inspectors; transportation and material moving; and handlers, equipment cleaners, helpers, and laborers. White collar workers were considered professional specialty and technical; executive, administrative, and managerial; sales; and administrative support, including clerical. When the study did not contain enough information to determine if the sample was blue or white collar, an additional search was conducted. This search involved locating an official website containing information regarding members or contact information whereupon the union was contacted regarding this information. Other potential moderators, including perceived economic hardship, industrial relations climate, and union and company tenure, were also coded; however, these variables were of limited usefulness because of small sample sizes.

In order to assess the reliability of variables in the models tested in this article, each study was independently coded by three individuals. The first author coded all studies and the other two coders were either the co-authors or doctoral students studying industrial–organizational psychology. All coders were provided the definitions of the variables (as described above) and asked to record the name of the scale (or the label used in the manuscript) on a form that listed the variables in the models being examined. Interrater agreement was calculated with Cohen's κ (Cohen, 1960), which represents the percentage of agreement across judges. Overall, there was a substantial level of agreement ($\kappa = 87.34$). Although there was variance in the level of agreement for specific variables, they all exhibited an adequate degree of agreement (job satisfaction, $\kappa = 91.97$; organizational commitment, $\kappa = 91.75$; pronoun attitudes, $\kappa = 73.04$; union instrumentality perceptions, $\kappa = 85.71$; union commitment, $\kappa = 93.22$; nonmilitant union participation, $\kappa = 81.64$; militant union participation, $\kappa = 81.64$). The first author made the final determination for the coding of all variables in the meta-analysis.

Meta-analytic procedures

The meta-analytic procedures described by Hunter and Schmidt (2004) were followed. As well, the statistical algorithm for random effects meta-analysis that is included in the Schmidt and Le (2004) software was used to compute all correlation estimates and to test Hypothesis 1. Effect size (r), internal consistency estimates (α) of the predictor and criterion, as well as the sample size of each study were entered in the Schmidt and Le program. Through this algorithm corrections were made for sampling error and unreliability.

Reported internal consistency estimates for individual studies were used to correct for unreliability. When internal consistency estimates were not reported the first author searched the literature for psychometric information for the particular scale. In studies where there was not a published reliability estimate the internal consistency estimates of the other studies being used in the particular correlation aggregation were imputed. This imputation process was conducted using the artifact distribution, which is statistical algorithm available within Schmidt and Le's (2004) meta-analytic software.

To test Hypotheses 1b and 2, a correlation matrix of all variables resulting from the meta-analytic procedures was entered into LISREL (8.54) and relationships were either constrained or allowed to covary, depending on the particular model being tested. Associated model fit indices, such as the root mean square error of approximation (RMSEA) and goodness of fit (GFI), were considered indicative of the appropriateness of the theoretical model. The harmonic mean of all studies included in the meta-analysis was computed for goodness of fit tests. A hierarchical moderator analysis was used, given a large enough k size, to assess the impact of moderators. Finally, a comparison of "stacked" (Hayduk, 1987) LISREL path model fit indices was conducted to test Hypothesis 3.

Results

Meta-analyses

Results of the overall meta-analysis are presented in Table 1. The total number of samples used for each meta-analytic correlation ranged from 3 to 71. Corrected estimates of the mean true population correlation are presented. Percentage of variance due to statistical artifacts was low for all correlations. The meta-analytic estimated true correlation between militant and nonmilitant union participation was 0.22 with an 80 percent credibility interval of 0.04–0.58. This provides support for Hypothesis 1a, that there would be a positive relationship between militant and nonmilitant participation.

Model testing

Model 1 was the “integrative model” (see Figure 1) of the antecedents of union participation and displayed coefficients ranging from -0.05 (Job Satisfaction and Union Commitment) to 0.70 (Union Instrumentality and Prounion Attitudes). The fit of the model was acceptable with a RMSEA of 0.08 , χ^2 of 15.39 ($df=8$) (Browne & Cudeck, 1993), and GFI of 0.98 (Bentler & Bonnett, 1980) (Table 2). All correlations remained stable in the second model where the path between job satisfaction and union participation was freed. The relationship between job satisfaction and union participation was not significant, at -0.09 , however. Fit improved slightly but not significantly, with an RMSEA of 0.06 , χ^2 of 13.31 ($df=7$) and a GFI of 0.98 (Table 2 and Figure 1); $M1$ vs. $M2 = \Delta X^2(1, N=216) = 2.08, p > 0.05$. The meta-analytic estimated true correlation credibility interval includes zero, and freeing the path between job satisfaction and participation does not improve fit significantly. While the relationship between job satisfaction and participation was in the hypothesized direction, it was not significant. Therefore Hypothesis 2, which stated that job satisfaction would have a direct negative relationship with union participation, was not supported.

The meta-analytic corrected correlations differed between union commitment with militant ($\rho = 0.31$) and with nonmilitant ($\rho = 0.40$) participation. This difference was more pronounced for the path model coefficients, which were 0.22 and 0.40 for militant and nonmilitant participation, respectively. The fit, however, was worse for the model with the two types of union participation than for the unidimensional model. Therefore Hypothesis 1b, which was tested via model fit indices, was not supported. Several model modifications were tested in order to improve fit. First, in accord with Hypothesis 1a, which stated that there would be a positive correlation between militant and nonmilitant participation, the path between these variables was freed. This modification provided a significant improvement in model fit, $M3$ vs. $M4 = \Delta X^2(1, N=216) = 10.03, p < 0.05$, however fit (i.e., RMSEA = 0.10) yet remained less than acceptable (Browne & Cudeck, 1993). Following our argument in the current article that militant union participation is qualitatively different from nonmilitant participation in that the former represents an affront to organizational functioning, it is plausible that organizational commitment would exhibit a direct negative effect on militant participation. An additional modification was made to the previous model that freed the path between organizational commitment and militant participation, resulting in significantly improved fit, $M4$ vs. $M5 = \Delta X^2(1, N=216) = 12.36, p < 0.05$, and conventionally acceptable fit indices (RMSEA = 0.08 , GFI = 0.97) (Table 2 and Figure 2).

Examination of the variables hypothesized to moderate the relationship between union commitment and participation is presented in Table 3. A hierarchical approach to grouping studies was utilized to avoid confounding effects of nonindependent subgroups (Hunter & Schmidt, 2004). Studies examining the relationship between union commitment and participation were first grouped based on whether the sample represented blue or white collar workers. The relationship between union commitment and overall union participation was nearly identical for white collar employees ($\rho = 0.37, SD_\rho = 0.20$) and blue collar employees ($\rho = 0.37, SD_\rho = 0.19$). Among blue collar

Table 1. Meta-analysis of the relationships between all variables

Relationship	<i>k</i>	<i>N</i>	Mean		<i>SD_r</i>	ρ	<i>SD_{ρ}</i>	80%CI	% variance
			<i>r</i>	ρ					
Organizational commitment → union commitment	43	19 029	0.20	0.24	0.19	0.24	0.23	-0.05-0.54	5.36
Organizational commitment → m.-union participation	8	5233	-0.12	-0.15	0.16	-0.15	0.21	-0.42-0.11	5.63
Organizational commitment → nm.-union participation	25	14 116	0.00	0.01	0.16	0.01	0.20	-0.25-0.27	6.39
Organizational commitment → union participation	32	15 394	-0.01	0.00	0.16	0.00	0.20	-0.26-0.25	7.64
Organizational commitment → instrumentality	11	5752	0.17	0.20	0.13	0.20	0.14	0.01-0.38	10.27
Organizational commitment → pro-union attitudes	9	4354	0.09	0.12	0.16	0.12	0.20	-0.14-0.37	7.47
Job satisfaction → organizational commitment	21	9248	0.40	0.47	0.24	0.47	0.30	0.09-0.85	2.56
Job satisfaction → union commitment	41	15 615	0.10	0.11	0.19	0.11	0.22	-0.17-0.39	6.99
Job satisfaction → militant union participation	7	2971	0.02	0.03	0.10	0.03	0.12	-0.13-0.18	19.81
Job satisfaction → nonmilitant union participation	28	10 693	-0.03	-0.03	0.15	-0.03	0.19	-0.28-0.22	10.23
Job satisfaction → instrumentality	16	14 415	0.15	0.18	0.12	0.18	0.17	-0.03-0.40	5.81
Job Satisfaction → union participation	31	11 713	-0.04	-0.04	0.14	-0.04	0.18	-0.28-0.19	11.26
Job satisfaction → pro-union attitudes	14	6925	0.08	0.11	0.21	0.11	0.26	-0.22-0.44	4.36
Pro-union attitudes → union commitment	27	10 492	0.60	0.73	0.15	0.73	0.16	0.52-0.93	5.46
Pro-union attitudes → union participation	28	10 956	0.32	0.40	0.15	0.40	0.20	0.14-0.65	7.49
Pro-union attitudes → militant union participation	3	909	0.31	0.36	0.11	0.36	0.16	0.16-0.57	13.74
Pro-union attitudes → nonmilitant union participation	25	9618	0.33	0.40	0.15	0.40	0.20	0.15-0.65	7.58
Instrumentality → pro-union attitudes	12	10 991	0.51	0.70	0.09	0.70	0.19	0.46-0.94	3.30
Instrumentality → union commitment	31	17 335	0.48	0.56	0.22	0.56	0.26	0.22-0.90	2.07
Instrumentality → union participation	29	14 586	0.18	0.22	0.14	0.22	0.16	0.01-0.42	9.24
Instrumentality → militant union participation	3	1565	0.20	0.23	0.19	0.23	0.22	-0.05-0.50	4.75
Instrumentality → nonmilitant union participation	29	14 912	0.18	0.22	0.13	0.22	0.15	0.03-0.41	10.21
Union commitment → union participation	71	33 993	0.33	0.41	0.20	0.41	0.24	0.10-0.71	4.24
Union commitment → militant union participation	18	10 964	0.25	0.31	0.17	0.31	0.20	0.06-0.56	5.26
Union commitment → nonmilitant-union participation	69	34 044	0.32	0.40	0.16	0.40	0.19	0.16-0.64	6.67
Militant union participation → nonmilitant union part	11	9267	0.22	0.31	0.17	0.31	0.21	0.04-0.58	4.21

Note: *k* = number of correlations; *N* = total sample size for all studies combined; mean *r* = average uncorrected estimated correlation; *SD_r* = standard deviation uncorrected estimated correlation; mean *p* = average corrected correlation estimate; *SD _{ρ}* = standard deviation of the corrected estimated correlation; 80%CI = lower and upper limits of 80% credibility interval; % variance = percentage of variance in correlations explained by statistical artifacts.

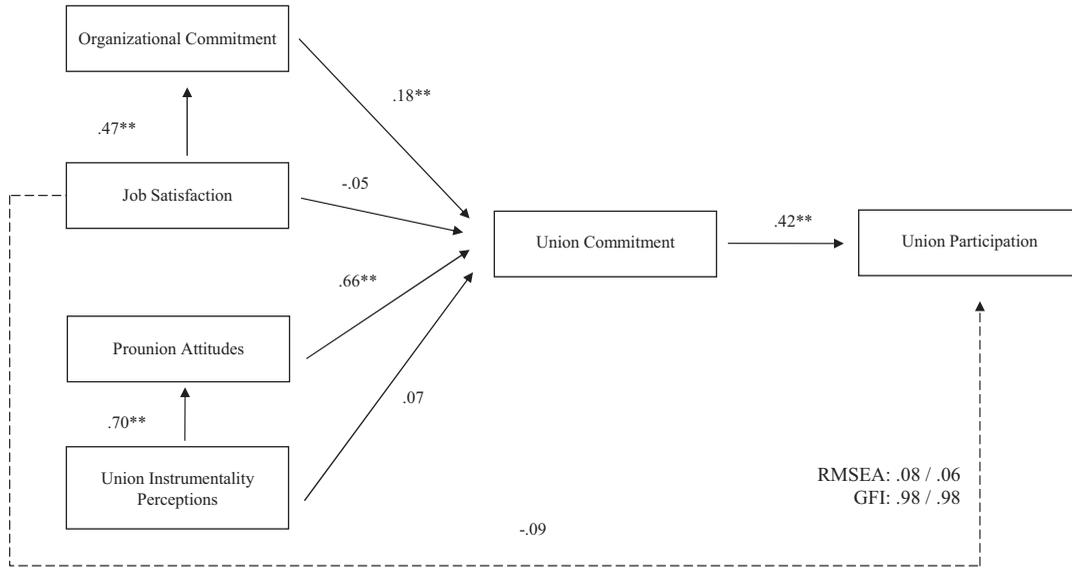


Figure 1. The first model is represented by solid lines. A second model is shown by the additional path (dashed line) from job satisfaction to participation. The RMSEA and GFI fit indices to the left of the slash are for the first model and those to the right are for the second model. Path coefficients represent results of the final model tested, ** $p < .01$

employees the mean estimated true correlation of union commitment with nonmilitant activity was 0.37 ($SD_{\rho} = 0.18$) and with militant activity was 0.37 ($SD_{\rho} = 0.20$), that is, there was no difference for nonmilitant participation. For white collar workers, however, the mean estimated true correlation of union commitment with nonmilitant activity was 0.41 ($SD_{\rho} = 0.17$) and 0.21 ($SD_{\rho} = 0.23$) for militant activities.

Studies assessing intended and past participation were compared for blue and white collar employee samples using nonmilitant participation measures. The relationship between union commitment and nonmilitant participation was stronger and more variable when measured as intention to participate ($\rho = 0.53$, $SD_{\rho} = 0.27$) than past participation ($\rho = 0.39$, $SD_{\rho} = 0.13$) for white collar workers. For blue collar workers, the correlation for intention to participate ($\rho = 0.74$, $SD_{\rho} = 0.04$) was more positive and less variable than self-reported past participation ($\rho = 0.32$, $SD_{\rho} = 0.14$), however these results may be spurious due to the inclusion of only two studies for intent to participate. Comparison of intent and past participation could not be tested for militant participation due to an insufficient number of studies. Likewise, there were an insufficient number of studies to test other moderator variables.

Finally, Hypothesis 3 stated that the bivariate relationships between union commitment and militant participation would be more positive for blue collar employees. Results show the estimated true correlation between commitment and militant participation to be stronger for blue collar ($\rho = 0.37$, $SD_{\rho} = 0.20$) versus white collar employees ($\rho = 0.21$, $SD_{\rho} = 0.23$) (Table 3). A stacked path model analysis was conducted to assess the significance of the difference in correlations between union commitment and participation between blue and white collar groups. The model contained the exogenous variable of union commitment and two endogenous variables of militant and nonmilitant participation. Constraining all paths produced unacceptable fit, suggesting that overall the relationships between variables are not invariant across groups. Removing the equality constraint on the correlation between commitment and militant participation produced significantly better fit (M1 vs. M2 = $\Delta X^2(1, N = 249) = 24.44$, $p < 0.05$), providing support for Hypothesis 3. Further model modifications show that freeing the constraint between union commitment and nonmilitant participation between groups also produces better fit (M1 vs. M3 = $\Delta X^2(1, N = 249) = 35.64$, $p < 0.05$), whereas constraining only the path between nonmilitant and militant participation across groups produces the best fit (e.g., RMSEA = 0.06) (Table 4).

Table 2. Parameters and model-level results for union participation and antecedents (harmonic $m = 216$)

Estimated parameters	Model 1	Model 2	Model 3	Model 4	Model 5
Organizational commitment → union commitment	0.18**	0.18**	0.18**	0.18**	0.18**
Job satisfaction → union commitment	-0.05	-0.05	-0.05	-0.05	-0.05
Job satisfaction → organizational commitment	0.47**	0.47**	0.47**	0.47**	0.47**
Pronoun attitudes → union commitment	0.66**	0.66**	0.66**	0.66**	0.66**
Union instrumentality → pronoun attitudes	0.70**	0.70**	0.70**	0.70**	0.70**
Union instrumentality → union commitment	0.07	0.07	0.07	0.07	0.07
Union commitment → union participation	0.41**	0.42**			
Job satisfaction → union participation		-0.09			
Union commitment → nonmilitant union participation		0.40**		0.40**	0.40**
Union commitment → militant union participation		0.31**		0.22**	0.29**
Nonmilitant union participation → militant union participation				0.22**	0.20*
Organizational commitment → militant union participation					-0.23**
<i>Model fit</i>					
Minimum fit function Chi-Square (degrees of freedom)	15.39 (8)	13.31 (7)	46.23 (12)	36.26 (11)	23.90 (10)
Goodness-of-fit index (GFI)	0.98	0.98	0.94	0.96	0.97
Adjusted GFI	0.93	0.94	0.86	0.89	0.92
Comparative fit index (CFI)	0.98	0.99	0.93	0.95	0.97
Tucker Lewis index (TLI) or nonnormed fit index (NNFI)	0.96	0.97	0.88	0.91	0.94
Root-mean-square of approximation (RMSEA)	0.08	0.06	0.12	0.10	0.08
Model comparison		M1 vs. M2		M3 vs. M4	M4 vs. M5
χ^2 difference		2.08		10.03**	12.36**

Note: Model 1 tests the integrative model of union participation. Model 2 is the same as Model 1, but frees the path between job satisfaction and union participation. Model 3 tests the integrative model with union participation dichotomized as militant and nonmilitant participation. Model 4 is the same as Model 3, but frees the path between nonmilitant and militant participation. Model 5 is the same as Model 4, but frees the path between organizational commitment and militant participation.

Note: Some changes have been made to this table to correct layout and reporting of decimal places on 7 February 2011 after first publication online on 23 December 2010. * $p < 0.05$; ** $p < 0.01$.

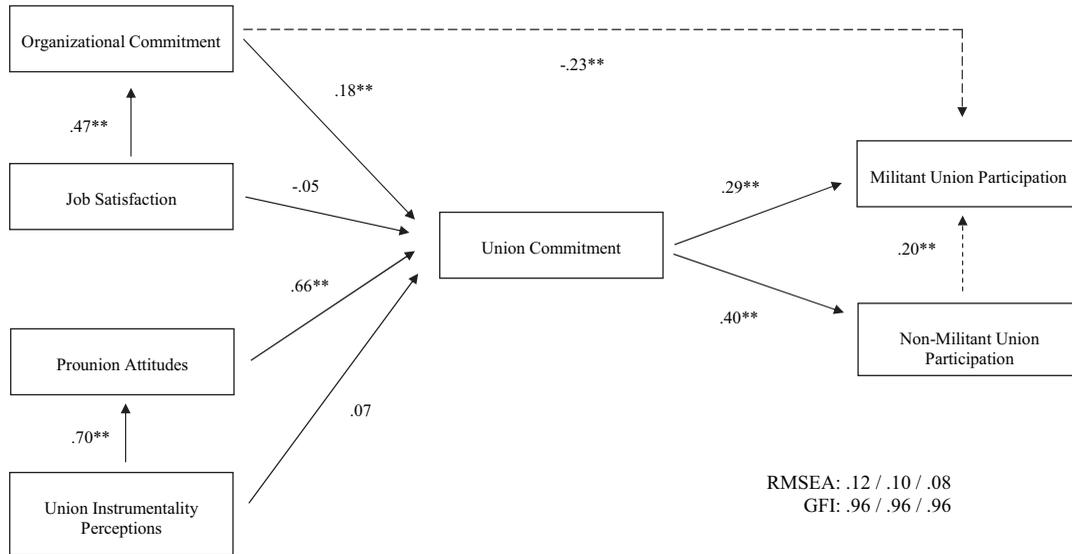


Figure 2. The first model is represented by solid lines. A second model has an additional path (short dashed line) between nonmilitant and militant participation. A third model builds on the second by adding a path (long dashed line) from organizational commitment to militant participation. The RMSEA and GFI fit indices for the first, second, and third models are separated by slashes and are in successive order. Path coefficients represent results of the final model tested ** $p < .01$

Discussion

Results of the current study provided support for the theoretical division of union participation into militant and nonmilitant participation in three of the four ways assessed in the present study. First, meta-analytic results showed only a moderate correlation between militant and nonmilitant participation. Second, there were variations in

Table 3. Hierarchical analyses of variables moderating the relationship between union commitment and union participation

Relationship	<i>k</i>	<i>N</i>	<i>Mean</i>		<i>Mean</i>		80%CI	% variance
			<i>r</i>	<i>SD_r</i>	ρ	<i>SD_{\rho}</i>		
Blue collar								
Union commitment → union participation	27	14 604	0.29	0.16	0.37	0.19	0.13–0.61	6.58
Union commitment → militant union participation	5	4938	0.28	0.16	0.37	0.20	0.11–0.62	3.47
Union commitment → nonmilitant union participation	22	9666	0.29	0.16	0.37	0.18	0.13–0.60	8.13
Intent to participate	2	920	0.62	0.00	0.74	0.04	0.66–0.80	38.17
Past participation	20	8746	0.25	0.12	0.32	0.14	0.15–0.50	14.24
White collar								
Union commitment → union participation	28	17 194	0.29	0.17	0.37	0.20	0.11–0.62	5.09
Union commitment → militant union participation	9	3851	0.16	0.19	0.21	0.23	-0.08–0.50	6.03
Union commitment → nonmilitant union participation	19	13 343	0.32	0.14	0.41	0.17	0.20–0.63	6.31
Intent to participate	4	2313	0.39	0.27	0.53	0.27	0.19–0.88	8.58
Past participation	16	12 407	0.30	0.11	0.39	0.13	0.21–0.60	8.93

Note: *k* = number of correlations; *N* = total sample size for all studies combined; mean *r* = average uncorrected estimated correlation; *SD_r* = standard deviation uncorrected estimated correlation; mean *p* = average corrected correlation estimate; *SD_{\rho}* = standard deviation of the corrected estimated correlation; 80%CI = lower and upper limits of 80% credibility interval; % variance = percentage of variance in correlations explained by statistical artifacts.

Table 4. Blue and white collar stacked path model results (harmonic $m = 249$)

Model fit parameters	Model 1	Model 2	Model 3	Model 4
Minimum fit function χ^2 (degrees of freedom)	61.93 (3)	37.49 (2)	26.29 (2)	1.85 (1)
Goodness-of-fit index (GFI)	0.85	0.91	0.94	1.0
Comparative fit index (CFI)	0.54	0.73	0.81	0.99
Tucker Lewis index (TLI) or nonnormed fit index (NNFI)	0.09	0.18	0.44	0.96
Root-mean-square of approximation (RMSEA)	0.21	0.26	0.22	0.06
Model comparison	M1 vs. M2	M1 vs. M3	M2 vs. M4	M3 vs. M4
χ^2 difference	24.44*	35.64*	35.64*	24.47*

* $p < 0.01$

Note: Model 1 specifies union commitment as the exogenous variable loading on both the exogenous nonmilitant and militant variables, but constrains all paths between groups. Model 2 is the same as Model 1, but frees the path between union commitment and militant participation between groups. Model 3 is the same as Model 1, but frees the path between union commitment and nonmilitant participation between groups. Model 4 is the same as Model 3, but frees the path between nonmilitant and union participation between groups.

Note: Some changes have been made to this table to correct layout and reporting of decimal places on 7 February 2011 after first publication online on 23 December 2010.

estimated true correlations between antecedents and each type of participation (see Table 1). The most prominent examples of this are the estimated true correlations of organizational commitment with militant and nonmilitant participation, -0.15 and 0.01 , respectively. Third, a test of moderators displayed meaningful differences between militant and nonmilitant participation with the antecedent of union commitment. The other way of examining the viability of militant versus nonmilitant union participation as a meaningful distinction was not as supportive however: The fit indices of the overall path model did not increase when the model was changed from a one- to a two-dimensional model of union participation.

There was a difference between the correlation of union commitment and militant ($\rho = 0.31$) versus nonmilitant ($\rho = 0.40$) union participation. The distinction seemed to be greater in some employee subgroups, however. Blue collar employees showed the same correlation ($\rho = 0.37$) between union commitment and both participation types, but among white collar workers, the difference in correlations of union commitment with nonmilitant participation ($\rho = 0.41$) and militant participation ($\rho = 0.21$) was quite large, suggesting that commitment may result in different actions by white and blue collar employees.

The blue collar and white collar groups were defined by job type within the organizational hierarchy, which create differentials in terms of access to resources and status. White collar employees have more resources to leverage and also a greater stake in the success of the organization (Cook et al., 1978), which may explain the stronger relationship between commitment and nonmilitant participation and the weaker relationship between commitment and militant participation. They are already receiving more resources from the organization than many blue collar workers, and they therefore might feel they have more to lose by striking. They also may feel that they do not need to take such militant action to achieve their goals if they have more influence within the organization than blue collar workers do. Just having a union may make them feel they are protected, and therefore they might view serving the union by nonmilitant participation as adequate.

Intent to participate, versus self-reported past participation, was also tested as a moderator. Most militant participation studies included in the current analysis relied exclusively on measures of intent to participate, whereas the majority of studies of nonmilitant participation involved self-reported past participation. The meta-analysis indicated the association between commitment and intent is higher than the association between commitment and past participation (Table 3). More primary research is needed that relates intent to act militantly and actual militant actions, so that intentions can be modeled as a predictor of actions instead of being used as a proxy for actions themselves.

Finally, with regard to the current path model results, the positive mean estimated true correlation between perceptions of union instrumentality and union commitment of 0.56 decreased to 0.07 when all variables were in the model. The strong relationship between pronunion attitudes and union instrumentality ($p = 0.70$) as well as pronunion attitudes and union commitment ($p = 0.73$) indicated multicollinearity among these three variables. The reduction in the magnitude of the relationship between instrumentality and commitment in the multivariate analysis is likely a statistical artifact resulting from suppression (Conger, 1974).

Future research

Two implications for future research stand out from the current study: The influence of antecedents of union participation are at least in part, dictated by the specific type of participation (i.e., militant or nonmilitant); and group membership influences the magnitude of the key relationship between union commitment and participation.

First, the two types of participation seemed to show different relationships with antecedents in previous literature, and the present met-analysis confirmed this statistically. Previous studies of the dimensionality of participation are somewhat equivocal, and in the present study the distinction received support in some analyses, but not all. Because one of the key tests of the distinction between militant and nonmilitant participation, the comparison of overall model fit for two versus one type of participation, was not supportive, we recommend future primary research on typologies of union participation. In the present meta-analysis, we could only test an overall path model including whatever measure of participation each study used, but primary studies can measure many specific participation actions simultaneously and conduct confirmatory factor analyses on the militant–nonmilitant distinction or other possible typologies.

Secondly, it is important to understand group differences in union participation, participation type, and antecedents. Researchers may do well to consider combining more novel frameworks for understanding group behavior, such as social dominance theory (Sidanius & Pratto, 1999), with more traditional thinking about labor union participation (frustration-aggression theory, cost benefit analysis, social background/socialization) in order to provide a more comprehensive understanding of labor union behavior. The present study showed that groups defined by organizational status differ in the way commitment leads to type of union participation, especially to militant participation. An area for subsequent research would be to understand the status-based norms, beliefs, and attitudes that account for differences in white collar union members' decisions to participate in militant or nonmilitant activities, versus their blue collar counterparts. Based on the present study, union commitment among white collar workers is more likely to lead to their nonmilitant participation than to more militant actions; blue collar workers do not appear to be more likely to take one type of action than the other, however.

Limitations

Analysis of moderating relationships proved to be difficult. There were several potential moderators of interest that, due to the low number of studies in some cells (in some cases zero), could not be tested as moderators. Future primary research could examine the potential moderating effects of some of these, including industrial relations climate, perceived economic hardship due to union participation, and company and union tenure

Regarding Klandermans' (1986) recommendations, two of his three theoretical approaches to union commitment and participation research helped to direct the current review, namely the frustration-aggression approach and the cost-benefit analysis, but his third approach (interactionism) did not. The interactionist approach argues that participation is decided upon by employees based on how it may affect their social network within and outside of the workplace. Thus important variables to consider would include social network effects such as spousal reactions and family and friends' involvement in the union. The extent to which employees feel connected to these other people will affect their decision to participate. Unfortunately the current review did not yield many studies with these

variables, and therefore this is another area to recommend for more primary research in the future. Although studies that used union-family conflict as a variable were too few to meta-analyze (Angle & Perry, 1986; Cohen, 1992; Cohen, 1993b; Kelloway et al., 2000; Mellor, Mathieu, & Swim, 1994), they provide an empirical starting point for future research.

Conclusion

The present study provided an update and extension of an integrative model of union participation (Bamberger et al., 1999), resulting in contingency model. We offered practical and theoretical reasons for the differentiation between militant and nonmilitant union participation and their likely antecedents. Many studies provided evidence for differences between types, length, and intensity of union participation. We proposed that militancy is one dimension on which to differentiate these variations in participation. The difference in strength of relationship between union commitment and these two forms of participation offers evidence for the importance of this conceptualization. Additionally, results show a difference in magnitude of the relationship between commitment and participation type in white versus blue collar workers. These group differences may be particularly important for economies and workplaces with disparities in socioeconomic class or status.

References marked with an asterisk indicate studies included in the metaanalysis.

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