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Roland E. Kidwell Jr
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**The impact of contextual variables on the propensity of
individual employees to withhold effort: A multi-organization
analysis**

Kidwell, Roland E., Jr., Ph.D.

The Louisiana State University and Agricultural and Mechanical Col., 1994

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Ann Arbor, MI 48106

THE IMPACT OF CONTEXTUAL VARIABLES ON THE PROPENSITY
OF INDIVIDUAL EMPLOYEES TO WITHHOLD EFFORT:
A MULTI-ORGANIZATION ANALYSIS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Interdepartmental Program in Business Administration

by

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May, 1994

DEDICATION

This work is dedicated to three people. It is dedicated to my parents, Roland E. Kidwell, Sr. and Jane H. Kidwell, who have provided unwavering encouragement and love throughout my 36-plus years on this earth. They have always offered their full support in anything I have attempted to do, particularly this latest scheme that has unfolded over the last five years.

This dissertation is also dedicated to my wife, Linda Achey Kidwell, Ph.D., who has been a constant source of guidance, support and faith ever since we met in my second semester in the doctoral program when I asked her to read one of my class papers. A mere dissertation withers into insignificance when compared to all that we have created in the past four years, and all that we hope to create, with God's help.

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Many people have made major, moderate and minor contributions to prepare me for my first career in the newspaper business, for graduate school, and for the completion of this dissertation. I'll mention only a few here that have had a major influence:

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ABSTRACT

This dissertation synthesizes theory and research in economics, social psychology, sociology and management to present and test a model of employee propensity to withhold effort (PWE) in work groups in 10 organizations. The dissertation extends to work organizations Knoke's (1990) synthesized motivation model, which suggests that rational, normative conformity and affective bonding incentives act together to predict whether people will contribute to collective activities. A study of 570 private-sector employees found that when employees perceived high degrees of task visibility, group effort norms, equity and altruism, they would be less likely to withhold effort in job-related tasks. As predicted, payment of a wage premium, controlling for alternative unemployment opportunities, was negatively related to PWE in two of four variants of the dependent variable. Work group size was positively related to PWE in two of four variants of the dependent variable. Whereas the complete model was not supported in multivariate analyses, results indicated that contextual variables are important predictors of PWE and merit further study.

CHAPTER 1

INTRODUCTION AND LITERATURE REVIEW

This dissertation brings together theory and research in economics, social psychology, sociology, and management to present a model that depicts conditions under which employees are likely to withhold effort in completing assigned tasks. An important element of the dissertation is the extension of Knoke's synthesized motivation model (Knoke, 1990; Knoke & Wright-Isak, 1982) to work organizations. The model blends rational, normative conformity and affective bonding incentives to predict whether people will contribute to collective activities.

Concern about employee propensity to withhold effort (PWE) goes back to management pioneers such as Frederick Taylor (1911), whose scientific management was designed, in part, to prevent workers from limiting the amount of work they would do in a day. In the Hawthorne studies, observers discovered how informal norms could hold production at levels that group members felt were appropriate (Roethlisberger & Dickson, 1939). Since then, various studies have focused on withholding effort, at work and elsewhere (e.g., Cappelli & Chauvin, 1991a; Latané, Williams & Harkins, 1979; Marwell & Ames, 1979, 1980; Roy, 1952).

This study considers relations among variables such as group size, task interdependence, task visibility, opportunities for establishing and repeating cooperation,

group demography, perceptions of group compliance effort norms and of altruism, and employee PWE.

Need for the Study

The proposed study is needed because (a) an integrated model of PWE determinants has not been proposed and tested, (b) previous research into PWE has overemphasized self-interest motives, (c) previous research into PWE has not considered on-going work groups across organizations, and (d) gaining knowledge of such group processes may enhance organizational effectiveness by improving performance by work teams.

Although there have been several PWE studies, there has not been an attempt to test a model integrating determinants that are theoretically important in predicting when employees are likely to withhold effort. Theorists have proposed models with which to study PWE (e.g., Jones, 1984; Spicer, 1985), but their models have not been empirically tested in on-going work groups. Previous research has concentrated on a few of the determinants that may contribute to employee PWE. For example, George (1992) studied perceived task visibility and intrinsic motivation as predictors of PWE. Contextual characteristics that may explain employee PWE, such as group size, task interdependence, and perceived group norms were not addressed in her study.

In addition, previous models have stressed rational cost-benefit analysis in attempting to explain PWE (Jones, 1984). In doing so, they neglect on-going social influence processes. Economic theories -- and their management applications -- generally fail to consider the impact of social structure, such as group norms, on predispositions, or they treat social structure as something that sets action in motion and then does not intervene (Granovetter, 1985).

Many work-group phenomena in business organizations (e.g., concern for other team members, prosocial behavior and organizational citizenship), may contain elements that cannot be explained by pure calculation, but involve moral incentives (Shamir, 1990). No existing model brings together rational cost-benefit considerations as well as conformity to norms and employee desires to establish emotional attachments with co-workers to suggest how these variables might predict PWE. Following Knoke's (1990; Knoke & Wright-Isak, 1982) work in collective-action organizations, this study will attempt this synthesis.

A major unanswered question concerning PWE is the extent to which job context and group composition help shape levels of individual effort in work groups. It is important to address this question because managers as well as academics continue to emphasize that group performance can enhance or inhibit organizational effectiveness (Bettenhausen, 1991). Thus far, most studies of withholding

effort have used small-group laboratory simulations or work groups in a single organization. Studying more than one organization provides greater contextual information, and may confirm in existing groups the findings from research of temporary groups that were formed to be studied and then disbanded. It is important to study PWE in existing work groups because much of the research into related topics has taken place in newly formed groups of strangers where interpersonal relationships have yet to crystalize (Levine & Moreland, 1990; Shepperd, 1993). Studying individual behavior in work-group contexts may yield results not seen in other studies because employee perceptions and predispositions may be shaped by informal relationships and norms that do not fully develop in temporary groups.

Finally, if important antecedents to withholding effort can be identified in existing work groups, managers could use this information to improve organizational effectiveness. Organizations beset with productivity problems are likely to be ineffective in coping with a tough competitive environment, and their survival could be threatened. Identifying variables that contribute to employee PWE may aid organizations in making necessary changes to obtain optimal group performance.

Shirking, Social Loafing and Free Riding

The terms shirking (Alchian & Demsetz, 1972), social loafing (Latané, Williams & Harkins, 1979) and free riding

(Albanese & Van Fleet, 1985a) have been employed in studies of withholding effort. Whereas shirking, social loafing and free riding have been used to describe similar phenomena by researchers in different disciplines, they often have been treated as conceptually distinct. Articles on these three topics sometimes use the terms synonymously and sometimes define them differently. Some authors mention two of the terms and not the third; some only employ one of the terms.

Exhibit 1.1 lists definitions of the three terms used in previous PWE theory and research. In brief, the literature summarized in this chapter suggests that shirking, social loafing and free riding all involve individuals withholding effort while performing a task, that social loafing and shirking are related to imperfect monitoring of effort, and that free riding may be a tendency that occurs because of the nature of a group's task.¹

Shirking, social loafing, and free riding are defined as follows. Shirking is the tendency for employees not to give full effort in performing a work-related task.

Propensity to shirk is a likelihood that an employee will not provide full effort. The focus is on effort, rather than performance, because the former is most directly under employees' control, where the latter depends on various factors that may be outside employees' control. In addition, employees with less ability may give 100 percent

Exhibit 1.1
Definitions of shirking, social loafing and free riding

SHIRKING		
AUTHOR	DISCIPLINE	DEFINITION
Alchian & Demsetz, 1972	Economics	With several members on the team, each has an incentive to cheat the others by engaging in more than an average amount of leisure if the employer cannot tell at zero cost which employee is taking more than average. As a result, the total productivity of the team is lowered.
Leibowitz & Tollison, 1980	Economics	Shirking is an increase in an individual's tendency to supply less effort.
Jones, 1984	Management	Shirking occurs when a person has a positive incentive to supply less effort.
Cappelli & Chauvin, 1991a	Economics	Shirking was equated with unproductive behavior in this study.

SOCIAL
LOAFING

Latané, Williams, & Harkins, 1979	Social Psychology	In clapping and shouting tasks, subjects exhibited a sizable decrease in individual effort when performing in groups compared to when they performed alone. The decrease, termed social loafing, is in addition to losses from faulty coordination of group efforts.
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(exhibit con'd)

Kerr & Bruun, 1983	Social Psychology	Social loafing is a motivation loss in groups caused by reduced identifiability or evaluation.
Williams & Karau, 1991	Social Psychology	Social loafing is a tendency to reduce one's effort when working collectively compared with individually on the same task.

FREE RIDING

Stigler, 1974	Economics	Free riding is a tendency for individuals to fail to participate in collectively profitable activities in the absence of coercion or individual incentives.
Leibowitz & Tollison, 1980	Economics	Free riding is a dilution in the concern to control costs.
Jones, 1984	Management	Free riding occurs when a person has a negative incentive to control or minimize costs.
Albanese & Van Fleet, 1985a	Management	Free riding is a passive reaction to task conditions. Free rider is a group member who obtains benefits from the group but does not bear a proportional share of the costs.

(exhibit con'd)

Albanese & Van Fleet, 1985b	Management	Free riding behavior is manifested in a variety of ways, including social loafing, shirking, excessive argumentation, 'dropping out', and attempts at individual domination.
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effort and not perform as well as those who give less than 100 percent effort. Thus, employees giving less than 100 percent are shirking even though their output may be higher than those giving more effort.

Social loafing is a special case of shirking that occurs in groups. Social loafing is a tendency to reduce one's effort when working collectively compared with individually on the same task (Williams & Karau, 1991). Social loafing involves a loss in contribution from declines in motivation rather than coordination (Steiner, 1972).

Free riding is also a special case of shirking that happens in a group context, but it occurs by passive reaction to conditions rather than an active attempt to withhold effort. Free riding is a tendency for individuals to fail to participate in collectively profitable activities in the absence of coercion or individual inducements (Stigler, 1974). As Jones (1984) states, free riding might occur when there are negative incentives for each employee to control or minimize production costs. A defining feature of free riding is the instance in which it occurs: production of public goods.

A public good has two characteristics (Albanese & Van Fleet, 1985a; Olson, 1965): (a) Impossibility of exclusion. No one can be prevented from using the good. (b) Jointness of supply. If a good has jointness of supply, its consumption by one person does not reduce the amount available to others. Public goods, such as low production costs, committee reports, a drug-free workplace, safer working conditions, or increased departmental reputation, must be provided to all group members if they are provided to any group member. None of these goods can be consumed individually, and in many cases benefits cannot be restricted to the group that helped produce them (Shamir, 1990).

The common denominator of shirking, social loafing, and free riding is an individual who provides less than 100 percent participation or effort, and the difference among the three concepts may be the reason why, or context in which, a lack of participation or a drop in effort occurs. In shirking, withholding effort can result from various motivations and circumstances, such as monitoring difficulties, self-interested behavior, and opportunism. In social loafing, withholding effort results as one moves from an individual performing alone to the same individual performing in a group, perhaps because a collective task is involved and individuals can hide in a crowd. In free riding, withholding effort occurs because public goods are

involved, and it is rational not to contribute because free riders believe they can receive the goods by letting others produce them.

Economists have attempted to predict when shirking (i.e., withholding effort) will occur based on whether above market wages are paid in times when employees lack alternative employment opportunities (Cappelli & Chauvin, 1991a; Yellen, 1984). Psychological research has concentrated on social loafing and attempts to predict when withholding effort in group activities will occur based on group size and whether tasks are identifiable and visible (Harkins & Petty, 1982; Williams, Harkins & Latané, 1981), and whether there is equity within the group (Jackson & Harkins, 1985). Sociological research has looked at free riding and collective action in providing public goods (e.g., Marwell & Ames, 1979, 1980, 1981; Oliver, Marwell & Teixeira, 1985) and tried to predict when withholding effort will occur based on normative influences on group members and the presence of a critical mass of support. Management theorists and researchers have pursued all three avenues: social loafing (e.g., Earley, 1989, 1993; Schnake, 1991a), shirking (e.g., Judge & Chandler, 1990), and free riding (e.g., Albanese & Van Fleet, 1985a).

The following example involving provision of a public good may help clarify (a) how shirking, social loafing and free riding are similar, (b) how all three concepts can be

present simultaneously and studied in a work group and (c) how all three concepts are due to withholding effort by individuals.

An employee belongs to a five-member work group at the XYZ corporation, which pays all members based on group productivity. While working with the group one day, the employee does not provide full effort on a job-related task. Observers might label the employee's behavior shirking, social loafing, or free riding, perhaps depending upon their research orientation. Economists may consider the behavior shirking because it was unproductive leisure that lowered total output of the work group. Social psychologists may label the behavior social loafing because lack of effort resulted from reduced identifiability because the employee worked in a group, rather than alone. Sociologists might consider the lack of effort to be free riding because a public good (group output) was involved, and the employee permitted co-workers to make greater contributions. Yet, the employee shares the group reward despite giving less effort than others. In summary, shirking, social loafing, and free riding may confound an employee's behavior with the reasons for and the context in which it occurred.

Reasons to Study Withholding Effort in Groups

Propensity to withhold effort (PWE) is a common characteristic of shirking, social loafing, and free riding. It is used as the dependent variable in this study because

it encompasses varied tasks, different settings, and individual predispositions whereas shirking, social loafing and free riding are more specific applications. Studying PWE in general terms may provide clues about how and when processes such as shirking, social loafing and free riding occur.

This study addresses an overriding research question: How do contextual organizational elements relate to the propensity of employees to withhold effort in work groups? But this implies another question: Why are group contexts important to the study of an individual's PWE? The first reason is that whereas withholding effort is a behavior engaged in by individuals, it occurs and is usually studied in the context of group and organizational activities, and can be a function of group characteristics (e.g. Jones, 1984; Latané, Williams & Harkins, 1979; Spicer, 1985).

Withholding effort becomes more prevalent when group members have less incentive to contribute effort because their individual contributions cannot be measured (i.e., task visibility is low; Jones, 1984; Spicer, 1985). Several incentives could influence PWE, including (a) the inability of the supervisor to monitor what employees are doing (Yellen, 1984), (b) the employee's perception that strong compliance norms (Heckathorn, 1990) in the group require certain effort levels, (c) the perceived presence of altruism among co-workers (Spicer, 1985), and (d) the lack

of opportunity for repeated interaction among co-workers (Spicer, 1985). These incentives all emanate from interaction in the work group. Hypotheses regarding the relationship of these contextual variables to PWE will be discussed in Chapter 2.

This study considers relationships between two interdependent components: individuals and work groups. A social system is formed from the mutual activities, interactions and sentiments of active work-group members (Homans, 1950). As is true in relations between individuals and collective action organizations (Knoke, 1990), links between a work group and its members produce many important research questions. These include how variables such as size, incentives, a group's formal and informal means of governance, demography, and norms constrain predispositions and actions of group members.

In relating an individual to a collective action organization, Knoke (1990) suggests that the most proper theoretical stance is methodological individualism, which views social phenomena as reciprocal relations between individuals and groups in the social system. Knoke (1990) suggests that the first step in studying collective action organizations is considering the process by which people get involved in these organizations: how they decide to join, how much they participate, the extent of their psychological commitment. He brings together three theoretical

perspectives in addressing how individuals are motivated to join and make contributions: rational choice, normative conformity and affective bonding.

In this attempt to extend his model to work groups, it is first recognized that individual motivation to join work organizations is mainly economic, and economic exchange girds relationships (Jones, 1984; Brief & Aldag, 1989) between employee and employer. However, it is true that not all behavior in organizations can be explained by economic motivation (Shamir, 1990). This recognition led to the study of organizational behavior performed to help other people (Brief & Motowidlo, 1986; Organ, 1988); it also argues for considering the role non-calculative incentives such as normative conformity and affective bonding play in an employee's tendency to act in a certain way.

Figure 1.1 shows a general model of work-group interaction that presents withholding effort (shirking, social loafing and free riding) as an intervening process that leads to important outcomes such as performance. Group and task variables such as size, interdependence, visibility and demography are contexts that affect group processes as well as outcomes. This figure shows relationships considered in previous conceptual work or tested in previous research, as well as relationships proposed as part of a model to be tested in this study. The figure will structure the review that comprises the rest of this chapter.

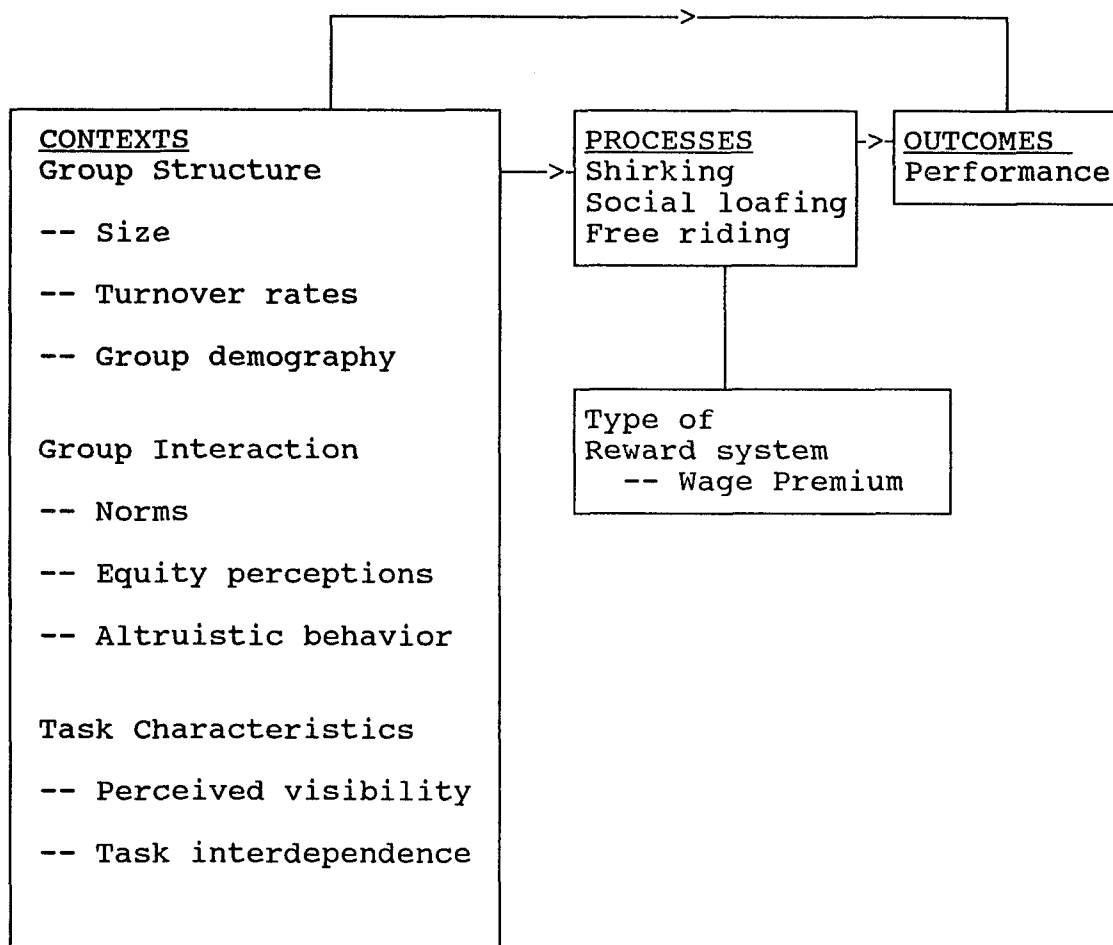


Figure 1.1
A preliminary model of work-group interaction

Review of Relevant Theory and Research

The following sections summarize research into withholding effort in economics, social psychology and sociology, citing advances and limitations in each area. Major theoretical and empirical studies are listed in Appendix A.

Economics: Shirking, efficiency wage and gift exchange

Shirking is central to major economic areas of theory and research such as theory of the firm (Alchian & Demsetz, 1972), agency theory (Jensen & Meckling, 1976), and transactions costs perspectives (Williamson, 1975, Jones, 1984). Economists view shirking as a moral hazard that occurs due to monitoring difficulties, pursuit of self-interest and opportunistic behavior (Alchian & Demsetz, 1972; Jensen & Meckling, 1976).

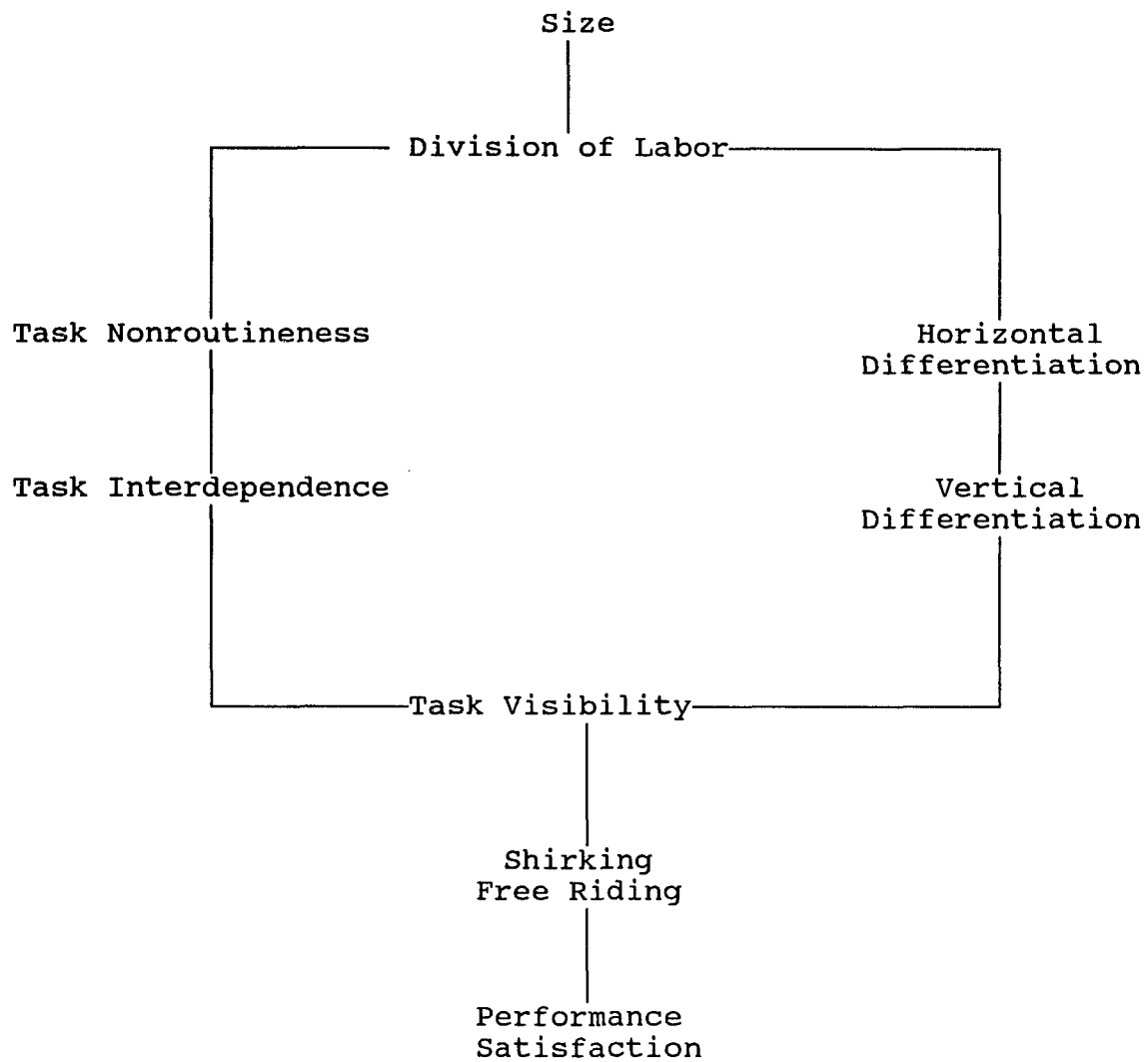
A prominent strategy in economics has been to deal with shirking by enhancing the visibility of an individual's contribution to an organization's tasks (Alchian & Demsetz, 1972), and by internalizing externalities (Demsetz, 1988) (i.e., creating a firm). This property rights perspective in industrial-organization economics (Alchian & Demsetz, 1972; Demsetz, 1988) stresses the importance of transforming what Olson (1965) called public goods [or public property] into private goods [private property] to pinpoint individual accountability.

The theory of the firm (Alchian & Demsetz, 1972) examined individual incentives to engage in shirking. It suggested that each employee will have more incentive to shirk when working as part of a team than in situations when individual performance could be monitored easily, or when not working as part of a team. One method of reducing shirking in team production (e.g., lifting heavy cargo into trucks) is for a monitor to check the input performance (effort) of team members. Concentration on inputs is necessary because in team production individual outputs may be hard to isolate. Establishing a monitor, and a monitor of the monitor, gave rise to the firm.

Opportunistic shirking is an element of agency theory (Jensen & Meckling, 1976). Agency theory attempts to resolve two problems in relations between principals and agents. These problems are: (a) agency, which arises when there is goal conflict between principal and agent, and when it is difficult for the principal to monitor the agent's behavior; and (b) risk sharing, when principal and agent have different attitudes toward risk. Agency theory has been applied to both macro and micro organizational phenomena, such as compensation, diversification strategies, vertical integration, and relationships between boards of directors and top management (see Eisenhardt, 1989, for a review).

A model linking structure, technology and individual shirking behavior was proposed by Jones (1984) who used a transaction costs approach. His model is reproduced in Figure 1.2. Jones (1984) suggested that transaction costs approaches differ from job modification approaches (e.g., Brass, 1981) to structure-behavior relationships in two ways. Transaction-costs approaches provide an extrinsic rationale for behavior, and they take a rational, self-interested view of behavior. Job modification approaches put greater emphasis on intrinsic motivation and self-actualization.

Transaction costs economics (Williamson, 1975) argues that employees have strong incentives to withhold effort and no incentive to improve performance unless they can demonstrate discrete performance contributions and obtain rewards that come with higher performance. The Jones (1984) model stresses the importance of shirking and free riding as a mediator between structure and technology, and individual performance. Once again, visibility of individual contributions is considered a predeterminant of a person's shirking behavior. The model focused on designing work procedures or controls to allow monitoring and evaluation of an employee's discrete performance. The model's predictions have not been explicitly tested, other than a study by George (1992).



Source: Jones, 1984

Figure 1.2
Relationships among structure, technology and performance

Efficiency wage models identify four benefits to companies that pay wages higher than the market rate: (a) reduced employee shirking due to higher cost of job loss, (b) lower turnover, (c) improved applicant quality, and (d) better morale (Yellen, 1984). The most popular arguments of the efficiency wage hypothesis are "those suggesting that wage premiums and the threat of losing them create incentives for employees to reduce unproductive behavior or 'shirking' " (Cappelli & Chauvin, 1991a, p. 769).

The relation of shirking to above-market wages stems from a monitoring problem that results because of discretion that most employees have in their jobs. An employer can rarely specify all aspects of an employee's performance, particularly amount of effort expended. Piece rates and constant supervision are often hard to implement because of cost or inaccuracy. In these circumstances, the employer may pay a wage higher than market to give employees an incentive not to shirk. Employees who shirk may be caught and fired. Employees -- assumed by this theory to be rational, utility maximizers -- would see that if they were fired in times of less than full employment, they would lose a wage premium. If there is no unemployment and all firms paid the same, there would be no shirking costs, and it is assumed that all employees would shirk.

Recent tests of the efficiency wage hypothesis by economists found support for the relationship between above-market wages and a decline in shirking. Cappelli and Chauvin (1991a) examined employee discipline rates and relative wage premiums across plants in the same company. They found that greater wage premiums are associated with lower levels of shirking, as measured by disciplinary dismissals, when labor market conditions, such as unemployment, limit alternative employment opportunities.

Krueger (1991) contrasted company-owned fast-food restaurants with those owned by franchisers, predicting that these types of ownership arrangements give managers of company outlets less incentive to monitor and supervise employees than franchisers. He found compensation higher at company-owned outlets than at franchise outlets, and a stronger relationship between tenure and wages at company outlets. These results suggested that monitoring problems influence timing and amount of compensation, lending support to the efficiency wage model.

Akerlof (1982, 1984), in his variant of efficiency wage models (labor contracts as partial gift exchange) proposed that employees' efforts depended on norms determining a fair day's work. The partial gift exchange model suggested that companies pay more than a market-clearing wage to affect those norms. Akerlof began with Homans's (1953, 1954) studies of utility company workers, which found that a small

group of workers significantly exceeded minimum company work standards even though the workers did not expect or desire a promotion in return for their efforts.

The partial gift exchange model suggested that in working together, employees acquired sentiment for each other and for the company, and because of sentiment for the firm, the employees gain utility for an exchange of 'gifts' with the firm -- the amount of utility depending upon the norms of gift exchange.

Akerlof suggested that behavior norms -- implicit contracts -- are a major determinant of output. Akerlof (1984) said that payment of efficiency wages in the context of partial gift exchange is applicable to four labor market paradigms. These paradigms include dual-labor markets (Doeringer & Piore, 1971), Weber's theory of organization, informal work-group dynamics (Roethlisberger & Dickson, 1939), and equity theory (Adams, 1963). Two common themes that run through these paradigms and affect the amount of effort employees will provide are loyalty to the company and perceptions of fairness between employer and employee. Akerlof (1984) suggested that paying above-market wages improves loyalty, affects fairness perceptions (equity overpayment), and increases effort.

Other economic approaches to shirking suggest that compensation policies decrease employee motivation to shirk. These include the delayed-payment model in which companies

pay wages that are first below and later surpass current marginal product (Lazear, 1979), and use of tournament games in which employees compete for top-paying jobs (Lazear & Rosen, 1981). The shirking model is considered in this study because it has a greater concern with normative influences on PWE in work groups. The other approaches -- while involving compensation policies -- are not as centered on how group interaction may influence PWE.

Summary of the economic approach. Withholding effort (i.e., shirking) provides a foundation for economic theories such as agency, transaction costs, efficiency wage and other compensation approaches and theory of the firm. Economists who study shirking generally assume that employees want to maximize self-interest. Even when fairness and exchange norms are noted (e.g. Akerlof, 1982), the focus is on the material gain acquired by employees who are affected by sentiments for each other and a firm.

The most complete model of shirking determinants at different levels of an organization (Jones, 1984) rests on economic assumptions of self-interest, and has yet to be tested. The model is important because it ties together different levels of analysis that may have an impact on an individual's PWE, but it does not consider motivations that are non-economic.

Other difficulties in economic approaches to shirking involve measurement and assumptions of the efficiency wage

hypothesis regarding shirking. The shirking model suggests that employees who are caught shirking are fired, and that they know they will be fired if they are caught. However, workplace discipline typically involves a progression of sanctions from oral reprimands, to written reprimands, and finally to termination (Arvey & Jones, 1985). These disciplinary actions provide an opportunity for employees to correct inappropriate behavior and, as a role model, to deter other employees from engaging in deviant behavior. Further, there is a problem in using disciplinary dismissals as a sole proxy for shirking (e.g. Cappelli & Chauvin, 1991a). Many shirkers may be reprimanded instead, and this use of discipline may have an impact on the PWE of others. Disciplinary dismissals may be most appropriate to use in combination with other measures to indicate shirking at work.

Shirking has been defined and operationalized in economic studies as productivity or performance rather than effort (e.g., Cappelli & Chauvin, 1991a). The problem with using performance to measure shirking is that work effort is much more in an employee's control than performance (Schwab, Olian-Gottlieb & Heneman, 1979), and may be less affected by the many factors that influence performance. It may be true that withholding effort is not merely the reverse of performing well. As noted, Jones (1984) considered shirking to mediate actual performance, not to be the opposite of

performance. For example, a high performer can produce more with less effort, and may produce what is required at a particular job but not give full effort. At times, the high performer may hold back effort, and this may not be reflected in productivity measures.

One important contribution of economics to the study of shirking is the idea that compensation is a major determinant of whether employees withhold effort. In this study, compensation practices are used to test a model that offers a multi-faceted view of motivation that goes beyond rational choice assumptions to consider several determinants of employee PWE. Measurement may be enhanced because PWE is more related to the shirking process than performance measures frequently used in economics.

Social psychology: Social loafing and social dilemmas

Social loafing refers to a tendency for people to put forth less individual effort while working in groups than they would working alone (e.g., Earley, 1989; Latané, Williams, & Harkins, 1979). A recent meta-analysis of 78 studies found the social loafing effect to generalize across tasks and populations, and be moderated strongly by performance identifiability, expectations of co-worker performance, task meaningfulness, and culture (Karau & Williams, 1992a).

Research interest in comparing individual productivity with overall group productivity dates to the 19th century

when Ringelmann conducted studies into group effort at pulling on a rope (Kravitz & Martin, 1986). Ringelmann observed that when groups of people pulled on a rope, their collective performance was inferior to what should have been expected from previous individual performances. Ringelmann asked subjects to pull as hard as they could on a rope either alone or with one, two or seven others.

Using a strain gauge to measure how hard they pulled -- assuming that one person alone pulled at 100 percent of effort -- Ringelmann found that when pulling with one other, each member pulled at 93 percent of potential average ability. Members of triads pulled at 85 percent of ability, and members of groups of eight pulled at 49 percent of ability. Ringelmann illustrated that lack of individual effort became greater as groups grew in size and contributions of individual members became less visible. Later researchers viewed the problem as one of coordination (Steiner, 1972) and motivation (Latané, Williams, & Harkins, 1979).

Laboratory studies (Harkins & Petty, 1982; Williams, Harkins & Latané, 1981) indicate that individual efforts in such exercises as handclapping and shouting decreased as group size increased. In addition to group size, task variables were manipulated in loafing studies. These included identifiability, uniqueness and type. Studies reporting social loafing effects used non-identifiable tasks

(Harkins, Latané, & Williams, 1980). Studies that manipulated identifiability of individual members' contributions (Harkins & Petty, 1982; Williams, Harkins, & Latané, 1981) suggested that social loafing effects can be eliminated by making tasks identifiable with particular individuals, eliminating ability to hide in the crowd.

But Harkins and Petty (1982) found that even when tasks are unidentifiable, social loafing may not occur if subjects believed tasks to be difficult or unique. Loafing can be reduced by making a task more challenging or by giving each subject a different task to perform. Zaccaro (1984) found less social loafing in work groups of two to four when task attractiveness was high rather than low. As group size increased, social loafing increased when task attractiveness was low, but social loafing decreased as size increased when task attractiveness was high. A recent study supported the notion that people work harder collectively when they expect co-workers to do poorly on a meaningful task (Williams & Karau, 1991).

Other research has attempted to increase understanding of loafing by considering what mechanisms may lead to it. Jackson and Harkins (1985) investigated if individual group members would reduce effort because they expect co-performers to loaf, and thus reduced their own efforts to establish equity. Subjects were believed to reduce effort

"rather than be a sucker and carry a free rider" (Kerr, 1983, p. 823).

The manipulation used to test for this effect is similar to an underpayment condition in equity theory research: Two people arrive at a lab to take part in a purported study together for similar compensation [extra credit or class requirements]. A subject is led to believe that a co-worker [a confederate] will put in less effort on the task, and researchers test whether the subject subsequently reduces effort. Equity theory would predict this result as the subject tried to reduce tension caused by perceived inequity. Attempts by the confederate to reduce effort may violate norms of equity and social responsibility, that everyone should do a fair share (Schnake, 1991a).

Research has also demonstrated that the social loafing phenomenon occurred in tasks believed to have social value to participants and required cognitive information processing, rather than physical effort (Weldon & Gargano, 1985; Weldon & Mustari, 1988). Subjects led to believe they shared responsibility with another person tended to use less information in evaluating a decision than those who believed they were solely responsible. These studies led to a conclusion that feelings of dispensability can sometimes cause social loafing and that feeling necessary can motivate effort despite anonymity (Weldon & Mustari, 1988).

In a study of salespeople in an on-going organization, it was found that task visibility and intrinsic task involvement were both negatively related to social loafing (George, 1992). That study found that intrinsic involvement moderated the relationship between task visibility and social loafing. The relation between task visibility and social loafing was strongest when intrinsic involvement was low.

Social dilemmas (Dawes, 1980; Orbell & Dawes, 1981) occur when individual group members engage in behavior that would have negative consequences if all members engaged in it, as seen in the "tragedy of the commons" (Hardin, 1968). Each group member receives a higher monetary payoff for not cooperating with other members of the group in some activity regardless of what other members do; this lack of cooperation is often manifested in diminished effort. There are two varieties of dilemmas: collective traps (in which behaviors that reward individuals yield negative outcomes when exhibited by enough people; Platt, 1973), and collective fences (in which behaviors that cost individuals yield negative outcomes when avoided by enough people; Levine & Moreland, 1990).

Two solutions to social dilemmas have been advanced: (a) Individual solutions, in which behavior of individual group members is modified, and (b) structural solutions, in which a dilemma is removed through group action (Levine &

Moreland, 1990). Liebrand's (1986) study indicates that in reaching individual solutions to social dilemmas the motives and social values of group members influence their conduct. Research on provision of step-level public goods, goods that result from a multi-step process, indicates that altruism and other social values may be meaningful in determining behavior (Rapoport, 1987).

Studies focusing on social dilemmas involving shared group resources found that three factors impacted group members' individual solutions: (a) self-interest; (b) a desire to use the resource responsibly, and (c) conformity to inherent group norms (Samuelson & Messick, 1986). In addition, communication among group members may aid in cooperation by promoting group identity or providing a chance for members to make promises of cooperation (Dawes, Orbell, Simmons, & van de Kragt, 1986).

Researchers have considered several variables in examining structural solutions to social dilemmas. These studies examined variables such as a payoff system (Dawes, et al., 1986), the framing of cooperative and competitive decisions (Rutte, Wilke, & Messick, 1987), group size (Kerr, 1989a), and social norms (Kerr, 1989b, cited in Levine & Moreland, 1990). Structural solutions such as electing a strong leader or developing a punishment system may be appropriate when a group is not efficient in dealing with common resources, and when free access to resources leads to

large inequities among members (Samuelson & Messick, 1986; Samuelson, Messick, Wilke, & Rutte, 1986). Yamagishi's (1986) structural goal/expectations theory assumes that structural solutions are adopted when group members develop cooperative goals, and understand that structural solutions are effective.

Summary of the social psychology approach. Research into social loafing and social dilemmas has helped increase our understanding of how group processes serve as intervening variables in relationships between group structure and group performance. Whereas rationality assumptions undergird much of the research, these studies have introduced variables and findings that point out the importance of the social influence process, particularly conformity to group pressure, on individual PWE. These variables include nature of the task, norms of equity involved in relative individual contributions, and altruistic values.

Group characteristics -- particularly size and visibility of member contributions -- that were seen to be important in the study of social loafing seem to echo the work of economists regarding propensity to shirk among employees. It is rational for members not to withhold effort in return for reward if efforts can be seen by monitors and fellow group members. Considerations, such as equity norms and altruism, which are not necessarily based

on rational self-interest, also enter the equation, and these affect PWE.

Social dilemma and social loafing studies usually involve newly formed groups of strangers where relationships are not allowed to develop (Levine & Moreland, 1990). The group is expected to exist for a short period, and members have equal power. By focusing on existing work groups in organizations as in this study, contextual information about group, status and power relationships is provided that was lacking in previous research.

Sociology: Public goods and free riders

Sociologists emphasize public goods, free riders and group formation to take collective action. The perspective reflects a traditional sociological emphasis on group solidarity. When groups possess solidarity, their members behave in ways that are consistent with the group's collective standards of conduct, or norms, because they feel obligated to do so (Durkheim, 1893/1933).

In sociology, withholding effort is approached from a standpoint of collective action toward a common goal. The goal has the characteristics of a public good. Those who do not contribute cannot be excluded from consumption. Examples of public goods include low production costs of a work group, group grade for a class project, a committee report, and a drug free workplace.

The inability to exclude non-contributors makes free riding attractive, allowing individuals to profit from activities of others without making a contribution (Stroebe & Frey, 1982). Such activities can occur in work groups as some free riders withhold effort toward the common good, e.g., workplace safety, increased group reputation, low production costs, drug-free workplace. Withholding effort toward these public goods should be stronger, the larger the group, as costs are spread among many, and a non-contributor becomes less visible (Olson, 1965).

Some sociologists restate this collective action problem as one of getting a small subset of a group that is interested in providing a public good to contribute time, money, or other resources toward the good's production. This subset, the critical mass (Oliver, Marwell, & Teixeira, 1985) is needed for group action. A small number of people who contribute to increased work-group reputation, for example, can provide benefits of improved reputation to a much larger number of non-supporters when the gain shared by all does not cut the benefits enjoyed by those contributing.

The application of critical mass to work-group activity can be made by considering an academic department. In some departments, a core faculty of two or three may strive for excellence in teaching, research and service while other colleagues do mediocre work. The strivers will continue to do so despite colleagues who do not. The reason is when

departmental reputation is enhanced, the benefit to the core faculty is not reduced even though they share this benefit with those who give less, or very little, effort.

The Oliver-Marwell analysis of critical mass (Oliver, Marwell, & Teixeira, 1985; Oliver & Marwell, 1988; Marwell, Oliver, & Prael, 1988) is important to the current study of PWE because it clashes with Olson's idea that material incentives must be present to stimulate collective action. Their analysis suggested that collective action does not have to be a spinoff from pursuit of private goods but can occur by a direct appeal to common goals. Thus, conformity of members to group norms and repeated interactions of group members may have effects on PWE beyond a basic economic exchange between employer and employee.

A critical mass emphasis challenges the idea that free riders should always be viewed negatively. A few dedicated people and a large number of free riders is sometimes the most efficient way to provide a public good. For example, if every member of a professional association wanted to make equal contributions to the group's work by coming to business meetings and serving on committees, it would be difficult for the group to get anything done.

Oliver and Marwell's work modified a belief that free riding makes it irrational for others to contribute when members of large groups. The assumptions involved in the Oliver-Marwell analysis started with the idea of

interdependent decisions. Most of the previous work on collective action assumed that each person makes an independent decision about contributing, not considering other people's behavior. While this may be true in some cases -- for example, responses to mass-mailed fund-raising letters (Oliver, Marwell, & Teixeira, 1985) -- it does not apply to most organizational phenomena. People in organizations may make decisions on contributing effort based on what they believe others have contributed and based on their on-going relationship at work. When people know they will meet again or all parties have experienced a similar situation before, then cooperation becomes less difficult (Axelrod, 1984).

Macy (1990) provided further undergirding for the importance of normative, interdependent decisions in work-group functioning by relaxing four constraints in the Oliver-Marwell original model: (a) that people are completely rational; (b) that each decision is isolated from previous decisions and their results; (c) that outcomes are deterministic, and (d) that public goods have pure jointness of supply and collective profit. His model extended the theory of critical mass by greatly reducing an individual's cognitive demands and by applying it to behavior based on normative as well as instrumental concerns.

The theory of critical mass used a rational choice assumption that people with limited resources seek to spend

cost-effectively. This limited chances to apply the model to cooperation in every-day organizational life, as Macy (1990) and Oliver and Marwell (1988) noted. Whereas strategic planners and entrepreneurs may calculate costs and benefits, the average work-group member probably does not have the time, information or analytic abilities to do cost-benefit analyses of cooperation toward providing public goods (Macy, 1990).

Macy (1990) applied social learning theory to show how costs and benefits affect successful collective action, even when there are unintended consequences. His proposed behavioral model retains a rational choice assumption that costs and benefits condition behavior, but rejects the assumption that this occurs because each person estimates a rate of return on public goods investments.

In the Macy model, positive and negative cues from social interaction guide individuals through a search process, based on reinforcement and changing tendencies to cooperate. To relate this to organizations, as the level of individual and work-group involvement changes, so do cues received by group members, and these cues modify a person's tendency to make contributions to collective activities.

By incorporating learning theory into Macy's model, the scope of critical mass is extended to those who believe cooperative efforts are worthwhile based on normative tests. Learning theory is typically applied to behavior that is

unthinking or habitual, such as internalization of norms (Scott, 1971). Contributions of effort based on norms serves as an end in itself regardless of whether it is also a means to achieve other ends.

Scott's (1971) theory of moral commitment argues that attachment to prosocial norms increased when those who comply with prevailing norms are repeatedly rewarded and when those who disregard norms and collective welfare are penalized. In contrast, attachment declines when compliance is penalized, and deviance is rewarded. Scott's theory builds on Homans's (1961) model of social exchange in which one person's behavior serves to stimulate another person and the other person's behavior then stimulates the first person. When more than two people are involved, as in a work group, this mutual conditioning can generate patterns with different degrees of regularity. Over time, a consistent pattern of positive and negative cues makes for habit-forming responses.

These repeated sanctions result in the emergence of and compliance to norms. A compliance norm -- a form of group-mediated control that requires certain procedures to be followed by all group members (Heckathorn, 1990) -- can be powerful in regulating group behavior (Axelrod, 1986; Heckathorn, 1990). If work-group culture stresses collective effort in providing public, as well as private goods, group members may receive reinforcement leading to

more cooperation and collective action. There may be less cooperation in situations where cooperative behavior is not rewarded, or deviance from it is not punished.

The presence of behavioral norms such as equity and reciprocity (Schnake, 1991a) and altruism (Rushton & Sorrentino, 1981) may reduce PWE. The fact that people's motivation to behave in a certain way generally involves mixed altruistic and self-interested motives seems to indicate why a strong free-rider hypothesis² usually finds no empirical support (Albanese & Van Fleet, 1985a). On the other hand, support for a weak free rider hypothesis is usually found because people generally make decisions based on selfish interests reduced somewhat by altruism or fairness expectations (Marwell & Ames, 1979; 1980; 1981).

Empirical evidence suggests that self-interest is moderated by a "norm of fair dealing" that people comply with even though they are not threatened by punishment (Stroebe & Frey, 1982, p. 127). The fairness norm explanation for high levels of contributions by group members departs from a rational behavior (economic exchange) assumption (Albanese & Van Fleet, 1985a). One implication when social-learning theory is applied to the study of collective action is that leaders may be able to provide cues and informal sanctions that teach participants to care about each other, a strategy that has been previously suggested in promoting cooperation (Axelrod, 1984).

Marwell and Ames (1981) looked at fairness as a behavioral norm and its influence on public goods contributions. In their study, which simulated market transactions, they found that subjects who considered fairness when deciding how to behave and defined higher levels of contribution [in providing a public good] as fair were those who contributed most. Compared to other participants, graduate-level economics majors placed less importance on fairness norms in making contribution decisions, and contributed less to a public good than other participants. Marwell and Ames (1981) pointed out that economists are trained to value self-interested behavior, which may explain their lower level of contributions.

The importance of norms in guiding human action is basic to sociology (Durkheim, 1893/1933; Parsons, 1937). Group norms are powerful controls of human behavior and periodically receive calls for more empirical attention (Bettenhausen & Murnighan, 1991). More than 50 years ago, norms were extended to functioning of work groups through equal treatment expectations and how they influenced employee behavior. If management is expected to treat all employees the same, a concession to management by one worker can pressure others to acquiesce to authority. This forms a basis for output restriction norms (Roethlisberger & Dickson, 1939), which prohibit overcompliance to management.

Much of the social control resulting from sanctions imposed by supervisors may actually result from compliance norms (Heckathorn, 1990). Presence of strong compliance norms in a work group can set behavioral standards resulting in high effort as well as low effort (Ouchi, 1981). A rational perspective suggests that when costs of monitoring by conventional means become too high, an organization may adopt an organic structure, which relies on strong group norms to pressure members to provide high effort. This clan control (Ouchi, 1980; 1981) is based on common goals and strong group identity.

Granovetter (1985) argued that Williamson's (1975) markets and hierarchies approach underestimated the importance of informal, interpersonal controls and on-going social influence in building trust and discouraging opportunism. Granovetter suggested that Ouchi's clan concept is a more highly developed instance of the type of informal control process that occurs in all organizations.

Summary of the sociology approach. By considering variables that stress more than material incentives and self interest, the sociological approach enhances the focus taken by economists. Variables such as altruism, and norms of compliance and fairness focus on the role of informal control through social pressure in shaping decisions of individuals to contribute effort. One way these norms are formed is through repeated interactions among the group

members. These interactions indicate that when members know each other and have continued dealings they may have different attitudes toward contributing effort than if just starting an activity together as a group.

Although sociologists relax rationality assumptions somewhat, there remains a tendency to argue that individuals undertake cost-benefit analyses before they make decisions about contributing effort and resources. Macy's (1990) approach stressed the importance of social relations and development of norms in determining individual contribution, even though this experience is later entered into a cost-benefit calculation of social exchange relationships. Perhaps Macy's theory attempts to find a middle ground between an undersocialized, rational approach of economists and an oversocialized norms approach of sociologists and some economists to the study of behavior. If this is true, Macy follows the thinking of Granovetter (1985), who suggested that most behavior is embedded within interpersonal networks, and one should avoid extreme under- and over-socialized views of human action.

Knoke's Synthesized Motivation Model

A theme that pervades this review has been a repeated emphasis on assumed rational exchange. A work organization provides material incentives in exchange for effort from its members. A collective action organization employs voluntary actions and democratic procedures to seek nonmarket

solutions to individual and group problems (Knoke, 1990, p. 7). In examining research regarding collective action, Knoke (1990) argued that a strict focus on economic incentives as motivation to contribute to collective action organizations does not fully explain propensity of individuals to behave in a certain way.

For example, in Marwell and Ames's research, normative factors strongly influence economic decisions. The importance of norms has been offered to explain rejection of a strong free rider hypothesis in repeated studies (Albanese & Van Fleet, 1985a). One empirical example showing the importance of material incentives combined with normative factors was Condie, Warner, and Gillman (1976) who found that in a mass blood drive, donors were more responsive to incentives such as a free health check-up than non-donors, and perceived lower costs of donating and greater social pressure to donate than non-donors.

Whereas theorists (e.g., Olson, 1965) tended to discount the possibility that some group members may value a group's well-being and thus "irrationally" contribute to provision of public goods when the group is large, other researchers (e.g., Gooding & Wagner, 1985) have concluded that "irrational" contributions to public goods can occur to some extent in larger groups.

The discrepancy illustrates a problem with focusing solely on material incentives to motivation in work

organizations. Individuals have large differences in preferences for and responses to organizational incentives, thus theorists have suggested other motivational bases (e.g., Clark & Wilson, 1961; Etzioni, 1975; Knoke & Wright-Isak, 1982). Reducing complex motives for behavior to a cost-benefit calculation ignores the way organizations match incentives to fit diverse member interests (Knoke, 1990).

In addition to rational choice, which involves an individual calculating costs and benefits of material incentives in an effort to maximize individual utility, Knoke (1990) examined two other explanations for propensity of members to provide effort to collective action organizations: normative conformity and affective bonding.

In a normative conformity model, an individual is motivated to follow standards of conduct that are grounded in socially instilled values about principled behavior. Individual action occurs in a framework of regulation by norms, which are prescribed guides for conduct or action that are generally complied with by members of a group (Ullman-Margalit, 1977). Action is an effort to conform with norms. Taken alone, the normative conformity model appears to suffer because it relies too much on socialization to explain human action.

In an affective bonding model, an individual is motivated to provide effort based on emotional attachments to other people and groups. This occurs as part of an

identification process in which the member's role is internalized along with specific affective bonds to other members and to the group (Knoke, 1990). Studies of religious groups and communes have revealed the importance of solidarity for commitment to an organization (Kanter, 1972; Zablocki, 1980). "The resulting sense of 'oneness' between person and group strengthens the member's motives for contributing personal resources to the organization" (Knoke, 1990, p. 42).

Knoke argued that no one motivation can explain a person's decision to contribute time, money and effort to collective action organizations. He combined all three approaches and suggested they jointly affected decisions about individual involvement in collective action: whether to join, whether to stay, how much to participate, and what amount of personal resources to contribute.

Collective action organizations, as defined by Knoke, are distinct from business organizations in several ways: (a) they seek non-market solutions to specific individual and group problems, (b) they maintain formal criteria for voluntary membership, (c) they may provide democratic procedures to allow members to participate in making policy decisions (Knoke, 1990, p. 7).

Application of Knoke to work organizations

Whereas Knoke focused on organizations such as lobbying groups and associations, this dissertation uses his

framework to study withholding effort in private firms. An issue to be resolved in this study is whether a motivation model bringing together material, normative and affective bonding incentives is appropriate to study PWE in economic organizations.

Organizations that use incentives such as wages, fringe benefits and other rewards with monetary value are termed utilitarian organizations. Clark and Wilson (1961) predicted that these organizations seek material rewards for their members, and their leaders focus their efforts on obtaining resources needed to provide incentives. Business firms are an example.

Organizations that focus on intangible rewards such as sociability, identification and status are called solidary organizations, e.g. social clubs. Organizations that rely on intangible rewards related to the achievement of organizational goals are termed purposive organizations (e.g. protest groups, Clark & Wilson, 1961).

Whereas businesses provide money in exchange for employee contributions, creators of incentive typologies suggested that all organizations use all three types of incentives (Clark & Wilson, 1961; Etzioni, 1975). Although Clark and Wilson (1961) asserted that few organizations can easily combine utilitarian, solidary and purposive incentive systems, Knoke (1990) pointed out that there is a lack of empirical evidence showing that only pure types of incentive

systems exist. In viewing the typology in the context of Knoke's model, it appears that all three types of incentives can exist at varying levels for employees of a business. Whether businesses actively use all three types to minimize employee PWE is an empirical question.

Economic exchange between an employee and an employer is fundamental to work motivation (Brief & Aldag, 1989; Jones, 1984). Although a business focuses on economic incentives as a major tool in producing employee effort, normative and affective bonding incentives can also be present on a job, even if not an element of the official incentive package. Barnard (1938) described varied incentives, including objective and subjective inducements specifically tied to individual employees (material rewards and non-material benefits, such as prestige), and general interpersonal incentives. He recognized that different people are motivated by different types of incentives and that their interests vary over time. He argued that organizations never offer all incentives that lead people to provide effort and must try to change people's desires through persuasion, including coercion and socialization, so that available incentives can win enough employee contributions for organizations to reach their goals.

Organizational leaders create normative incentives for employees by establishing a strong culture that is taught to new employees as the right way to perceive, think and feel

in relation to problems of external adaptation and internal integration (Schein, 1984). A more natural source of normative job incentives is informal structure. It has long been recognized that work-group members can establish norms of conduct that are not sanctioned by an organization and may even be opposed by the organization (Roethlisberger & Dickson, 1939). Employees have a strong sense of what behaviors are expected from each other and may tailor their job efforts to comply with group norms in an effort to avoid ostracism meted out to deviants.

Affective bonding incentives can arise as employees work together and develop relationships transcending a formal job description. Employees who need camaraderie, friendship and acceptance may be motivated to provide effort that enhances their abilities to receive those sentiments, or gifts (Akerlof, 1982), from their co-workers and employer.

Investigations into shirking, social loafing and free riding have used variables that assume all three motivations in decisions to withhold effort (See Exhibit 1.2). Some of the variables emphasize motivations to withhold effort that stem from material rational-choice considerations, while others result from normative conformity and affective-bonding incentives. Employees are assumed to rationally weigh benefits to withhold effort and the costs associated with being caught shirking in efficiency wage models.

Efficiency wage is one illustration of the importance of reward system as a variable relating to shirking propensity. Other variables that emphasize individual cost-benefit analysis include group size, task interdependence, and task visibility.

Exhibit 1.2
Predictors of withholding effort within Knoke's framework

Rational Choice/ Cost-Benefit Analysis

Efficiency wage (wage premium)
Group size
Task interdependence
Perceived task visibility

Normative Conformity

Perceived effort compliance norms
Equity perceptions

Affective Bonding

Perceived altruism
Turnover rates
Group length-of-service heterogeneity

Individuals are assumed to consider normative conformity incentives when variables such as effort norms and fairness are studied in relation to withholding effort. Affective bonding incentives include variables such as altruism and repeated plays. The potential association of altruism and care for fellow human beings with individual decisions about whether to contribute effort has been discussed. If individuals have developed a relationship over time and will meet again, that relationship may help

determine whether they cooperate with others (Axelrod, 1984). Contextual variables that involve the repeated plays aspect of affective bonding incentives can include turnover rates (Spicer, 1985).

In addition to turnover rates, a variable that may figure in the opportunity to engage in repeated plays and affective bonding is a demography variable: heterogeneity of a work group's length-of-service distribution. Length-of-service distribution is an aspect of organizational demography (Pfeffer, 1983) that has not been considered in research into withholding effort.

The demography approach builds on the idea that one of the most important determinants of interpersonal attraction is similarity (Lott & Lott, 1965). Demography refers to composition of a social entity in terms of basic attributes such as age, gender, educational level, length of service or residence, race, socioeconomic status and other variables (Pfeffer, 1983). Organizations and groups are generally characterized as demographically homogeneous or heterogeneous, using either a single variable or a set of demographic variables to make the determination (Zenger & Lawrence, 1989). Blau (1977) has argued that inequality and heterogeneity are important organizational properties that may affect several of their critical processes.

A work group with a heterogeneous length-of-service distribution is a unit composed primarily of people who have

dissimilar tenures in the unit. Under certain conditions, individuals are likely to identify with their groups and this identification encourages them to comply with group obligations (Fireman & Gamson, 1979). The potential importance of a homogeneous length-of-service distribution (all members having the same or similar tenure) is alluded to in Schein's discussion of the organizational socialization process:

The formation of a peer group of novices is often a solution to the problem of defense against the powerful organization, and at the same time can strongly enhance the socialization process if peer group norms support organizational norms (Schein, 1988: 56).

Length-of-service similarity may bond individuals together: each person generally entered the group at the same time and may have had similar experiences. Demographic similarity of a work group, particularly regarding length of service distribution and potentially in connection with other facets of demography such as race and gender, may be important in an employee's decision whether to provide full effort as part of an obligation to other group members. On the other hand, demographic heterogeneity may make it less likely that affective bonding among group members will occur.

Research Questions

There are several potential avenues for research into the topic of withholding effort in work groups and organizations. The major purpose of this dissertation is to

test a model that brings together variables that have been used across disciplines in the study of individuals withholding effort in group and organizational contexts. Will a test of this model -- which combines various employee incentives to withhold effort, such as rational choice, normative conformity and affective bonding -- reveal relationships between various formal and informal contextual elements and an employee's propensity to withhold effort?

Variables such as group size, wage premium, task visibility and interdependence have been previously associated with the decision of individual employees to withhold effort. These variables are concerned with an individual making a rational cost-benefit analysis before deciding whether to withhold effort. Combining these variables with variables such as perceived peer compliance effort norms, and perceptions of equity and altruism, which tap normative conformity and affective bonding motivations, may provide a more complete explanation of PWE when working with others.

The hypotheses advanced and tested in this study address two general questions:

(a) Is Knoke's model an appropriate theoretical framework in which to study the determinants of an employee's PWE in work organizations?

(b) How do variables, based on rational choice, normative conformity or affective bonding incentives, explain an individual employee's PWE?

CHAPTER 2

RESEARCH OBJECTIVES AND HYPOTHESES

This chapter develops hypotheses tested in the reported study. Variables used in the study of withholding effort are described, and proposed relations among these variables and employee propensity to withhold effort (PWE) are advanced. Five different types of variables are used to tap the three sets of variables in Knoke's model. These variables reflect environmental characteristics, organizational characteristics, objective group characteristics, perceived task characteristics and perceived group characteristics.

Variables and Hypotheses

Knoke's motivation model has been advanced as a means to consider PWE. His model suggests that an employee's predisposition to act to attain valued goals is based on motivations that include rational choice, normative conformity and affective bonding.

As a starting point, Figure 2.1 presents a PWE model based on Chapter 1's discussion of previous theory and research. Proposed relationships and hypotheses are marked. The organization level variable shown in the figure -- payment of a wage premium -- is proposed to affect an employee's PWE in times of higher unemployment, controlling for the individual's lack of alternative employment opportunities.

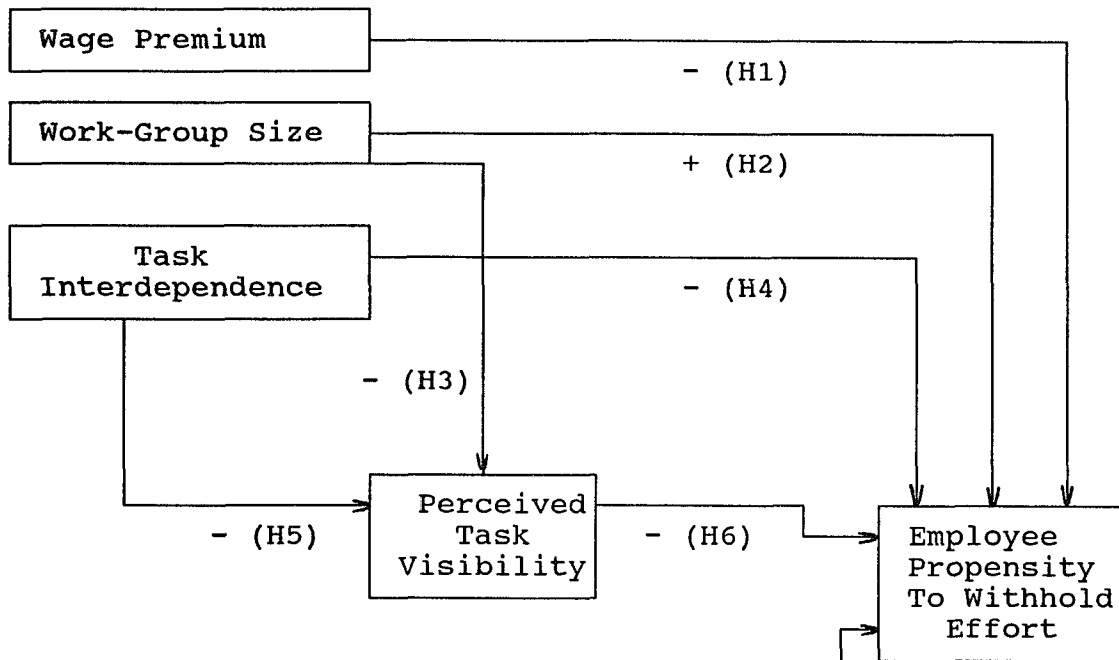
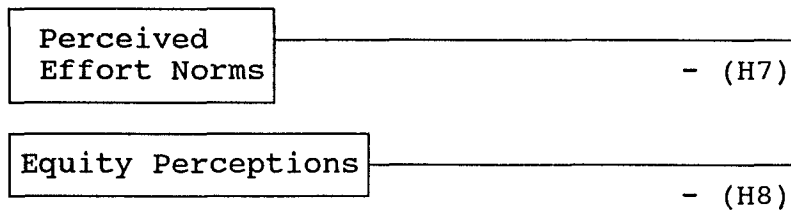
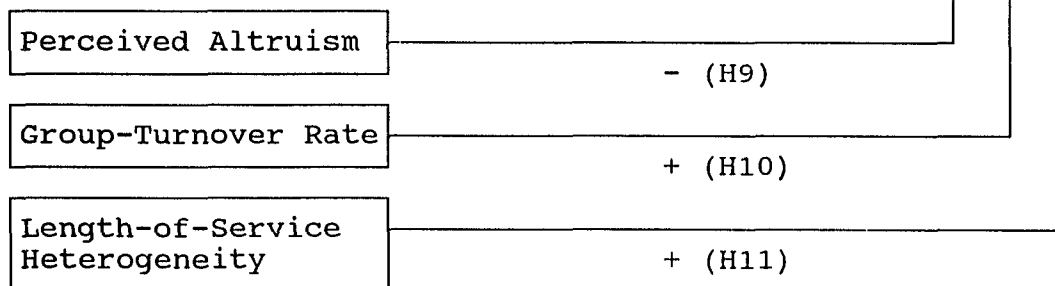
RATIONAL CHOICE VARIABLES**NORMATIVE CONFORMITY VARIABLES****AFFECTIVE BONDING VARIABLES**

Figure 2.1
Model of employee propensity to withhold effort

Three variables designed to measure objective work-group characteristics are shown in Figure 2.1. These are work-group size, group-turnover rate and length-of-service heterogeneity.

Two variables related to task perceptions are shown in the figure: task interdependence and task visibility. Finally, perceived effort norms, perceived altruism, and equity perceptions represent three variables that tap individual perceptions of work-group properties. The dependent variable in the model is propensity of employees to withhold effort.

Wage premium

Economic theories suggest that compensation policies can be used to decrease the likelihood that an employee withholds effort. The efficiency wage hypothesis proposes that employers pay above-market wages in the hope that employees will reduce shirking for fear they will be fired and lose their wage premiums when it would be difficult for them to find a comparable job (Akerlof, 1984). The relation of above-market wages to lower levels of shirking is based on the employees' fear of losing above-market wages if they are caught withholding effort in times of high unemployment. Recent tests of the efficiency wage hypothesis by economists supported a negative relationship between payment of above-market wages and shirking when there is less than full employment (Cappelli and Chauvin, 1991a).

The economic model assumes a rational self-interested person who weighs costs and benefits associated with withholding effort. PWE should be lower when expected costs associated with being fired are greatest: when employees fear that wages in the labor market are lower than an employee's current pay, and there is more difficulty in finding a new job because there is higher local unemployment (Cappelli & Chauvin, 1991a).

Higher local unemployment is one factor that could lead to a lack of alternative employment opportunities. Others include whether employment at an employee's company is growing or declining, and percentage of the company's workforce on layoff. In addition, it is logical that the predisposition of an employee is related to his or her perception of lack of alternative employment opportunities (Gerhart, 1990). Few layoffs, high growth rates, and perceived ease of movement to another job would tend to lessen the impact of a wage premium on PWE. This discussion and previous research suggests the following hypothesis:

H1: Payment of a wage premium will be negatively related to propensity to withhold effort, controlling for labor market area unemployment rate and other factors that indicate a lack of alternative employment opportunities.

Group Size

Individual anonymity that occurs in larger groups makes monitoring harder and reduces visibility of an individual's effort (Albanese & Van Fleet, 1985a; Jones, 1984). Latané, Williams, and Harkins (1979) manipulated group size (up to six people) in physical tasks. They found that as group size increased, a person's average output fell and total group output increased at a diminishing rate as new members were added.

Leibowitz and Tollison (1980) suggested that optimal law-firm size for controlling shirking in the partnerships was about five. Examining effects of group size on performance, Littlepage (1991) found that on tasks with high coordination demands and with more than an optimal number of participants, decreased participation by some members may result in higher performance. However, he concluded that it is difficult to determine the most efficient group size; optimal group size depended on task characteristics and participation levels likely within the group.

Small groups may be more successful in producing higher average individual effort because in a small group it may be easier to encourage effort and cooperation and police individual behavior (Hechter, 1987). In a small group, contributions from each member may be more crucial to success than in a large group. This provides incentive for members to give effort lest co-workers, or a supervisor,

punish them. Therefore, increased group size will make it more likely for a rational, self-interested employee to withhold effort. This discussion implies the following hypotheses:

H2: Work-group size will be positively related to propensity to withhold effort.

H3: Work-group size will be negatively related to perceived task visibility.

Task interdependence

Using transaction costs theory, Jones (1984) suggested that task visibility is a major determinant of shirking and free riding. Jones applied Thompson's (1967) technology typology to shirking and suggested that as one moves from mediating technology (pooled interdependence) to long-linked technology (sequential interdependence) to intensive technology (reciprocal interdependence), it is harder to monitor individual performance. Further, Jones argued that the more unstructured or ambiguous a task, the greater the difficulty in observing and measuring performance. More monitoring problems lead to the suggestion that withholding effort will be greater when there is greater task interdependence. When interdependence is low, supervisor monitoring is easier, and there is less shirking. Applying this argument to PWE yields the following hypothesis:

H4: Greater task interdependence will be positively related to propensity to withhold effort.

Perceived task visibility

As indicated, Jones (1984) suggested that task visibility was a function of more complex tasks. He suggested a congruence between interdependence and task visibility. In a field study such as this, it would be difficult to treat task visibility as an absolute. As George (1992) stated, task visibility can be absolute in a lab study because subjects are told if their individual efforts are visible. At work, perceptions of task visibility would vary among individual employees. Therefore, for theoretical and practical reasons, perceived task visibility will be measured in this study.

Perceived task visibility is an employee's belief that a supervisor is aware of that employee's individual effort on the job. The level of visibility of an individual employee's task depends in large part on whether individual performance can be monitored and evaluated (Jones, 1984).

When employees are paid by piecework and work alone, they would be likely to perceive task visibility as high. When employees work in groups and the task is obscure, such as in research teams, the employees would be likely to perceive task visibility as low. In situations of perceived low task visibility, employees would be more likely to withhold effort because they believe their effort is not seen. A laboratory study found that subjects, working in a group, were less likely to withhold effort when they

believed their individual contributions could be identified by others (Williams, Harkins & Latané, 1981).

Jones (1984) proposed that nonroutine tasks and complex technologies decreased task visibility and thus increased the need to monitor individual effort. This study measures perceived task visibility of individual employees in addition to group technology characteristics. The interest here is in the impact of task characteristics relative to the impact of employees' perceptions of those characteristics, which will be discussed in subsequent sections of this chapter. Previous research suggests the following hypothesis:

H5: Greater task interdependence will be negatively related to perceived task visibility.

In addition, employee perceptions that a supervisor has a problem monitoring their tasks results in greater PWE because workers perceive their efforts to be less visible (George, 1992). In this study, the following hypothesis will be tested to replicate that finding in work groups across organizations:

H6: Perceived task visibility will be negatively related to propensity to withhold effort.

Effort norms

The previous variables considered rational cost-benefit analysis as an incentive influencing PWE. The next set of variables considers normative conformity incentives. The

normative conformity model assumes that individual action is motivated by a desire to follow standards grounded in socially instilled values about principled behavior. Action occurs via normative regulation. Norms are prescribed guides for conduct or action that are generally complied with by group members (Ullman-Margalit, 1977).

Internal group dynamics, particularly perception of strong group norms by individual members, can strongly influence the decision of members to behave, or not behave, in a certain way (Asch, 1951; Janis, 1972; Milgram, 1974). Hackman's (1983) review of several group studies suggested that norms may influence an individual's performance more than the individual's knowledge, skills, and abilities.

In a discussion of organizational dissent, Graham (1986) suggested that perceived group unanimity helps maintain a social reality that encourages members to remain loyal. Conversely, lack of perceived agreement on correct conduct allowed members to redefine their situation, increasing the likelihood of dissent. Along these lines of thinking, an employee's perception that strong compliance norms to provide effort exist in a work group should lessen the propensity of the employee to defy the norm and withhold effort.

This would only be true, of course, if the peer compliance norm was for each work-group member to provide strong effort in completing the work group's tasks. If the

strong group norm was to withhold as much effort as possible, then such a norm should have a positive effect on an employee's PWE. This study tests a proposition that perceptions of informal controls, such as compliance effort norms, can discourage the likelihood that an employee will opportunistically even when such behavior would be considered a rational pursuit of self-interest.

H7: Employees' perceptions of norms to provide effort will be negatively related to propensity to withhold effort.

Equity perceptions

Marwell and Ames (1981) indicated that normative expectations of fairness, rather than narrow economic interests, accounted to a large extent for their subjects' decisions to contribute to a public good. They found that subjects who considered fairness when deciding how to behave and defined higher contribution levels to be more fair were those who contributed the most.

One explanation of the social-loafing phenomenon is Worker A's fear that others in a group will withhold effort and thus benefit from Worker A's contributions (Jackson & Harkins, 1985). Many people are averse to this "sucker effect" (Orbell & Dawes, 1981), and may decide to withhold effort themselves when believing that others also plan to withhold effort. Many people don't want to be a sucker because it violates norms of equity, reciprocity and social responsibility, i.e., everyone should give their fair share

(Kerr, 1983). Equity theory suggests that individuals are sensitive to others receiving similar rewards for less effort, and they may adjust effort to reflect individual perceptions of fairness (Adams, 1963).

Research into the sucker effect and contributions to public goods indicated that individuals may adjust effort based on fairness judgments about the situation. Those who perceive fairness tend to withhold less effort and make greater contributions. This leads to the following prediction:

H8: Employees' perceptions of equity will be negatively related to propensity to withhold effort.

Perceived altruism

The next set of variables involve affective bonding incentives. Affective bonding refers to emotional attachments to other persons and groups (Knoke, 1990). Sociability from personal ties is a very important need that group membership may fulfill (Hechter, 1987). This set of incentives involves the idea that people who act together become emotionally bound together. This notion has been stressed in a study of political cohesion in groups (Lasswell, 1977), and in the study of social movements (Fireman & Gamson, 1979). The variables that may be important influences on PWE in work groups include the perceived presence of altruism in the group, and objective

group characteristics that indicate group members have been together over time.

Altruism is defined as a pro-social act toward other organizational members, such as helping with heavy work loads, orienting new people, and helping those who have been absent (Smith, Organ & Near, 1983). Altruism is a dimension of organizational citizenship behaviors, which are acts not formally required of employees but are desired by an organization (Organ, 1988, 1990). Organizational citizenship is a form of prosocial organizational behaviors, which are defined as acts performed within or outside the employee's role to aid individuals, groups or organizations within or outside an organization (Brief & Motowidlo, 1986). Prosocial organizational behaviors may or may not benefit the focal organization.

In discussing organizational citizenship behaviors, Schnake (1991b) suggested that on-the-job altruism may result from simple friendships or reciprocal relations between co-workers. In general, altruistic behaviors are assumed to be motivated by internalized moral principles or by empathy and sympathy toward others (Eisenberg, 1991).

Studies of collective action and the production of public goods indicate that people often fail to behave in a completely self-interested fashion and instead engage in helping behavior toward others (e.g., Marwell & Ames, 1980). Research on solutions to social dilemmas suggested group

members' social values may influence their behavior (Liebrand, 1986). Work on the provision of step-level public goods, goods that result from a multi-step process, treated altruism and other social values as potentially important determinants of behavior (Rapoport, 1987). Altruistic behavior has also been seen in bystander-intervention studies of impersonal urban environments. For example, subway riders sometimes extended aid to a person who suffered a staged injury (Latané & Darley, 1970) and to an apparent drunk (Piliavin, Rodin and Piliavin, 1969). These studies question assumptions that individuals will withhold effort if it is in their self-interest.

There have been few, if any, organizational studies in which altruism was explicitly considered as an antecedent to employee effort. However, research has considered the relationship between prosocial behaviors and performance. In a study of sales people, prosocial behavior of employees was positively related, although modestly, to sales performance (Puffer, 1987). In a group-level analysis of sales people, prosocial behavior, operationalized as customer service, was positively related to sales performance (George & Bettenhausen, 1990). Neither of these studies considered the impact of perceived altruism, or prosocial behaviors, among co-workers. In one instance, managers provided ratings of prosocial behaviors of

employees; in the other study sales people rated their store's customer service.

Research that reveals relationships between altruism and helping behavior and solutions to social dilemmas, provision of public goods, performance and collective action indicated that perceived altruism may be an important consideration in how work-group factors could affect the emotional bonding incentives of work-group members to behave in a certain way. Williams and Karau (1991) suggested that in some situations people are willing to shoulder the burden for others. If an employee perceives a high degree of altruism in the work group, the employee may be less likely to withhold effort so as not to threaten a spirit of camaraderie and emotional bonds with co-workers. This leads to the following hypothesis:

H9: Employees' perception of altruistic behavior by others in a work group will be negatively related to their propensity to withhold effort.

Repeated plays: Turnover

Time may be a factor in how successful work groups are in developing cooperation among their members (Spicer, 1985). When opportunities to cooperate are repeated, the group members have an incentive to cooperate because violations of cooperation could lead to a deterioration in relations among the members. When individuals know they

will meet again, future cooperation becomes less difficult (Axelrod, 1984).

Implicit in the idea of mutual cooperation among work-group members is a tendency to give effort acceptable to co-workers. It would be easier for an employee to refuse to cooperate and reduce effort if that employee were only a temporary work-group member, or if an employee had little previous relations with other members. Thus, chances for more cooperation depend partly on a group's turnover rate (Spicer, 1985).

Low or no turnover may lead to relationships among work-group members that are expressive and personal, and this may affect the group's work (Granovetter, 1985). If turnover is high, an employee is expected to experience little bonding with work-group members and no incentive to cooperate regarding effort levels (Spicer, 1985). Emotional bonds that develop through repeated interaction and transcend a simple cost-benefit analysis may have an impact on the effort levels an individual is willing to offer.

H10: Turnover in a work group will be positively related to propensity to withhold effort.

Length-of-service heterogeneity

Group and organizational demography have been associated with work unit dynamics and outcomes such as communication frequency, turnover and social integration. Zenger and Lawrence (1989) found a positive association

between organizational tenure similarity and technical communication frequency in an organization but not in its work groups. Wagner, Pfeffer and O'Reilly (1984) used length-of-service distribution to predict turnover among top management teams. O'Reilly, Caldwell and Barnett (1989) found that heterogeneity in group tenure was associated with lower levels of group social integration.

Demography explanations often include intervening processes, which result from demographic variables and predict organizational outcomes (Lawrence, 1991). Although these processes are important in explaining organizational phenomena, many researchers assume the processes are congruent with demographic predictors and do not need to be evaluated. Lawrence (1991) argued that this congruence assumption is not empirically supported, and the demography-outcomes relationship is more complex.

The congruence assumption is required in demography research that uses intervening variables in explaining organizational outcomes as the indirect result of demographic variables through their relationship with other variables such as conflict, communication and social norms (Lawrence, 1991). For example, Wagner et al. (1984) suggested that those who communicate with each other are more likely to develop shared beliefs and perceptions than those who do not speak to each other. People who join an organization at the same time are likely to speak to each

other more frequently than with others thus an organization's tenure distribution should indicate groups in which members' beliefs and perceptions are shared.

The impact of demographic length-of-service distribution could be predicted in the model of PWE by suggesting that it has an indirect influence on effort by its effects on group-turnover rates and effort norms. However, that requires a congruence assumption. Testing conditions in which demography has an impact on outcomes would be a more important contribution as Lawrence (1991) noted. In this study, direct effects of length-of-service distribution are considered.

Demography research suggests that homogeneity of work-group members' length-of-service distributions leads to cooperation, and to a prediction that there would be less propensity for individual employees to withhold effort the more homogeneous the distribution. Under conditions of demographic homogeneity of length-of-service distribution, a network of relations is developed, leading to shared understandings of appropriate behavior. Conversely, in a more heterogeneous group, it is argued that the members would be less likely to develop shared understandings, and that would affect their propensity to withhold effort.

H11: Heterogeneity of a work group's length-of-service distribution will be positively related to propensity to withhold effort.

Pfeffer (1983) suggested that other demographic variables, such as age, gender, and race, could affect organizational phenomena. Heterogeneity of these characteristics in a work group could have similar implications for PWE. Whereas heterogeneity of tenure distribution indicates less opportunity for repeated plays, which have been tied to cooperative behavior and, therefore, less PWE, the relationship of other demographic variables to PWE is less developed. Thus, no a priori propositions concerning other demographic variables are made. These variables were collected, and relationships to PWE will be explored in a supplementary analysis.

Control variables

In addition to lack of alternative employment opportunities, three control variables are examined. Group cohesiveness, which is related to the affective bonding variables, has long been important in studying group dynamics (Zander, 1979). In two laboratory experiments, in which group cohesiveness was operationalized by degree of previous acquaintance and desire to work together, results suggested that cohesiveness moderated social loafing (Karau & Williams, 1992b). Despite these findings, the relation of cohesiveness to effort is unclear, due in part to problems of measurement and definition (see Mudrack, 1989, for examples of varying definitions of this construct). Because the dependent variable in this proposed study is PWE, which

may relate ultimately to productivity, and several of the independent variables measure affective bonding incentives, it is important to consider the role of work-group cohesion.

Each work-group member was asked to provide information on group cohesiveness, and their perceptions of a group's cohesion are used as a control. Previous research into the relation between group cohesiveness and productivity found the two connected, but much of this research suffered from a lack of focus and cohesiveness (Mudrack, 1989). For this reason, no predictions about the relation between cohesiveness and effort are offered.

In addition, a social desirability scale was administered to respondents. Social desirability is a tendency for individuals to present themselves in ways that make them appear positive regarding cultural norms and standards (Ganster, Hennessey & Luthans, 1983). Research that seeks self-report measures from employees should include a measure of social desirability and control for its effects in data analyses (Crowne & Marlowe, 1960; Podsakoff & Organ, 1986). This controls for the potential of socially desirable responses to produce spurious correlations among variables, and suppress true correlations among variables (Ganster et al., 1983). Self-reports of effort, motivation, performance, citizenship behavior and attributions of performance may be contaminated by the tendency of

respondents to provide socially desirable responses (Ganster, et al., 1983; Schnake, 1991b).

Finally, internal validity could be threatened in this study because in considering multiple organizations, there are many ways for work groups to differ other than on the independent variables. Testing in a single state and testing for differences among employees on other factors were among the efforts to confront this limitation. However, organizations are never quite the same on all factors. Every effort can be made to minimize differences, but the history of the organization (as well as history of the work groups) could affect the results (Stinchcombe, 1965). Therefore, organization membership should be controlled in the analyses.

Chapter Summary

This chapter presented a model of individual employee PWE drawing on economics, social psychology, sociology and management. Hypotheses implied by the model were presented under the guiding assumption that employees are motivated to contribute effort based on three types of incentives: rational cost-benefit analysis that is largely concerned with economic exchange, normative conformity to perceived peer effort norms and equity perceptions, and affective bonding with fellow employees reflected in the opportunity for repeated interaction with co-workers and perceptions of altruism in the work group.

Heterogeneity of a work group's length-of-service distribution was offered as an additional variable that is expected to have an impact on an individual's propensity to withhold effort. Other demographic variables were discussed as were variables that should be controlled in this multi-organization analysis.

CHAPTER 3

RESEARCH METHODOLOGY AND DESIGN

This chapter describes research methodology and design to be used in testing hypotheses advanced in Chapter 2. The sample and procedures for data collection are discussed. Measures and scales used to tap underlying constructs are summarized.

Sample

Data were collected from employees at ten worksites in Louisiana, drawn from a sampling frame provided by the Louisiana Department of Employment and Training, Division of Research and Statistics. The sample was drawn randomly from the division's taxmaster file. Procedures used to select these companies are described in the data collection section of this chapter.

Correlational and regression analyses were used to test the hypotheses. In such analyses, a statistical test's power is a function of expected strength of the association between two (or more) variables and the tolerable threshold of Type I and Type II errors. Alpha is generally set at .05 and power (or beta) at .80 (Cohen & Cohen, 1983). Because there are multiple independent variables, a power analysis for multiple correlation was conducted using a method provided by Gatsonis and Sampson (1989). The analysis showed that this study, which will include a maximum of 22 predictor variables in one of the regression equations, will

required at least 233 subjects to achieve statistical power of .80 at a .05 confidence level with hypothesized effect size of .30, considered a moderate population effect size (Cohen, 1977). To address potential problems with missing data, gain variation in labor market area responses and achieve required statistical power to test the hypotheses, more than 550 employees were sampled in ten companies.

The unit of analysis in the study was the individual employee. To be eligible for the study, an individual had to be part of a work group, defined in this study as two or more rank-and-file employees under authority of a common supervisor to whom members of the group are directly responsible (Glisson & Durick, 1988). All employees in each work group and their supervisors were asked to complete a questionnaire at their work sites. Measures used in the questionnaire were pre-tested on a sample similar to that used in the actual study. Factor and reliability analyses were performed as part of the pre-test.

Data Collection

There were two visits to each worksite. The first visit involved an interview with the person on site who was most familiar with human-resource practices at that site. At the conclusion of the interview, those individuals were asked if they would participate in a survey of several employee groups. If they agreed to participate, a time was arranged to return and administer a survey to employees. In

the case of one company, the researcher met with the operations director of the work groups that were asked to participate in the study and with two of the supervisors of those work groups, returning the next week to administer the surveys to employees.

Measures of individual propensity to withhold effort, perceptual measures of work-group altruism and peer effort norms and demographic measures were among the variables collected on the second visit. Appendix B shows a list of variables, the measures used in the study, and the sources of data collected in the study. Appendix C includes the pre-test questionnaire while Appendix D contains the field study instruments.

Measures

Independent variables

Wage premium. Supervisors were asked to review their records and calculate an average wage of employees in the work group they supervised. To determine if a wage premium was being paid, the wages reported by the supervisors were compared to the estimate of median salary provided by the BTA Economic Research Institute for jobs included in the sample. This publication provided a prevailing market wage for most of the jobs performed by those in each work group ($n = 474$).

The use of this resource was comparable to that used in previous measures of wage premium (i.e., a comparison of the

hourly wage being paid within the plant to the average hourly wage paid in each Standard Metropolitan Statistical Area, Cappelli & Chauvin, 1991a). Prevailing wage information was unavailable for about 100 individuals sampled. Either they performed jobs not listed in the BTA report or they worked in the Houma, Louisiana, labor market, which had no wage information listed in the report.

Size of work group. Supervisors were asked the number of employees they supervise in each work group.

Task interdependence. To measure work-group technology perceptions, items that gauge degree of interdependence were used in this study. Work-group members were asked to respond to five items that collectively reflect reciprocal interdependence (Pearce & Gregersen, 1991). The items indicated whether respondents rely on others to complete their tasks or work on their own. Sample items included "I work closely with others in doing my work" and "I frequently must coordinate my efforts with others." Items were summed, and higher scores indicated that employees perceive a greater degree of reciprocal interdependence present in the tasks of each work group.

Perceived task visibility. A five-item measure from an earlier study (George, 1992) was used to gauge employee perceptions of task visibility. Sample items included "My supervisor is generally aware of when I am putting forth below average effort" and "My supervisor is aware of the

amount of work I do." Items were summed so that higher scores indicated greater perceived visibility.

Perceived effort norms. The first step in tapping this variable was a pilot study to produce a measurement. In discussing reward systems, Kerr and Slocum (1987) differentiated between those that are performance-based and those that are hierarchically-based. Their research showed that a clan culture emerged in a hierarchical reward system. Ouchi (1980) used the term clan to describe a control system based on socialization and internalized values and norms. In this culture, individual employees are similar to a fraternal group with strong pressures to conform to group standards. The variable of interest in this study, perceived peer compliance effort norms, is related to clan control in the sense that it is concerned with individual members' perceptions of the strength of work-group norms to control their activities.

Twenty items that attempt to tap perceptions of this work-group characteristic were considered. These items were suggested by Kerr and Slocum (1987) and by Van de Ven and Ferry (1980). The items, presented on seven-point Likert scales, attempted to measure perceived strength of tradition, conformity pressures, independence, teamwork and internal control present in the work group. Sample items included "There is a great deal of pressure from my co-workers to exert effort" and "Members of my work group

encourage individuals to excel and strive for increasingly higher levels of performance." Higher scores indicated greater perceived presence of strong normative pressure to conform to standards.

Following guidelines recommended by Sheatsley (1983), a measure was developed based on these items and pre-tested in groups similar to the sample to be tested in the actual study. This enabled a check of internal consistency and test-retest reliability of the questionnaire. Results were factor analyzed to check construct validity of the items. Acceptable items were included in the survey of employees. Details of the pretest are included in Chapter 4.

Equity perceptions. Employee perceptions of equitable treatment were tapped by use of a distributive justice scale. Distributive justice is concerned with a perceived lack of fairness based on outcomes received by employees, such as pay raises, promotions and status (Lind & Tyler, 1988). A seven-point measure consisting of three items measured employee perceptions of distributive justice (Martin, 1987). Sample items include "I am compensated fairly for the work I do here, based on the effort I give on the job" and "I am compensated fairly here considering the responsibilities I have." Items were summed so that higher scores indicated greater perceived equity in rewards.

Perceptions of altruism. Perceived altruism was measured by five items that make up a portion of the

organizational citizenship behavior measure developed by Smith, Organ, and Near (1983). This measure is anchored with a five-point scale, ranging from "practically never" to "almost always." Sample items include "Members of my work group help others who have been absent" and "Members of my work group volunteer for things that are not required." Items were summed so that higher scores indicate greater perceived altruism on the part of co-workers.

Turnover rates. The group supervisors were asked to state the number of employees who quit, were fired or otherwise left the work group in the past 12 months. The number of employees who had left was divided by total number of employees in the work group to provide a turnover rate for each work group in the study. Both voluntary and involuntary turnover potentially limit opportunities for cooperation in the work group (Spicer, 1985).

Work-group heterogeneity. Employees were asked to provide demographic information such as age, length of service in this work group, race, gender, and education level. This information was used to obtain demographic heterogeneity measures of each work group.

Two types of indices were computed. For interval variables (e.g., tenure: number of months in this work group), the coefficient of variation (standard deviation divided by the mean) was computed. This measure was used because its psychometric properties are preferable to the

standard deviation in establishing a measure of heterogeneity (Allison, 1978).

For categorical variables such as race, gender and education level, Blau's (1977) index of heterogeneity was computed. This index varies from a low of 0 if all group members are the same to a theoretical high of 1. Heterogeneity is defined as follows: $Heterogeneity = (1 - \sum p_i^2)$, where p is the proportion of group members in a category and i is the number of different categories represented in a group. These procedures were used to calculate heterogeneity of work groups on the following dimensions: race, gender and education level (non-high school graduate, high school graduate, some college, college graduate, graduate school).

Dependent variable

Propensity to withhold effort. The dependent variable is the propensity of employees to withhold effort. In a pre-test, several measures were considered. First, a measure employed by Judge and Chandler (1990) was used. Using seven-point Likert-type scales, respondents were asked how often they give less than 100 percent effort on important activities of their jobs, how often they expect to give less than 100 percent effort on those activities in the future, and how often they fail to perform tasks not formally required of their jobs. Supervisors were asked how often the respondent gives less than 100 percent effort on

important job tasks and how often the respondent fails to perform tasks not formally required. Failing to perform duties not formally required (working to job description) may indicate lack of task effort (Judge & Chandler, 1990).

In addition, a seven-item scale (George, 1992) was presented to each pre-test respondent. The supervisor of each work group was asked to provide data about each respondent. These measures were pre-tested, and a confirmatory factor analysis was performed on these measures and the Judge and Chandler measure to determine if both gauge the same construct.

George labeled her measure a "social loafing" scale, but its items are descriptive of withholding of effort by employees, and may just as validly been named a withholding effort scale. Finally, five original items designed to tap free-riding behaviors were included in the pre-test.

Variants of PWE measure. Included in the field survey questionnaire were several other measures designed to tap effort withholding behavior. These included a measure of job neglect (Leck & Saunders, 1992) as well as an adaptation of the Judge and Chandler (1990), George (1992) and original free riding items. The adaptation asked employees to evaluate the PWE (shirk, loaf, free ride) of their fellow workers as a group. In addition, supervisors were asked to evaluate the effort provided by each employee by using the

George scale. These additional measures were included so as to have multiple measures of the dependent variable.

Control variables

Alternative employment opportunities. The efficiency wage hypothesis implies that alternative employment opportunities should be controlled when predicting a negative relation between the interaction of wage premium and unemployment rate, and PWE. Lack of alternative employment opportunities have been operationalized in previous research by unemployment rate, and percentage of employees on layoff from a particular plant (Cappelli & Chauvin, 1991a, 1991b).

An average unemployment rate for the last year in the parish where each worksite is located was provided by the Louisiana Department of Labor. To obtain an unemployment measure for the labor market area (LMA), the parish unemployment rate was weighted by the percentage of LMA labor force that lived in each parish, and then summed to create an LMA unemployment rate.

Percentage of employees laid off at each of the 10 worksites in the last year was obtained. An employment growth trend measure was calculated by asking each human resource manager to provide the current number of employees, and the average number of people employed at the worksite in each of the last three years. There was little variance in layoffs and growth trends across companies so these

variables were not used in the analysis; however, organization membership was controlled in the multivariate analyses.

Individual employee perceptions of labor market conditions were collected. Three items, measured on a seven-point scale and based on O'Reilly and Caldwell (1981) and Gerhart (1990), were used. The items were designed to gauge an individual's perceived ease of movement to another job. Subjects were asked whether they agree or disagree with the following: (a) "If I were to leave my current job, it would be difficult for me to find another job that was just as good." (R) (b) It would be easy for me to change jobs should I decide to do so." (c) "There are numerous jobs as good as this one that would be available to me if I decided to leave my current job." Higher scores indicated respondents believed it easier to move to a comparable job.

Social desirability. When researchers ask employees to provide self-evaluation concerning effort, motivation or performance, they should include a measure of social desirability in the questionnaire and control for the effects of social desirability in the data analyses (Crowne & Marlowe, 1960; Podsakoff & Organ, 1986).

In the field study, the 16-item, two-point "Responding Desirably on Attitudes and Opinions" (RD-16; Schuessler, Hittle & Cardascia, 1978) was given to respondents. The scale is appropriate to use in opinion surveys because items

were taken from a large pool of general attitude measures, selected from ratings completed by a cross section of adults and screened so no items differed in desirability across racial or educational lines (Paulus, 1991).

Perceived group cohesiveness. This variable was measured with an eight-item Group Cohesiveness scale adapted from Dobbins and Zaccaro (1986). Items, such as, "The members of my work group get along well together", tap various facets of cohesiveness including attraction to the group and social interaction, and can be adapted to fit most samples (Mudrack, 1989). Items were summed so that higher scores indicated greater degrees of perceived group cohesiveness.

Organization. This is a dummy variable indicating in which of the 10 organizations the surveyed employee works. This information is used to control for organization in the multivariate analyses.

Conclusion

This chapter summarized the general research strategy and the measures used in the study. In the next chapter, the pre-test and its results are discussed. Then, the sample and procedures for the hypothesis tests are described, and the results of correlational and regression analyses are presented. Chapter 5 discusses the results as they pertain to the hypotheses, the study's limitations, and directions for future research.

CHAPTER 4

ANALYSIS AND RESULTS

This chapter reports the results of both the pre-test and the hypothesis tests. First, results of a pre-test designed to develop two measures used in the study are discussed. Then, a description of procedures employed to collect the field data is provided. Demographic characteristics of the sample and measures used in the study are reported. Correlational and regression analyses to test the hypotheses developed in Chapter 2 are described, and the results of these tests are reported. In addition, results of supplemental analyses are provided. All of these results are discussed in Chapter 5.

Pre-test

Goals

The pre-test had four specific goals:

1. Assess reliability and validity of a propensity to withhold effort measure. The dissertation argues that social loafing, free riding and shirking are manifestations of the same phenomenon: propensity to withhold effort (PWE). To obtain a measure of PWE, items representing social loafing and shirking were taken from existing scales. In addition, original items that represented free riding were considered. The goal was to identify the subset of items that best capture variance in the underlying construct of PWE.

2. Assess reliability and validity of a measure of perceived group effort norms. Theoretical consideration of the proposed measure led me to conclude that all of the proposed items for work-group effort norms did not necessarily pertain to norms to provide high effort on the job. For example, "My co-workers and I care about each other's well being" does not represent an effort norm. Therefore, a pre-test was needed to identify those items specifically reflecting effort norms in work groups.

3. Empirically distinguish between the group effort norm measure and an established measure of group cohesiveness. The model to be tested considers group effort norms as a predictor of PWE. Group cohesiveness, an important variable in determining how individual group members behave in accomplishing group tasks (Zander, 1979), is included as a control variable. Because group effort norms and group cohesiveness are conceptually similar, a factor analysis was conducted to determine whether the two scales could be distinguished empirically. Such a result would also provide evidence for the discriminant validity of the effort norm measure.

4. Ensure that the final survey could be read and comprehended by participants in the field study by using a computer program to ascertain the reading level required to understand the measurement instrument.

Sample and Procedure

Surveys were administered over three weeks during Fall, 1992 to MBA students at LSU-Baton Rouge, University of Southwestern Louisiana and Southeastern Louisiana University, and to undergraduates at LSU-Alexandria. An analysis of variance of survey items by site and cross tabulations of items by demographic variables revealed no significant differences across sites or demographic groups.

One hundred fifty-two students in 10 classes participated; 149 usable responses were returned, a response rate of 98 percent. Respondents were asked to keep in mind their current or most recent job when answering. All respondents had work experience, more than half as supervisors, and most were currently employed. Sample demographics are shown in Table 4.1.

Sample size is sufficient to undertake planned pre-test analyses. A pre-test in which factor analysis is performed should sample more than 100 respondents, and obtain about five observations per item to be analyzed (Hair, Anderson & Tatham, 1987). Attempts were made to sample individuals similar to the study's target population (Bolton, 1993), but pre-test respondents had higher education levels than field study respondents and a fourth of pre-test respondents worked in the public sector. Whereas pre-testing a survey such as this is recommended, "there are no general principles of good pretesting..." (Converse &

Table 4.1
Characteristics of pre-test sample

<u>Age</u>	<u>Mean</u>	<u>SD</u>	<u>n</u>	<u>Percent</u>
	27	5.76	149	---
<u>Race</u>			149	
White	--	-	130	87 percent
Black	--	-	5	3 percent
Asian	--	-	10	7 percent
Other (or no answer)	--	-	4	3 percent
<u>Gender</u>			149	
Men	--	-	103	69 percent
Women	--	-	46	31 percent
<u>Education</u>			149	
Some college	--	-	6	4 percent
College degree	--	-	130	87 percent
Advanced degree	--	-	13	9 percent
<u>Employment type</u>			149	
Full-time	--	-	92	62 percent
Part-time	--	-	57	38 percent
Non-supervisors	--	-	72	48 percent
Supervisors	--	-	77	52 percent
<u>Sector</u>			149	
Service	--	-	85	57 percent
Manufacturing	--	-	27	18 percent
Public	--	-	37	25 percent

Work-group size	9	9.8	Size range	2 - 60

Presser, 1986, p. 52). Because of differences between pre-test sample and target population, it was important to be conservative regarding item deletion based on pre-test data.

Pre-test Results

Reliability and validity of PWE measure. Because the goal was to find one factor that explains the most variance underlying PWE, and perfect reliability among items could not be assumed, a common factor analysis with varimax

rotation (Nunnally, 1978) was performed on 15 items (shown in Exhibit 4.1). Common factor analysis is appropriate when

Exhibit 4.1
Proposed PWE items

- Item 1. How often do you give 100 percent effort on the job?
- Item 2. How often do you expect to give 100 percent effort in the future?
- Item 3. How often do you perform duties that are not normally required by your job description?
- *Item 4. I defer responsibilities I should assume to my co-workers.
- *Item 5. I put forth less effort on the job when others are around to do the work.
- Item 6. I do not do my share of the work.
- *Item 7. I give less effort than other members of the work group.
- Item 8. I avoid performing housekeeping tasks as much as possible.
- *Item 9. I leave work for the next shift that I should really complete.
- *Item 10. I take it easy if others are around to do the work.
- Item 11. I contribute to lowering production costs in this work group.
- Item 12. I am absent from work more than others in this work group.
- Item 13. I make an effort to increase this work group's reputation.
- Item 14. Improving the equipment used by this work group is not my concern.
- Item 15. I contribute to a work environment that is free of safety and health problems.

* -- Retained in field study

a researcher wants to obtain a minimum number of factors for prediction purposes (Hair, et al., 1987), and perfect reliability among the proposed items cannot be assumed (Gorsuch, 1990). The items included were purported to measure shirking (3 items, Judge & Chandler, 1990), social

loafing (7 items, George, 1992), and free riding (5 original items). Table 4.2 shows results of this analysis ($n = 149$).

Table 4.2
Results of pre-test on proposed effort items

	<u>F 1</u>	<u>F 2</u>	<u>F 3</u>	<u>F 4</u>	<u>F 5</u>
Item 1 (SHRK)	.13	<u>.70</u>	.31	.05	.16
Item 2 (SHRK)	.18	<u>.85</u>	.04	.23	.06
Item 3 (SHRK)	.18	.06	<u>.43</u>	-.02	.17
Item 4 (SL)	<u>.68</u>	-.05	.03	.16	-.42
Item 5 (SL)	<u>.70</u>	.12	.07	.26	-.15
Item 6 (SL)	.22	.17	-.00	<u>.65</u>	-.09
Item 7 (SL)	<u>.39</u>	.10	.07	<u>.38</u>	.15
Item 8 (SL)	.27	.08	.12	.09	.06
Item 9 (SL)	<u>.43</u>	.27	<u>.31</u>	.00	-.02
Item 10 (SL)	<u>.81</u>	.11	.02	.02	<u>.38</u>
Item 11 (FR)	.01	.03	.07	.01	.25
Item 12 (FR)	.01	.22	.21	.18	-.14
Item 13 (FR)	.04	.17	<u>.74</u>	.05	.05
Item 14 (FR)	.03	.09	.31	.26	.18
Item 15 (FR)	.24	.04	.24	.23	-.00
Eigenvalues	3.2	1.3	.73	.57	.38
% Variance Exp.	21.6	8.7	4.9	3.8	2.6

The latent root criterion, eigenvalues greater than 1, was used to determine how many factors to extract (Hair et al., 1987). After rotating the solution, a factor loading of .30 was used as a criterion to discern important items (Hair et al., 1987). Five items loaded on the first factor, explaining 21.6 percent of the variance. Coincidentally, these items were all taken from a social loafing measure. These five items -- 4, 5, 7, 9 and 10 -- represented PWE in the final survey because their wording taps elements of shirking, social loafing and free riding (i.e., PWE).

PWE describes the likelihood that an individual will give less than full effort in performing a job-related task.

This is reflected by asking employees if they defer their own responsibilities to co-workers, if they put forth less effort than co-workers or "take it easy" when others are around to do the work, and if they leave work for the next shift that they really should complete. These tendencies are clearly addressed in the items loading on the first factor.

Table 4.2 shows that Items 7, 9 and 10 crossloaded on other factors. As noted, the goal of this factor analysis was to develop a PWE scale. Because the wording of these three items is conceptually similar to the PWE construct and the three items loaded on the first factor, they were included in the field survey.

A reliability analysis was performed on the five items retained from the pre-test. A coefficient alpha of .75 was obtained. An alpha level of .70 is considered acceptable for exploratory research (Nunnally, 1978), thus these five items were judged internally consistent based on that criterion.

Internal consistency is a "necessary but not sufficient condition for construct validity" (Nunnally, 1978, p. 103). Further testing is required to determine how proposed measures of a construct fit into a network of relationships that would be expected based on theoretical considerations. Whereas such tests are limited by assumptions about the soundness of a theory, they address

concerns regarding the position of a proposed measure within a nomological net (Nunnally, 1978; Schwab, 1980).

In this case, PWE should be related negatively to perceptions of high-effort norms (Heckathorn, 1990), altruism (Williams & Karau, 1991), task visibility (George, 1992), and distributive justice (Jackson & Harkins, 1985), and positively related to task interdependence (Jones, 1984), and group size (Latané, Williams & Harkins, 1979). Group cohesiveness has been negatively correlated with social loafing (Karau & Williams, 1992b). Social desirability responses are expected to be negatively correlated with self-reports of a negative behavior such as withholding effort (Ganster, Hennessey & Luthans, 1983).

Established scales measuring the aforementioned variables were collected in the pre-test. Alphas for these scales are shown in Table 4.3. All approached or exceeded acceptable levels, ranging from .64 (social desirability) to .88 (distributive justice).

Correlations were computed on the five PWE items and the established scales ($n = 142$). As expected, the results show significant negative correlations with scales measuring effort norms ($r = -.18$; $p < .05$), altruism ($r = -.25$; $p < .01$), group cohesiveness ($r = -.20$; $p < .05$), task visibility ($r = -.20$; $p < .05$) and social desirability ($r = -.37$; $p < .01$). These findings support the nomological validity of the PWE scale based on theoretical expectations.

Non-significant results were obtained between PWE and the task interdependence, distributive justice and group size measures. These results may have been due to sample specific causes induced by pre-test conditions. A field study to test the hypotheses considered intact groups where within group consistency existed across tasks, reward

Table 4.3
Results of pre-test reliability analysis

<u>Scale</u>	<u>Number of Items</u>	<u>Alpha</u>	<u>n</u>
Altruism	5	.86	147
Interdependence	5	.86	148
Effort norms	6	.79	146
Group cohesiveness	8	.92	148
Distributive justice	3	.88	149
Perceived task visibility	5	.81	149
Social desirability	16	.64	149

systems and size. For example, size was measured objectively in the hypothesis tests rather than by recollection of respondents as in the pre-test. In the pre-test, a failure to find correlations among these three variables and PWE may have resulted because there was a vast variety of objective interdependence, reward systems and group sizes that existed within the sample; 149 work groups were represented, one per respondent. Such variety may not

be present for perceptual measures dealing with altruism, effort norms, group cohesiveness, and task visibility.

In sum, items identified in the common factor analysis will be used in the field study to represent PWE based on the following: (a) A factor analysis of items associated with withholding effort produced five items addressing PWE on the job, (b) A test of the internal consistency of the items met the criterion for exploratory research, and (c) A test of relationships between the proposed scale and other measures showed associations that represent the measure's theoretically proposed nomological network.

Reliability and validity of group effort norm measure.

The second goal of the pre-test was to find one factor that explains the most variance in the domain underlying group effort norms. To address this goal, a common factor analysis with varimax rotation was performed on 20 original items written to measure perceived group norms (See Exhibit 4.2). These items were suggested by the work of Kerr and Slocum (1987) and Van de Ven and Ferry (1980).

As in the PWE factor analysis, a latent root criterion was used to determine the number of factors to extract (Hair et al., 1987). After the solution was rotated, loadings on the first factor greater than .30 were viewed as important and merited close examination (Hair et al., 1987). The results shown in Table 4.4 indicate that six items related

Exhibit 4.2
Proposed group effort norm items

- *Item 1. My co-workers and I stress teamwork.
 - Item 2. It is the supervisor's job to see that my co-workers and I work as hard as we can. (R)
 - *Item 3. There is a great deal of pressure from my co-workers to exert effort.
 - Item 4. My co-workers and I don't talk much about the way we do our jobs.
 - *Item 5. My co-workers and I are rewarded here based on how well our group does its job.
 - Item 6. My co-workers rarely worry about how hard I am working. (R)
 - Item 7. The supervisor has little impact on how hard we work here. (R)
 - *Item 8. My co-workers and I have little obligation to work together to do the best job we can.
 - Item 9. Maintaining close friendships is important to my co-workers and me.
 - Item 10. My co-workers and I regularly socialize together. (R)
 - Item 11. I have a great deal of independence from my co-workers.
 - Item 12. My co-workers do not urge me to work hard. (R)
 - Item 13. Each member of this work group is rewarded based on how well that person does the job, compared to other members.
 - *Item 14. In this work group, we expect everyone to pull together to get the job done.
 - Item 15. It is routine for my co-workers and I to get together during non-work hours.
 - Item 16. My co-workers compete with each other to achieve performance targets.
 - Item 17. My co-workers gang up on the person whose work is far below that of the others.
 - Item 18. My co-workers gang up on the person whose work far exceeds that of the others.
 - *Item 19. My co-workers encourage individuals to excel and strive for increasingly higher levels of work performance.
 - Item 20. My co-workers try to get ahead at the expense of other work-group members.
- * -- Retained as a measure of group effort norms in the field study.

Table 4.4
Factor loadings on proposed effort norm items

	<u>F 1</u>	<u>F 2</u>	<u>F 3</u>	<u>F 4</u>	<u>F 5</u>	<u>F 6</u>	<u>F 7</u>
Item 1	<u>.57*</u>	.34	.13	.12	.15	.02	.09
Item 2	<u>-.06</u>	-.07	.01	.06	.00	-.14	<u>-.77</u>
Item 3	<u>.37*</u>	.17	-.04	.25	.14	<u>.38</u>	.19
Item 4	.06	.19	.04	.29	.26	-.04	.03
Item 5	<u>.56*</u>	.11	-.05	.03	<u>.32</u>	.06	.08
Item 6	.13	.08	-.04	<u>.50</u>	-.15	.11	-.05
Item 7	<u>-.31</u>	.02	.02	-.22	.00	.22	.05
Item 8	<u>.72*</u>	.02	.11	.14	-.03	-.25	.07
Item 9	.23	<u>.71</u>	.05	-.01	.07	.13	-.00
Item 10	.12	<u>.86</u>	-.02	.19	.05	.05	.08
Item 11	.00	.26	-.16	.24	.17	-.14	.20
Item 12	.21	.17	-.02	<u>.74</u>	.13	.07	-.02
Item 13	-.16	-.08	.10	.11	<u>-.75</u>	-.05	.06
Item 14	<u>.72*</u>	.18	.07	.11	.05	.16	-.09
Item 15	.12	<u>.83</u>	-.04	.19	.09	-.08	.03
Item 16	.22	.11	-.26	<u>.36</u>	<u>.53</u>	.18	.17
Item 17	-.03	.00	-.37	.13	.07	<u>.60</u>	.13
Item 18	.05	-.03	<u>.95</u>	.04	-.03	-.05	.02
Item 19	<u>.42*</u>	.22	.16	.24	.24	.15	.01
Item 20	-.23	-.06	<u>-.56</u>	.12	.19	.30	.06
Eigen- values	4.3	2.1	1.3	.89	.78	.62	.49
Percent Variance Explained	21.7	10.6	6.6	4.4	3.9	3.1	2.5
* -- These items reflect perceived norms to provide effort and were retained in the field study.							

to group effort norms loaded on the first factor, explaining 21.7 percent of the variance.

Examination of these six items reveals that they would generally indicate the presence of perceived effort norms in work groups. For example, these items related to pressure to produce effort, and to rewards based on high group effort and teamwork. Reliability analysis on the six retained items yielded a coefficient alpha of .79 (n = 146).

Table 4.4 indicates that Items 3 and 5 crossloaded on other factors. However, the wording of these two items reveals conceptual similarity to other group effort norm items. Because the goal of the factor analysis was to develop a group effort norms scale and these two items loaded on the first factor, they were retained in the field survey despite the crossloadings.

Item 7 was dropped despite a loading of $-.31$ on the first factor. The item was eliminated because even though it had been reverse scored before the factor analysis, its loading remained negative and opposite to the other items loading on the first factor. This finding appeared to indicate a problem with respondents' understanding of the item, thus it was not used in the field study.

As discussed earlier in regard to the PWE measure, the correlations of the effort norm measure with other scales that are theoretically related and were measured in the pre-test were assessed to consider nomological validity (Nunnally, 1978). The effort norm measure should be positively related to a group cohesiveness measure, and should be negatively related to PWE (Heckathorn, 1990). Results showed that effort norm items were positively and significantly related to an eight-item group cohesiveness scale ($r = .62$, $p < .01$, $n = 142$) and negatively and significantly related to the PWE scale ($r = -.20$, $p < .05$, $n = 142$). Based on the evidence of internal consistency and

nomological validity found in the pre-test, these six items were used on the final survey.

Group effort norms and cohesiveness. A common factor analysis with oblique rotation was performed on the six group effort norm items and an eight-item group cohesiveness scale (Dobbins & Zaccaro, 1986). Oblique rotation was used because conceptual similarity of the effort norm and cohesiveness constructs indicates the potential that they may be highly correlated (Nunnally, 1978).

The analysis -- results shown in Table 4.5 -- produced two factors with effort norm items loading on one factor and cohesiveness items loading on the other factor. These results show that whereas the two scales are indeed highly correlated ($r = .62$, $p < .01$), one can empirically

Table 4.5
Factor loadings of effort norms and cohesiveness items

	<u>Factor 1</u>	<u>Factor 2</u>
Item 2 (GEN)	.29	.50
Item 4 (GEN)	-.08	.43
Item 7 (GEN)	-.00	.61
Item 10 (GEN)	.06	.55
Item 16 (GEN)	-.02	.77
Item 21 (GEN)	.20	.44
1 (GCOH)	.63	.00
2 (GCOH)	.80	.00
3 (GCOH)	.74	.03
4 (GCOH)	.87	.00
5 (GCOH)	.93	-.02
6 (GCOH)	.48	.01
7 (GCOH)	.78	-.03
8 (GCOH)	.83	.02
Eigenvalues	6.22	1.05
Percent of Variance Explained	44.5	7.5

distinguish between the effort norms scale and the group cohesiveness scale. These factor analysis results provide evidence of discriminant validity of the effort norms scale.

Survey comprehension. It was important to determine whether respondents in the field study could comprehend the survey. To address this question, the proposed survey was submitted to the Grammatik III program (Wampler, Williams & Walker, 1988). This test showed the following scores regarding reading level and reading comprehension:

1. Flesch Reading Ease: 71. This result is based on a scale of 0 to 100 with 0 being very difficult to read and 100 being very easy to read; a score of 71 indicates that the questionnaire is easy to read based on this test. Criteria consist of average length of sentences, percentage of long words and number of syllables per word.

2. Flesch-Kincaid Grade Level: 6. This grade level readability score is used by many U.S. government agencies, and indicates the average number of school years needed to understand the work.

Survey respondents worked in organizations that required minimum reading requirements for employment, such as job application and other employee forms. Based on this information and analysis of the questionnaire by Grammatik III, the questionnaire should be understood by the respondents. Reading skill necessary to comprehend the survey is below the 8th grade -- the level at which average

local newspapers are edited. The Grammatik III results indicated that further adjustments to lower reading levels of the instrument to ensure comprehension were unnecessary.

Pre-test summary

The results of the pre-test produced five items for use as a PWE scale, and six items for use as a perceived group effort norm scale in the field study. Pre-test findings showed evidence for the reliability and construct validity of these scales. Results indicated that the effort norm scale was empirically distinct from the cohesiveness scale. Finally, a computerized grammatical analysis of the survey instrument indicated that respondents should be able to read and comprehend the survey.

Field Study

Sample and procedure

Five hundred seventy employees, representing 110 work groups at 10 Louisiana worksites, participated in the field study. Eight of the companies employed 31 to 470 people, whereas two larger companies ($N = 2000$; $N = 2814$) also participated. At each site, the first company visit involved an interview with the human resource manager or the person most familiar with personnel practices. At the conclusion of the interview, those individuals were asked if they would permit a survey of several employee groups.

If they agreed to participate, the author returned to administer a survey to employees and their supervisors.

Employees -- usually two or three at a time -- were surveyed in a conference room away from their work stations. A list of names of those who would be surveyed at particular times was provided so each employee's survey could be coded by the author and later matched with their supervisor's survey. No supervisors were present during the surveying of employees. Supervisors completed their surveys of employees during separate meetings.

Employees were told that the survey involved an academic study of factors involved in successful work groups. They were ensured that responses would be seen only by researchers at LSU and that their responses would be kept confidential. They were provided with the researcher's phone number so they could call if they had any questions about the survey. They were told that a general summary of the results would be returned to the company, but no individual responses would be identified. Supervisors were given the same assurances and instructions. There were no subsequent phone calls.

In the case of one company, the author met with the operations director of the work groups that were to participate and with two of the supervisors of those work groups, returning the next week to administer the employee surveys. In these large work groups, it was impossible to match employee survey with supervisor survey without the help of employees. Two employee facilitators who knew names

of their fellow employees passed out the coded surveys to the correct employees at a meeting during working hours.

Demographic characteristics of the employee sample ($n = 570$) are shown in Table 4.6. Five of the 10 companies had experienced slight employment growth over the last year ($n = 356$) while the other five companies ($n = 214$) had neither increased nor decreased their work force. Mean size of the work groups represented in the sample was 12.6, size ranged from two to 59 people with a median group size of six. The median turnover rate over the last 12 months was 10 percent within these work groups.

The supervisors of the 110 work groups surveyed had the following characteristics: 97 percent were white and 3 percent were black; 51 percent were men and 49 percent were women; 2 percent had less than high school education, 23 percent had graduated from high school, 34 percent had some college education, 35 percent had graduated from college, and 7 percent had attended graduate school.

Measures

Chapter 3 contained a detailed description of the source of measures for this study and the logic behind using certain measures to test hypotheses proposed in Chapter 2. The following section reports statistical properties of items used in hypothesis tests.

Dependent variable. PWE was tapped using the five items identified in the pre-test. A common factor analysis,

Table 4.6
Characteristics of the field study sample

		<u>Mean</u>	<u>SD</u>	<u>n</u>	<u>Range</u>
<u>Age</u>		38.6	11.07	557	17-67
Months employed by company		113.8	106.6	557	1-447
Months as member of current work group		50.17	54.4	549	1-283
		<u>Percent</u>			
<u>Race</u>	<u>Coded</u>			<u>570</u>	
White	1	--	--	450	78.9 percent
Black	2	--	--	82	14.4 percent
Hispanic	3	--	--	6	1.1 percent
Other (or no answer)	4 9	-- --	-- --	32	5.6 percent
<u>Gender</u>				<u>570</u>	
Men	1	--	--	123	21.6 percent
Women	2	--	--	429	75.3 percent
No answer		--	--	18	3.2 percent
<u>Education</u>				<u>570</u>	
< than H.S.	1	--	--	18	3.2 percent
H.S. degree	2	--	--	261	45.8 percent
Some college	3	--	--	216	37.9 percent
Coll. degree	4	--	--	52	9.1 percent
Grad. school	5	--	--	10	1.8 percent
No answer	9	--	--	13	2.3 percent
<u>Employment type</u>				<u>570</u>	
Full-time	1	--	--	522	91.6 percent
Part-time	2	--	--	38	6.7 percent
No answer	9	--	--	10	1.8 percent
<u>Sector</u>				<u>570</u>	
Service	1	--	--	435	76.3 percent
Manufacture	2	--	--	135	23.7 percent

presented in Table 4.7, showed that one item ("I defer responsibilities I should assume to my co-workers") did not load well with other items. This item was dropped from the PWE measure used in the analyses.

Table 4.7
Results of factor analysis of proposed effort items

	<u>Factor 1</u>
Item 4	.23
Item 5	<u>.60</u>
Item 7	<u>.65</u>
Item 9	<u>.54</u>
Item 10	<u>.75</u>
Eigenvalue	1.71
Variance explained	34.3 percent

To consider convergent and discriminant validity (Schwab, 1980) of the new PWE measure, the PWE items were compared with a job-neglect scale developed by Leck and Saunders (1992) and administered in the field study. Job effort and job neglect are considered related concepts; the positive and significant intercorrelation ($r = .25$, $p < .01$, $n = 526$) indicates a degree of relation between the two concepts.

Next, a common factor analysis of PWE and neglect items yielded a two-factor solution. This indicates that PWE and neglect can be empirically distinguished and provides evidence of discriminant validity. The four PWE items had a coefficient alpha of .73. In light of these results, these four items were used to compute individual PWE.

However, a frequency analysis of the field study results identified a problem of non-normality in the PWE measure (skewness = 3.008; kurtosis = 10.7; range = 16). Many respondents reported they did not engage in any withholding of effort at work. About 62 percent of the

individuals surveyed gave the most extreme response of disagreement with statements that would indicate they withheld effort on the job. Whereas controls for social desirability to take into account bias in the self-report PWE measure were planned, such high skewness is beyond the correction provided by statistical control of response desirability. The natural log of each respondent's PWE score was used in subsequent analyses and hypothesis testing to adjust for non-normality of the dependent variable (Johnson & Wichern, 1988).

Additional measures of withholding effort

The non-normality of the PWE scale, which resulted in a range restriction problem, and the collection of the PWE measure and several of the independent variables from the same source, focused the need to use other measures that reflect employee PWE. A strong social desirability response bias -- beyond what could be statistically controlled -- may have affected PWE responses as well. By using alternative dependent variable measures, a better judgment regarding the efficacy of the proposed model may be forthcoming.

The following variations of the dependent variable were measured: employee self-report of job neglect (Leck & Saunders, 1992), supervisor perceptions of effort expended by each employee using a scale similar to that given to each employee (SPWE), and employee perceptions of the work-group members' tendency to withhold effort (GPWE).

The job neglect scale provided a measure similar to that sought by the PWE measure. As noted, it was correlated with the PWE scale ($r = .25$, $p < .01$). The neglect items focused on how much an employee is likely to withhold required job duties and attempt to withdraw from work requirements by avoiding the boss, calling in sick when not sick, daydreaming and generally not providing job effort. Because of these similarities to withholding of job effort, the measure was used to test the hypotheses.

Frequency analysis showed responses on the neglect scale to be skewed, though not to the extent of the PWE scale (skewness = 2.5; kurtosis = 9.1; range = 30). Respondents were less likely to deny ever engaging in job neglect (33 percent) than to deny ever withholding effort. To correct for skew, the natural log of each respondent's neglect score was used in the analyses.

The supervisor measure (SPWE) provided an estimate of each employee's PWE from a different source than employee self-report. The supervisor, while expected to be familiar with effort given by each member of the work group, cannot observe all employees at all times, in part due to some of the factors of interest in this study, i.e., work-group size, interdependence and task visibility. Whereas this circumstance negates a supervisor's ability to accurately measure effort, the supervisors' perceptions are important because of their role in performance appraisal, work-place

discipline and other outcomes that could have a serious impact on the employee. Whereas supervisor judgments of employee PWE may be flawed due to lack of visibility, their views regarding effort expended would be much more consequential to the employee than a self-report measure.

In addition, although the supervisor might want to provide a favorable response on each employee (so as to reflect favorably on his or her own supervisory abilities), there is less incentive for the supervisor to provide a less than candid response to the researcher. Employees may believe that if they report lack of effort or job neglect such information will be used against them, despite assurances of confidentiality. The SPWE measure was not correlated with the PWE self-report measure.

The perceived group PWE (GPWE) was a third measure of the dependent variable considered in the analysis. Whereas employee perception of PWE by other work-group members may not reflect a particular employee's actual PWE, this measure was included to aid in evaluating other findings and provide grounds for future research at a group level of analysis. GPWE was correlated with PWE ($r = .09$, $p < .05$).

Common factor analyses were conducted on items comprising the job neglect scale, a group propensity to withhold effort scale (GPWE) and a supervisor report of employee PWE (SPWE). These results are shown in Table 4.8. When a reliability analysis was performed, the results

Table 4.8
Results of factor analyses: Job neglect, GPWE and SPWE

Job neglect factor loadings		
	<u>Factor 1</u>	
Item 1	<u>.66</u>	
Item 2	<u>.70</u>	
Item 3	<u>.56</u>	
Item 4	<u>.49</u>	
Item 5	<u>.72</u>	
Item 6	<u>.71</u>	
Eigenvalue	2.49	
Percent of variance explained	41.6%	

Group propensity to withhold effort factor loadings

	<u>Factor 1</u>	<u>Factor 2</u>
Item 1	<u>.60</u>	.32
Item 2	.18	.31
Item 3	<u>.67</u>	-.00
Item 4	<u>.81</u>	.07
Item 5	<u>.85</u>	.09
Item 6	<u>.86</u>	.11
Item 7	<u>.65</u>	.08
Item 8	<u>.57</u>	.12
Item 9	<u>.84</u>	-.06
Item 10	-.09	<u>.44</u>
Item 11	<u>.50</u>	-.04
Item 12	.12	<u>.69</u>
Item 13	.03	<u>.53</u>
Eigenvalues	4.82	1.07
Percent of variance explained	37%	8.2%

Supervisor report of employee PWE factor loadings

	<u>Factor 1</u>
Item 1	<u>.81</u>
Item 2	<u>.88</u>
Item 3	<u>.88</u>
Item 4	<u>.62</u>
Item 5	<u>.71</u>
Item 6	<u>.88</u>
Eigenvalue	3.89
Percent of variance explained	64.8%

indicate that five items should comprise the job neglect scale ($\alpha = .91$; $n = 556$), nine items should make up a GPWE scale ($\alpha = .90$; $n = 556$), and six items should comprise an SPWE scale ($\alpha = .91$; $n = 558$). The items are listed in Exhibit 4.3.

Exhibit 4.3
Alternative measures of dependent variable

Job Neglect: How likely would you be to engage in the following behaviors at work?

- *1. Avoid working by talking to co-workers, attending to personal business, daydreaming, etc.
- *2. Put in less effort in your work than you know you can.
- *3. Show up late for work even when you could make it on time.
- 4. Deliberately avoid your boss.
- *5. Take more and longer breaks than you should.
- *6. Call in sick even when you are not sick.

PWE (Supervisor measure): This employee ...

- *1. Defers responsibilities he/she should assume to co-workers.
- *2. Gives less effort on the job when others around to do the work.
- *3. Gives less effort than other members of the work group.
- *4. Avoids performing housekeeping tasks as much as possible.
- *5. Leaves work for the next shift that he/she should really complete.
- *6. Takes it easy if others are around to do the work.

Group Propensity to Withhold Effort

- *1. Members of my work group give 100 percent effort on the job
- 2. I expect members of my work group to give 100 percent effort in the future.

Some members of my work group:

- *3. Defer responsibilities they should assume to other members.
- *4. Put forth less effort on the job when others are around to do the work.
- *5. Do not do their share of the work.
- *6. Give less effort than other members of the work group.
- *7. Avoid performing housekeeping tasks as much as possible.
- *8. Leave work for the next shift that they should really complete.
- *9. Take it easy if others are around to do the work.
- 10. Contribute to lowering production costs in this company.
- *11. Are absent from work more than others in this company.
- 12. Make an effort to increase this work group's reputation.
- 13. Contribute to a work environment that is free of safety and health problems.

* - Used in measure.

Independent variables. Independent variables measured in this study included wage premium, work-group size, task interdependence, perceived task visibility, group effort norms, distributive justice, altruism, turnover and length of service heterogeneity. This section describes statistical properties of item measures.

To establish an effort norms measure, common factor analysis was performed on the six items identified in the pre-test. All six items loaded on one factor as shown in Table 4.9. In light of the factor analysis and a subsequent reliability analysis of these six items, Items 2, 16 and 21, which all loaded above .40 in the factor analysis, should be used to compute individual perceptions of work-group effort norms. These three items had a coefficient alpha of .74.

Table 4.9
Results of factor analysis: Work-group effort norms

	<u>Factor 1</u>
Item 2	<u>.68</u>
Item 4	.12
Item 7	.37
Item 10	.28
Item 16	<u>.64</u>
Item 21	<u>.78</u>
Eigenvalue	1.71
Variance explained	28.5 percent

Table 4.10 presents means, standard deviations and alpha levels and number of items used to measure independent variables: altruism, task interdependence, effort norms, distributive justice, and perceived task visibility. Although the interdependence measure did not

Table 4.10
Results of reliability analysis: Independent variables

<u>Scale</u>	<u>Mean</u>	<u>S.D.</u>	<u># of items</u>	<u>Alpha</u>	<u>n</u>
Altruism	19.10	4.20	5	.78	556
Interdependence	20.45	3.80	5	.67	556
Effort norms	16.98	3.90	3	.74	556
Distributive justice	12.84	5.31	3	.85	558
Perceived task visibility	24.85	6.35	5	.70	556

reach the threshold of .70 suggested for exploratory research (Nunnally, 1978), all other scales reached or exceeded this recommended level.

Control variables. Control variables in this study were group cohesiveness, social desirability, organization membership, labor market area unemployment rate and perceived ease of movement to another job. This section reports statistical information regarding item scales used in the field study.

Reliability analysis revealed that an eight-item group cohesiveness scale, described in Chapter 3, had an alpha level of .88 (\bar{x} = 44.32, SD = 10.08, n = 555). Group cohesiveness was strongly correlated with effort norms (r = .60, p < .01) and altruism (r = .62, p < .01). A three-item perceived ease of movement scale, also described in Chapter 3, had an alpha of .73 (\bar{x} = 9.87, SD = 4.98, n = 559).

A Kuder-Richardson reliability estimation (K-R 20) was performed on the social desirability scale, which had a dichotomous response format. To run the K-R 20 reliability estimation, formula and procedures outlined in Gatewood and Feild (1990) were used. "Correct" scores were given to respondents who answered the survey questions in a socially desirable manner whereas "incorrect" scores were awarded to those who did not answer in a socially desirable fashion. The K-R 20 analysis showed internal consistency of .64 for the 16 items that comprised the scale. This score compares favorably to previous measures of internal consistency reported for this scale and is considered acceptable (Paulus, 1991).

Analyses

Hypothesis 1 was tested using multiple hierarchical regression with control variables, including unemployment rate and perceived ease of movement to another job, entered first, followed by the wage premium. The remaining hypotheses were first tested using zero-order correlations and then partial correlations controlling for social desirability.

The synthesized motivation model was then tested using a multiple hierarchical regression analysis. Such an analysis allows for control of multiple factors that may provide incentives for employees to withhold effort in performing their jobs. After control variables (social

desirability, group cohesiveness, unemployment rate, perceived ease of movement, and organization membership) were entered, the set of rational choice variables was entered, followed by sets of normative conformity and affective bonding variables.

This order of entry does not reveal the unique contribution of each variable set, thus a test for the significance of unique contribution in explaining variance in PWE by each variable set (Cohen & Cohen, 1983) was performed. Unfortunately, there were more than 100 survey respondents for whom wage premiums could not be computed because they performed jobs that were not listed in the BTA Economic Research Institute report, which provided average labor market wage for particular jobs in most of the labor markets included in the study. Thus, these individuals were not included in the multivariate analyses.

Supplementary analyses were performed on demographic variables to determine if heterogeneity of age, gender, race or education distributions in the work group were related to any of the PWE measures.

Results

Correlational analyses. Appendix F provides a correlation matrix of all variables ($n = 556$). Table 4.11 shows partial correlations of PWE, job neglect, SPWE and GPWE -- with proposed explanatory variables, controlling for social desirability. Also, Table 4.11 contains partial

Table 4.11
Partial correlations controlling for social desirability

		PWE	Neglect	SPWE	GPWE
Wage Premium		-.03	.01	.06	.16
	$p \leq$	.28	.45	.09	.001
	$n =$	438	439	439	436
Work Group Size		.05	.01	.10	.23
	$p \leq$	.12	.44	.01	.001
	$n =$	513	515	510	513
Interdependence		-.03	-.10	.01	-.07
	$p \leq$	.31	.02	.40	.05
	$n =$	513	515	510	513
Perceived Task Visibility		-.05	-.08	-.11	-.14
	$p \leq$	.14	.04	.005	.001
	$n =$	513	515	510	513
Effort Norms		-.10	-.27	-.04	-.32
	$p \leq$	.02	.001	.16	.001
	$n =$	513	515	510	513
Distributive Justice		-.02	.02	-.16	-.13
	$p \leq$	.33	.33	.001	.001
	$n =$	513	515	510	513
Altruism		-.15	-.19	-.07	-.49
	$p \leq$	.001	.001	.05	.001
	$n =$	513	515	510	513
Turnover Rate		-.08	-.08	-.03	.02
	$p \leq$	.04	.04	.22	.48
	$n =$	521	522	518	519
L.O.S. Heterogeneity		-.02	-.08	.04	.05
	$p \leq$	.33	.04	.19	.15
	$n =$	521	522	518	519

correlations of perceived task visibility with work-group size and task interdependence, again controlling for social desirability.

Hypothesis 1 stated that PWE would be negatively associated with payment of a wage premium, controlling for

labor market area unemployment rate and other alternative employment opportunities. The hypothesis was tested using hierarchical regression so controls for alternative employment opportunities, social desirability, cohesiveness and organization could be included. The results of this analysis with PWE as the dependent variable, shown in Table 4.12, indicate support for Hypothesis 1.

When PWE was replaced with SPWE as the dependent variable in the regression model shown in Table 4.12, wage premium was negatively related to SPWE at a marginal level of significance ($\beta = -.135$, $p = .07$) in Step 2. When job neglect and GPWE were employed as dependent variables in this multiple regression model, no support for Hypothesis 1 was found. Results of zero-order and partial correlations indicate varied levels of support for the other hypotheses.

Hypothesis 2, a positive relationship between work-group size and PWE, is weakly supported by the zero-order correlations when a one-tailed test of significance is used ($r = .0789$, $p < .10$). When controlling for social desirability, PWE's relation to work group size is not statistically significant. This leads to the suspicion that the relation of PWE and work group size was a chance correlation. However, work group size was positively correlated with SPWE ($r = .103$, $p < .05$) and GPWE ($r = .239$, $p < .001$). These relationships between work group size and

Table 4.12
PWE regression results: Wage premium

Variable	Step 1		Step 2	
	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>
Group Cohesiveness	-.034**	.015	-.033**	.015
Social Desirability	-.345***	.133	-.327***	.132
Unemployment Rate	-.009	.028	-.009	.027
Perceived Ease of Movement	.011	.011	.010	.011
Organization 2	-.044	.096	-.002	.096
Organization 3	-.098	.095	-.036	.096
Organization 4	-.154	.097	-.074	.100
Organization 5	-.036	.079	.122	.091
Organization 6	-.038	.106	-.016	.105
Organization 7	-.062	.081	-.037	.080
Organization 8	-.079	.119	-.044	.119
Organization 9	-.021	.011	.224*	.332
Organization 10	-.023	.090	.217*	.120
Wage Premium			-.053***	.018
Constant	2.016***	.270	2.12***	.267
R ²	.069		.088	
Δ R ²			.019	
F	2.449***		2.951***	
Δ F			8.889***	
<u>Note:</u> <u>n</u> = 442 * <u>p</u> < .10 ** <u>p</u> < .05 *** <u>p</u> .01				

GPWE and SPWE held when controlling for social desirability.

Therefore, two of the four variants of the dependent variable had a strong positive correlation with increasing group size. This result supported one of the most often observed findings in laboratory studies regarding social

loading: that as group size increases, there is greater likelihood that individuals will withhold effort.

Hypothesis 3 predicted a negative relationship between work group size and perceived task visibility. This hypothesis is supported by correlational ($r = -.13$, $p < .01$) and partial correlational ($r = -.11$, $p < .01$) tests.

Hypothesis 4, predicting a positive relationship between task interdependence and withholding effort, is not supported when using the PWE measure ($r = -.05$, ns), the job neglect scale ($r = -.12$; $p < .01$) or the SPWE and GPWE measures. In all instances, the task interdependence variable was negatively related to the PWE variants; in only one of these instances was the relationship significant.

Hypothesis 5 predicted a negative relationship between task interdependence and perceived task visibility. It is also contradicted by the data ($r = .16$, $p < .001$). The findings relative to hypotheses 4 and 5 call into question the efficacy and the meaning of the task interdependence measure to survey respondents. A problem of measure reliability may have resulted in these findings, or the findings may indicate a need to reexamine a theoretical view of the relationship between task interdependence and withholding effort. The contrarian findings regarding task interdependence will be discussed further in Chapter 5.

Consistent with Hypothesis 6, PWE is negatively correlated with perceived task visibility ($r = -.08$, $p <$

.05). Job neglect is also negatively correlated to perceived task visibility ($r = -.10$, $p < .05$) as are SPWE ($r = -.15$, $p < .001$) and GPWE ($r = -.18$, $p < .001$). As seen in Table 4.11, three of the four relations hold when controlling for social desirability. These findings echo much of the literature in the area of shirking and social loafing, supporting theoretical models (e.g., Jones, 1984) and empirical findings (e.g., George, 1992; Latané, Harkins & Williams, 1979).

Hypothesis 7 posited that perceived effort norms would be negatively related to PWE. This hypothesis was generally supported as effort norms were negatively correlated with PWE ($r = -.08$, $p < .05$), job neglect ($r = -.29$, $p < .01$) and GPWE ($r = -.35$, $p < .001$.) The correlation of effort norms with SPWE was negative but not significant. When controlling for social desirability, these findings are repeated. Whereas the literature indicated that negative relations between effort norms and PWE should be expected (Heckathorn, 1990), this finding provides empirical evidence regarding the importance of norms on effort levels.

Hypothesis 8, a negative relationship between distributive justice and PWE, is not supported when the PWE scale is used as the dependent variable ($r = -.01$, ns). However, the other three variants of the dependent variable are correlated with distributive justice at varying levels of significance: Job neglect ($r = -.07$; $p < .10$); SPWE (r

= $-.17$; $p < .001$) and GPWE: ($r = -.16$; $p < .001$). SPWE and GPWE are negatively correlated with distributive justice perceptions, even when social desirability is controlled. These findings lend support to the importance of equity norms (Kerr, 1983) and to equity theory (Adams, 1963): employees are less likely to lower effort levels if they perceive that rewards are fairly tied to their efforts.

Hypothesis 9 is supported as PWE has a negative relationship to perceived altruism ($r = -.14$, $p < .01$) in the work group. Similar results were found when the other three variants of the dependent variable were used: job neglect ($r = -.22$, $p < .01$), SPWE ($r = -.09$, $p < .05$), and GPWE ($r = -.51$, $p < .001$). These relations held when controlling for social desirability. Whereas altruism and other social values have been described as important determinants of behavior, particularly in social dilemma (e.g., Liebrand, 1986) and public goods (e.g., Rapoport, 1987) research, this study provided evidence that the presence of altruistic behavior in work groups is strongly related to members' effort levels.

Finally, Hypotheses 10 and 11 were not supported by the results. Hypothesis 10 predicted a positive relationship between turnover rate and PWE. Three of the four variants of the dependent variable had a negative relationship with the turnover rate but only one of these correlations approached significance, PWE ($r = -.07$, $p < .10$). However,

when controlling for social desirability, both PWE and job neglect were negatively related to turnover rate at a .05 level of significance. Considering the sample size and the large number of correlations, these findings could be due to chance. Another concern is the percentage of respondents who belonged to work groups in which there had been no turnover in the last 12 months (greater than 40 percent). These two factors may have contributed to this finding, thus it is important to continue to examine relationships between PWE and turnover rate.

Hypothesis 11 proposed a positive relationship between length of service heterogeneity and PWE. This hypothesis received no support across all four variants of the dependent variable.

Multivariate analyses. Whereas correlational analysis describes relationships of the variables in isolation, multivariate analysis was required to determine to what extent the three sets of variables explain PWE and to ascertain if the study's hypotheses are supported when controlling for other factors. Multiple hierarchical regression analyses were used for these tests. Tables 4.13, 4.14, 4.15 and 4.16 show results of hierarchical regression analyses for the four variants of the dependent variable.

In these analyses, 13 control variables (social desirability, cohesiveness, unemployment rate, perceived ease of movement and organization dummy variables) were

entered first, followed by rational choice variables, normative conformity variables and affective bonding variables. When PWE was used as the dependent variable (Table 4.13), results indicate that the control variables explained 7 percent of the variance in PWE ($F_{13,429} = 2.449$, $p < .01$). When the variables sets were entered, rational choice variables explained an additional 2 percent of the variance in PWE ($\Delta F_{17,425} = 2.227$, $p = .07$) at a marginal level of significance, but the normative conformity variables did not explain additional variance in PWE ($\Delta F_{15,427} = .25$, $p = .779$). When the three affective bonding variables were entered, they explained an additional 1.5 percent of the variance in PWE at a marginal level of significance ($\Delta F_{16,426} = 2.371$, $p = .07$).

The squared multiple correlation of PWE with the three sets of variables was obtained to determine the amount of unique variance explained by each variable set (Cohen & Cohen, 1983). General F tests on the variable sets revealed that the rational choice variables ($SR^2B = .02$, $F_{4,419} = 2.34$, $p < .1$) and the affective bonding variables ($SR^2B = .015$, $F_{3,420} = 2.33$, $p < .1$) made a unique contribution to variance explained, but only at a marginal level of significance.

When all variables are entered into the hierarchical regression with PWE as dependent variable, no support is found for relations implied by the synthesized motivation model. When all variables had been entered, social

desirability explained most of the variation in PWE. Wage premium was again negatively related to PWE, supporting Hypothesis 1 ($b = -.055$, $p < .01$). Altruism was negatively related to PWE ($b = -.044$, $p < .10$), providing weak evidence

Table 4.13
Results of hierarchical regression analysis:
Propensity to withhold effort

Variable	Step 1		Step 2		Step 3		Step 4	
	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>
Group Cohesiveness	-.034**	.015	-.032**	.016	-.027	.019	-.017	.020
Social Desirability	-.346***	.132	-.324**	.133	-.333**	.134	-.332**	.134
Unemployment Rate	-.009	.027	-.010	.028	-.011	.028	-.013	.028
Perceived Ease of Movement	.011	.011	.010	.011	.011	.011	.013	.011
Organization 2	-.044	.095	-.000	.097	-.002	.097	.080	.106
Organization 3	-.098	.095	-.039	.097	-.043	.097	-.045	.098
Organization 4	-.154	.097	-.074	.101	-.079	.101	-.047	.102
Organization 5	-.036	.079	.122	.095	.118	.096	.140	.097
Organization 6	-.038	.106	.002	.108	.000	.108	-.002	.108
Organization 7	-.062	.081	-.038	.081	-.037	.081	-.009	.082
Organization 8	-.079	.119	-.040	.120	-.039	.120	-.010	.124
Organization 9	-.021	.105	.226*	.133	.220	.134	.222*	.133
Organization 10	-.023	.090	.228	.145	.224	.145	.214	.145
Wage Premium			-.053***	.018	-.052***	.018	-.055***	.018
Work Group Size			-.000	.002	-.000	.002	-.000	.002
Interdependence			-.005	.022	-.003	.022	-.003	.022
Perceived Task Visibility			-.002	.014	-.002	.014	-.003	.014
Distributive Justice					.004	.010	.006	.010
Effort Norms					-.009	.016	-.001	.016
Altruism							-.044*	.025
Turnover Rate							-.157**	.078
LOS Heterogeneity							.002	.051
Constant	2.161***	.270	2.147***	.286	2.166***	.288	2.255***	.292
R ²	.069		.088		.089		.104	
Δ R ²			.019		.001		.015	
F	2.449***		2.418***		2.182***		2.226***	
Δ F			2.227*		.779		2.371*	

Note: $n = 442$, * $p \leq .10$ ** $p \leq .05$ *** $p \leq .01$

supporting Hypothesis 9. Turnover rate was negatively related to PWE ($b = -.157$, $p < .05$), contrary to Hypothesis 10. Social desirability was negatively and significantly related to self-reported PWE ($b = -.332$, $p = .01$).

Table 4.14 shows results of a hierarchical multiple regression analysis with job neglect as the dependent variable. Results indicate that control variables, such as social desirability and group cohesiveness, explained 9.5 percent of the variance in neglect ($F_{13,429} = 3.473$, $p < .001$). Adding rational choice variables did not explain a significant amount of variance in neglect ($\Delta F_{17,425} = .957$, $p = .43$). However, normative conformity variables accounted for another 3.9 percent of the variance in neglect ($\Delta F_{15,427} = 9.532$, $p < .001$), and the three affective bonding variables explained another 2 percent of the variance in job neglect when they were entered ($\Delta F_{16,428} = 3.333$, $p < .05$). This analysis indicates support for Hypotheses 7 and 9 and provides evidence contrary to Hypothesis 10, but did not support a synthesized motivation model.

The squared multiple correlation of neglect with the three variable sets was obtained to determine the unique variance explained by each set (Cohen & Cohen, 1983). Significance tests revealed that the normative conformity variables made a unique contribution to explained variance ($SR^2B = .028$, $F_{2,421} = 6.99$, $p < .05$) as did the affective bonding variables ($SR^2B = .020$, $F_{3,420} = 3.32$, $p < .05$).

Table 4.14
Results of hierarchical regression, dependent variable:
Job neglect

Variable	Step 1		Step 2		Step 3		Step 4	
	b	SE	b	SE	b	SE	b	SE
Group Cohesiveness	-.056***	.018	-.050***	.019	-.002	.022	.013	.023
Social Desirability	-.490***	.157	-.479***	.158	-.503***	.157	-.504***	.156
Unemployment Rate	.023	.033	.019	.033	.020	.032	.014	.033
Perceived Ease of Movement	.006	.013	.004	.013	.004	.013	.007	.013
Organization 2	-.083	.113	-.048	.115	-.084	.113	.034	.123
Organization 3	-.140	.113	-.025	.116	-.158	.114	-.141	.114
Organization 4	-.217*	.116	-.175	.120	-.195*	.118	-.163	.119
Organization 5	-.036	.094	.037	.113	.028	.112	.076	.113
Organization 6	-.261**	.125	-.240*	.128	-.239*	.126	-.225*	.126
Organization 7	-.137	.096	-.124	.096	-.128	.094	-.084	.095
Organization 8	-.129	.141	-.094	.143	-.094	.141	-.018	.144
Organization 9	.033	.124	.146	.159	.122	.156	.139	.155
Organization 10	-.131	.107	-.061	.173	-.065	.170	-.065	.169
Wage Premium			-.024	.021	-.022	.021	-.027	.021
Work Group Size			.001	.003	.001	.003	.002	.002
Interdependence			-.039	.027	-.027	.026	-.028	.026
Perceived Task Visibility			-.000	.017	.002	.016	-.001	.016
Distributive Justice					.004	.012	.006	.012
Effort Norms					-.080***	.018	-.070***	.019
Altruism							-.056*	.029
Turnover Rate							-.158*	.090
LOS Heterogeneity							-.075	.059
Constant	2.629***	.320	2.767***	.341	2.901***	.336	3.080***	.340
R ²	.095		.103		.142		.162	
Δ R ²			.008		.039		.020	
F	3.473***		2.880***		3.684***		3.689***	
Δ F			.957		9.533***		3.333**	

Note: n = 442, * p ≤ .10 ** p ≤ .05 *** p ≤ .01

Table 4.15 contains results of a hierarchical regression analysis in which SPWE was the dependent variable. Results indicate that control variables, such as social desirability and perceived ease of movement, explained 8.9 percent of the variance in SPWE ($F_{13,427} = 3.228$, $p < .001$). Adding the set of rational choice variables increased R^2 by 2.1 percent ($\Delta F_{17,425} = 2.49$, $p < .05$) whereas adding the normative conformity variables increased R^2 by another 1.2 percent ($\Delta F_{15,427} = 2.94$, $p = .05$). However, when the three affective bonding variables were entered, they did not add to variance explained in SPWE ($\Delta F_{16,426} = .465$, $p = .71$). The analysis does not provide support for a synthesized motivation model, but supports Hypotheses 1, 6 and 8.

The squared multiple correlation of SPWE with the three sets of variables was obtained to determine the amount of unique variance explained by each variable set (Cohen & Cohen, 1983). Significance tests revealed that the unique variance explained by the rational choice set of variables was 2 percent at a level of marginal significance ($SR^2B = .02$, $F_{4,419} = 2.39$, $p < .1$). The normative conformity variables contributed unique variance explained of 1.3 percent ($SR^2B = .013$, $F_{2,421} = 3.11$, $p < .05$). The affective bonding variables did not contribute to variance explained.

Table 4.15
Results of hierarchical regression, dependent variable:
Supervisor evaluation of employee PWE (SPWE)

Variable	Step 1		Step 2		Step 3		Step 4	
	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>	<u>b</u>	<u>SE</u>
Group Cohesiveness	-.054	.063	-.012	.067	-.018	.079	-.012	.085
Social Desirability	-1.086*	.559	-.978*	.559	-.790	.562	-.783	.564
Unemployment Rate	-.109	.116	-.102	.117	-.084	.116	-.076	.118
Perceived Ease of Movement	.136***	.045	.127***	.045	.112**	.045	.112**	.046
Organization 2	-.283	.403	-.218	.407	-.256	.407	-.211	.447
Organization 3	-.559	.400	-.389	.409	-.361	.408	-.418	.413
Organization 4	-.296	.411	-.095	.424	-.016	.423	.035	.431
Organization 5	-.324	.334	.089	.400	.174	.400	.146	.408
Organization 6	-1.110**	.445	-1.137**	.453	-1.100**	.452	-1.146**	.456
Organization 7	-.233	.340	-.175	.339	-.193	.338	-.186	.345
Organization 8	-.293	.502	-.196	.506	-.221	.504	-.300	.521
Organization 9	.463	.401	1.040*	.561	1.138**	.560	1.100*	.562
Organization 10	-.134	.381	.034	.610	.128	.609	.085	.611
Wage Premium			-.149**	.075	-.157**	.075	-.156**	.075
Work Group Size			.012	.009	.013	.009	.013	.009
Interdependence			.041	.094	.038	.094	.040	.094
Perceived Task Visibility			-.125**	.059	-.113*	.059	-.111*	.059
Distributive Justice					-.098**	.042	-.096**	.042
Effort Norms					.053	.066	.061	.068
Altruism							-.047	.106
Turnover Rate							-.270	.327
LOS Heterogeneity							.208	.213
Constant	4.492***	1.139	4.493***	1.206	4.304***	1.206	4.215***	1.233
R ²	.089		.110		.122		.125	
Δ R ²			.021		.012		.003	
F	3.228***		3.088***		3.098***		2.728***	
Δ F			2.487**		2.939**		.465	

Note: n = 442
 * $p < .10$ ** $p < .05$ *** $p < .01$

Table 4.16 contains results of the regression analysis in which GPWE was used as a variant of propensity to withhold effort. Results indicate that control variables, such as group cohesiveness, explained 26.7 percent of the variance in GPWE ($F_{13,427} = 12.029$, $p < .001$). Adding rational choice variables did not explain additional variance in GPWE ($\Delta F_{17,425} = .056$, $p = .99$), whereas adding normative conformity variables increased variance explained by 1.3 percent ($\Delta F_{15,427} = 3.78$, $p < .02$). When the three affective bonding variables were entered, they explained an additional 6.4 percent of the variance in GPWE ($\Delta F_{16,426} = 13.56$, $p < .001$). This hierarchical regression analysis does not support a synthesized motivation model, but it provides evidence in support of Hypothesis 9.

The squared multiple correlation of GPWE with the three sets of variables was again obtained to determine the amount of unique variance explained by each set (Cohen & Cohen, 1983). F tests revealed that rational choice and normative conformity variables did not significantly contribute to variance explained while the affective bonding variables contributed 6.5 percent unique variance explained ($SR^2B = .063$, $F_{3,420} = 13.26$, $p < .001$).

Table 4.16
Results of hierarchical regression, dependent variable:
Employee evaluation of group PWE (GPWE)

Variable	Step 1		Step 2		Step 3		Step 4	
	b	SE	b	SE	b	SE	b	SE
Group Cohesiveness	-.350***	.041	-.351***	.044	-.277***	.052	-.159***	.053
Social Desirability	-.111	.366	-.111	.370	-.076	.371	-.121	.356
Unemployment Rate	-.087	.076	-.086	.077	-.078	.077	-.029	.074
Perceived Ease of Movement	-.017	.030	-.018	.030	-.024	.030	-.016	.029
Organization 2	.155	.264	-.139	.269	-.210	.269	-.401	.282
Organization 3	-.196	.262	-.171	.271	-.213	.269	-.305	.261
Organization 4	-.057	.269	-.024	.280	-.026	.279	-.122	.272
Organization 5	-.016	.219	.044	.265	.064	.264	-.034	.258
Organization 6	.246	.291	.249	.300	.265	.298	.144	.288
Organization 7	-.237	.222	-.227	.224	-.240	.223	-.296	.217
Organization 8	.485	.329	.493	.335	.484	.333	.362	.329
Organization 9	-.172	.288	-.084	.371	-.084	.369	-.091	.355
Organization 10	.202	.249	.250	.404	.282	.402	.194	.386
Wage Premium			-.020	.049	-.021	.049	-.022	.047
Work Group Size			.001	.006	.002	.006	.002	.006
Interdependence			.000	.062	.018	.062	.054	.060
Perceived Task Visibility			.004	.039	.012	.039	.025	.037
Distributive Justice					-.031	.028	-.020	.027
Effort Norms					-.107**	.043	-.049	.043
Altruism							-.415***	.067
Turnover Rate							.126	.206
LOS Heterogeneity							.073	.135
Constant	5.579***	.745	5.544***	.797	5.683***	.796	5.644***	.778
R ²	.267		.268		.280		.344	
Δ R ²			.000		.013		.064	
F	12.029***		9.131***		8.674***		10.007***	
Δ F			.056		3.775**		13.561***	

Note: n = 442, * p < .10 ** p < .05 *** p < .01

Summary of hypothesis tests. Results of hypotheses tests by variant of the dependent variable are shown in Table 4.17. Although the synthesized motivation model of PWE was not supported by this data, the tests of hypotheses

Table 4.17
Summary results of hypothesis tests

<u>Hypothesis</u>	<u>PWE</u>	<u>Neglect</u>	<u>SPWE</u>	<u>GPWE</u>
1	Supported	NS	S	NS
2	Not Supported	NS	S	S
4	Not Supported	NS	NS	NS
6	Supported	S	S	S
7	Supported	S	NS	S
8	Not Supported	NS	S	S
9	Supported	S	S	S
10	Not Supported	NS	NS	NS
11	Not Supported	NS	NS	NS
<u>Task Visibility</u>				
3	Supported			
5	Not Supported			

using four variants of PWE found evidence in varying degrees supporting Hypotheses 1, 2, 6, 7, 8 and 9 through zero-order correlations, partial correlations controlling for social desirability, and hierarchical regression analyses. Evidence contrary to Hypotheses 4 and 10 was found. No support was found for Hypothesis 11. In a multivariate

analysis with PWE as the dependent variable, none of the three sets of independent variables made a unique contribution to variance explained. However, multivariate analyses using variants of PWE indicates that the normative conformity and affective bonding sets of variables did make unique contributions to variance explained depending upon how the dependent variable was operationalized.

Hypotheses 3 and 5, which did not involve PWE, received mixed support. Hypothesis 3, which proposed a negative relation between group size and task visibility, was supported. Hypothesis 5, which proposed a negative relation between interdependence and task visibility, was contradicted by the results of the study.

Generally, the results indicate that reconsideration of the hypotheses within a synthesized motivation model using different formulations of the dependent variable may be a productive path for future research. The results also indicate that continued efforts should be made to derive more effective measures of propensity to withhold effort; measures that are not as susceptible to response bias.

Supplemental analysis: Demographic variables. A supplemental analysis was performed to examine relationships among withholding effort measures and measures of group heterogeneity based on age, gender, race and education. Appendix F contains correlations among the four measures of withholding effort and the four measures of demographic

heterogeneity. Table 4.18 shows partial correlations of the demographic heterogeneity variables (age, race, gender, education) and PWE, neglect, SPWE and GPWE, controlling for social desirability.

Table 4.18
Partial correlations controlling for social desirability:
Propensity to withhold effort and demography variables

	<u>Race</u>	<u>Gender</u>	<u>Education</u>	<u>Age</u>
PWE	.02	.05	-.02	-.01
p ≤	.25	.13	.38	.30
<u>n</u> = 529				
Neglect	-.05	.08	.01	-.03
p ≤	.15	.03	.40	.23
<u>n</u> = 530				
SPWE	.01	.02	-.07	-.03
p ≤	.43	.30	.05	.28
<u>n</u> = 521				
GPWE	.19	-.01	.05	-.03
p ≤	.001	.45	.13	.25
<u>n</u> = 526				

As seen in Appendix F, racial heterogeneity in work groups is positively related to employee self-report of PWE ($r = .08$, $p < .10$) and positively related to GPWE, the individual's evaluation of fellow work group members ($r = .21$, $p < .001$). Heterogeneity of gender in the work group is positively related to job neglect ($r = .09$, $p < .05$). These relations indicate that when a work group is more highly mixed, either by race or by gender, there is a

greater tendency for work group members to withhold effort or perceive that fellow group members might withhold effort.

As seen in Table 4.18, when social desirability is controlled, the results indicate that heterogeneity of education in the work group is negatively related to supervisor report of employee PWE. The positive relation between heterogeneity of race and GPWE persists even when controlling for social desirability. This is an interesting finding in that when groups are more racially mixed, respondents tended to rate their co-workers lower in providing work group effort.

In summary, whereas the data collected in this study did not reveal length of service heterogeneity relationships with withholding effort as hypothesized, the findings among other demographic variables and withholding effort show a need for further research into relationships between diversity within organizational work groups and withholding effort.

Other results of interest. Other results that do not relate to the hypotheses and supplemental analyses should be mentioned. Three variables included as controls in this study were generally related to employee propensity to withhold effort across variants in the dependent variable measure. These variables were group cohesiveness, social desirability and perceived ease of movement.

The inclusion of these variables as controls indicates an a priori belief they would be related to the dependent variables. As expected, the social desirability measure was negatively related to PWE. The relation of the other two measures to PWE was less clear when this study began.

Correlational and multivariate analyses indicate that group cohesiveness was negatively related to the four variants of the PWE measure. Members of highly cohesive groups were more likely to withhold less effort. These relations held even when supervisors measured employee PWE and when group members were asked to evaluate fellow members of their work groups.

Additional multivariate analyses were conducted with the group cohesiveness variable removed because of its high correlation with the effort norm measure, and the potential for multicollinearity. A negative relationship between effort norms and PWE was found, as hypothesized, in these hierarchical regression analyses. This provides evidence that presence of the group cohesiveness variable masked relationships between effort norms and PWE in analyses that considered both of these variables.

Analyses shown in this chapter generally found positive relations between perceived ease of movement and PWE across all four variants of the dependent variable. Employees who believed they could easily move to another similar job were more likely to withhold effort. The findings regarding work

group cohesiveness, perceived ease of movement and social desirability can aid in designing future theoretical and empirical studies of the PWE phenomenon.

CHAPTER 5

DISCUSSION, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

This chapter discusses the study results shown in Chapter 4, elaborating on support for the research hypotheses, and offering possible explanations for lack of support for other hypotheses. The contributions and limitations of the study are discussed. This discussion is followed by potential applications of the findings and by suggestions for future research.

Chapter 1 posed two questions: (a) whether Knoke's model was an appropriate theoretical framework in which to study PWE, and (b) how variables based on the three elements of the model explain an individual employee's PWE. In response to those questions, this study detected a lack of support for the complete model but found evidence that rational choice, normative conformity and affective bonding contextual variables all play some role in explaining employee PWE. Whereas the framework of a synthesized model appears applicable to PWE, the model's elements did not work together to directly explain PWE in this study.

The most significant contributions of this dissertation are: (a) a comprehensive synthesis of theory and research into PWE from the disciplines of economics, psychology, sociology and management, (b) the application to and test of Knoke's synthesized motivation model in multiple work organizations, (c) the finding that variables representing

the three elements of the proposed model -- rational choice, normative conformity and affective bonding incentives -- are connected to PWE, and d) the discovery that normative and affective bonding variables played a more significant role in PWE than rational choice variables. In reaching these conclusions, the study addressed an area often overlooked in management research: how contextual elements influence individual behavior and perception in organizations (Cappelli & Sherer, 1991).

Support for Hypotheses

The most consistent finding in this study across the varying measures of the dependent variable -- PWE self-report, job neglect self-report, group PWE report, PWE supervisor report -- was for the negative relations hypothesized between PWE and perceived task visibility, effort norms and altruism. Each of these variables represents a different portion of the synthesized motivation model: perceived task visibility (rational choice), effort norms (normative conformity), and altruism (affective bonding). Thus, although a synthesized motivation model (Knoke, 1990) was not indicated, portions of the model were supported in separate analyses.

Negative relations between wage premium and PWE, while controlling for alternative employment opportunities, were found in two of four variants of the dependent variable. This result is consistent with previous tests of the

efficiency wage hypothesis (e.g., Cappelli & Chauvin, 1991a). A positive relationship between work-group size (an objective indicator) and PWE was supported in different degrees across two of the four variations of the dependent variable. This finding supports various laboratory studies regarding social loafing (e.g., Latané et al., 1979).

Support for Hypothesis 8 -- a negative relation between distributive justice and PWE -- was found in two of four variations of PWE measured in this study. Norms of equity and reciprocity (Schnake, 1991a; Stroebe & Frey, 1982) in affecting decisions to contribute effort have been viewed as important variables in this line of research by sociologists focusing on collective action (e.g., Marwell & Ames, 1981) as well as social psychologists concerned with social loafing (e.g., Kerr, 1983).

Results consistent with the hypotheses appeared with greater frequency when a group measure of PWE (GPWE) and a supervisor evaluation of employee PWE (SPWE) were analyzed than when self-report measures of PWE and job neglect were employed. The frequency analysis indicated that levels of skewness and lack of variance in responses may have been responsible for the lower number of significant findings when PWE and neglect were used as dependent variables. Problems with the psychometric properties of PWE scale items could have contributed to these results.

More than 60 percent of respondents reported that they never withheld effort at work or neglected their jobs. Even those who admitted to PWE or neglect were prone to social desirability response bias. The skewness problem was attenuated but not eliminated by controlling for social desirability.

The low reported PWE could be due to lack of trust of the researcher and the employer, questions of confidentiality about the research, placement of PWE items close to the start of the survey, or to a form of self-serving bias in which an employee shifts blame for low effort to external factors such as unproductive co-workers.

However, it is possible that the surveyed employees never withheld job-related effort. This explanation may be less likely than the other alternatives because most of the pre-test sample admitted withholding effort to some degree. Because they were not part of actual work groups, pre-test respondents may have been less prone to fear that information they gave would be used against them, and thus may have responded with greater veracity.

Another important finding involved a consistently high correlation between social desirability and self reports of PWE and job neglect. These results indicated that social desirability should be a construct of theoretical interest when considering employees' responses to the question of whether they withhold effort. Further consideration of PWE

models should devote more attention to the possible influence of self-deception by employees who do not want to admit that they withhold effort at any time. In cases such as this, there are no procedures to identify potential contamination (Moorman & Podsakoff, 1992).

In this study, alternative measures of withholding effort were obtained from the employee's supervisor, and the prevalence of withholding effort in the work group was measured. Although these efforts address some of the problems that occurred in the self-report measure, they do not consider the potential impact of response bias on individual PWE measured by questionnaire. The potential influence of impression management indicates that a non-normal distribution of PWE responses may not be an unusual occurrence if similar measures are used in future research.

Despite these problems, several relationships were found between PWE and the independent variables when attempting to control for response bias. Those "common method" results were confirmed when measures of employee PWE obtained by the supervisor was considered as a dependent variable. It is encouraging that several relations consistent with the hypotheses were found when employees were asked to evaluate fellow group members. These findings generally indicated that when low effort norms, low task visibility, low equity and low altruism were perceived, an

employee was more likely to report that his or her co-workers did not provide full effort.

Unsupported Hypotheses

Several hypotheses did not receive support. This may indicate problems with the data and the measures as well as the model. When the model was tested using PWE and neglect self-reports by bringing in sets of independent variables, variance explained increased in very small amounts. In some instances, increased variance explained was insignificant.

Considering the findings when alternative measures such as SPWE and GPWE were used, these non-significant results could have stemmed from lack of variance in PWE and neglect. The low R-squares and correlations found with these predictor variables improved when GPWE and SPWE were used as dependent variables. Use of GPWE and SPWE increased variance in the dependent variable. However, even when GPWE and SPWE were used as dependent variables, results did not support a synthesized model.

Hypotheses 4 and 5, dealing with relationships between interdependence and PWE and interdependence and perceived task visibility were not supported. This finding may be a fault of the measure; the alpha was .67, below the usual reliability threshold for exploratory research (Nunnally, 1978). However, theoretical explanations for these results may be more appropriate. When interdependence rose, employees believed task visibility increased. When

interdependence increased, some employees reported lower GPWE and job neglect. This may indicate that the interdependence perceived by employees allowed no latitude for them to withhold effort or neglect their jobs.

In addition, positive relations between interdependence and task visibility may indicate that tasks were so interdependent the supervisor may have had to be directly involved in the task and thus could better observe employees. The findings indicate that this hypothesis should be reconsidered in future research.

Whereas there are instances when interdependence may allow employees to hide from the supervisor and increase PWE, there are other cases in which interdependence would not permit PWE because employees are working so closely with each other that withholding effort could cause an entire operation to fail. Incorporating measures of task variety and analyzability (Perrow, 1970) in future research may better enable evaluation of the task interdependence-PWE relationship.

Regarding Hypothesis 10, turnover, the data indicated a relation opposite to what was hypothesized in two of the four variants of PWE. Almost half of the groups in this study experienced no turnover in the last year. Because these correlations are so low, it is possible the findings resulted from chance.

Future research at the group level of analysis would be important to determine if respondents' feelings about the behaviors of other group members were influenced by the idea of repeated plays (Axelrod, 1986), measured by the turnover rate. A measure such as social integration or work place interaction may better capture repeated plays in future research. The strong relation between cohesiveness and PWE may be more indicative of the role of repeated plays than a raw turnover rate.

Lastly, there was no support for Hypothesis 11, demographic heterogeneity as measured by length-of-service distribution. The potential relation between demography and withholding effort may be more effectively explored by using individual dissimilarity through a distance index (e.g., Price & Harrison, 1993). This measure considers how dissimilar employee X is from other members of the group. This approach may be more effective in linking demography and withholding effort, particularly in light of relationships found among other measures of demographic heterogeneity (race and gender) and PWE measures.

Contributions

This study's most significant theoretical contribution was the synthesis of three varied research streams from economics, sociology, and psychology into a model of propensity to withhold effort in organizational work groups. The most significant empirical contribution of the study is

that contextual elements of rational choice, normative conformity and affective bonding incentives were shown to have an impact on an employee's on-the-job PWE even though a synthesized model was not supported. These results provide the groundwork for future research by pointing out how contextual variables may act together to influence an employee's willingness to produce full effort on the job.

By conducting this study in a field setting, it was possible to measure affective bonding (altruism, turnover, heterogeneity) in ways not possible in a laboratory setting. The negative relation between altruism and PWE in an on-going work group is a significant finding, backing up the idea that non-calculative incentives are an important determinant of behavior (Knoke, 1990), even in a situation of economic exchange.

The results were also consistent with those of George (1992) in regard to the role of perceived task visibility, and generally consistent with the tenets of the social loafing perspective: increased group size relates to declines in individual effort (e.g., Latané, et al., 1979). The influence of size has been repeatedly found in the laboratory, but has rarely been tested in field settings.

In addition, the findings indicated the importance of perceived effort norms in influencing an employee's PWE. The study results showed the importance of group effort norms among work-group members in affecting the behavior of

employees in work groups. Influence of norms has been seen in laboratory studies (e.g., Marwell & Ames, 1981; Kerr, 1983). This study provided evidence from existing work groups of its effect on PWE, possibly as a form of clan control (Ouchi, 1981), or as partial gift exchange (Akerlof, 1982, 1984).

The results demonstrated the importance of group cohesiveness in determining employees' PWE. Cohesiveness was negatively associated with all four variations of the dependent variable; to the greatest degree with employee's perception of how much effort fellow group members put into their jobs. Whereas there are indications in previous research that cohesiveness contributes to reduction of social loafing in a lab setting (Karau & Williams, 1992b), this study found a similar relation in a field setting. The relationship between cohesiveness and PWE was not hypothesized a priori because it was unclear as to whether closely bonded employees in on-going groups would act together to reduce or to increase effort. These results indicated the latter, at least from a perceptual standpoint.

The model tested in this study included variables that reflect rational cost-benefit analysis stressed in economics (e.g., agency theory; Jensen & Meckling, 1976), and transactions costs economics (Williamson, 1975), and applied to management research (e.g., Jones, 1984; Barney & Ouchi, 1986). It included variables that reflect normative

conformity and affective bonding concerns of sociologists (e.g., Knoke, 1990; Knoke & Wright-Isak, 1982; Macy, 1990; Marwell & Oliver, 1988). Taken alone, neither set of variables considered how an individual's predisposition to act may be affected by an on-going social system.

On a macro level, Granovetter (1985) criticized economists who tried to bring social structure into their explanations of organizational phenomena because their efforts viewed social influence as an external force that sets action in motion and has no further effects. An on-going debate centers on whether a narrow model of human motivation advanced by industrial organization economists is appropriate to study behavior in organizations (cf. Barney, 1990, Donaldson, 1990).

This study's findings that mixed motivations contributed to employee contribution of effort indicated that rational cost-benefit calculations as well as the impact of norms and affective bonding should be considered in doing research on behavioral predispositions. A key in future research will be in determining how much of which type of motivation most greatly affects PWE, and whether behavior is more greatly affected by norms imposed internally or norms sanctioned by social control -- externally imposed by the organization or by fellow group members. As Macy (1993) noted in his work on collective action and free riding, internalized fairness norms may lead

to too much cooperation toward a collective effort while external sanctions may provide too little.

Finally, it is intriguing that in this study of economic organizations non-calculative incentives such as norms and altruism played a greater role than rational choice variables in determining propensity to withhold effort. One might expect contrary results when a model proposed for the study of voluntaristic organizations -- in which use of norms and affective bonding may be prevalent -- is applied to economic organizations.

Limitations

There are several limitations to this study. First, many of the measures were obtained from the same source: a survey of employees on the dependent and independent variables. Common method variance can jeopardize construct validity; however, in this study, when a measure of the dependent variable was obtained from a different source, the findings produced by surveying employees were often duplicated.

In addition, support for hypotheses involving objective indicators (i.e., work-group size) was found to some extent. Ordering the survey with dependent variables first (propensity to withhold effort) and independent variables second (task visibility, perceived effort norms) also addressed the potential for problems with self-report measures (Podsakoff & Organ, 1986).

However, the ordering of the dependent variable could have led to another problem noted about self-report measures: item context effects (Harrison & McLaughlin, 1993). The sensitivity of the information sought may have led to initial anxiety on the part of the subjects (Roberson & Sundstrom, 1990); such anxiety could have affected the PWE responses and responses to other questionnaire items.

The skewness problem with the dependent variable was addressed by transforming the PWE variable and by using variations of the dependent variable measure, such as neglect (also transformed), SPWE and GPWE. These remedies indicated stronger evidence supporting several of the hypotheses and had no effect on others.

Internal validity could have been threatened in this study because in considering multiple organizations, there are many ways for work groups to differ other than on the independent variables. Testing in a single state, testing for differences among employees on other factors, and use of controls for organization membership were among the efforts undertaken to confront this limitation. Yet, work groups are never quite the same on all factors, and lack of random assignment to treatment conditions and the possibility of self-selection through use of questionnaire measures raises the potential for alternative explanations of the results. Every effort can be made to minimize differences, but work-group history could have affected these results.

The use of Louisiana companies has an impact on the generalizability of the findings. The advantages of conducting this research in Louisiana were practical: it was part of a larger study connected to the state's major university, and this connection helped obtain access to multiple businesses, which were needed to provide the sample, and resulted in less costly data collection.

The disadvantages concerned threats to external validity in that the results can only be generalized to populations that closely correspond to the population of businesses in Louisiana. This generalization may be difficult because other areas differ from Louisiana, particularly in recent economic trends, but the lack of generalizability is not a major concern. All research involves trade-offs, and the study was designed to maximize other types of validity by use of rigorous sampling procedures, item and data analysis.

Another limitation was that data were unavailable for more than 100 respondents regarding labor market area wages for the jobs they performed. This resulted in hierarchical regression models -- tests of the synthesized motivation model -- including only four out of five survey respondents. Although significant negative relations were found between PWE and the interaction of wage premium and unemployment rate, inclusion of 100 more respondents may have provided additional information to evaluate this finding and others.

Applications

Group performance has an important influence in improving organizational effectiveness (Bettenhausen, 1991). The results of this study could be applied to the design of work groups in an effort to make them more successful. First, under the premise that more successful work groups are those in which the members provide full effort, the results provided information on several factors that influence withholding effort.

Second, the results provided information on how to draw up baseline measures to aid in selecting successful work teams and project teams. Third, propensity to withhold effort focused on task effort in this study and such a focus may help distinguish between contributions to task with contributions to quasi-task effort such as maintenance factors, work-group reputation, work-place safety and organizational citizenship.

In addition, the results could contribute to an organization's strategy in determining which forms their work groups should take and how those work groups might be supervised. The importance of establishing strong effort norms and altruism within the work group indicated that management should not solely view financial rewards and other personal recognition as the contextual factors that influence how much effort is produced.

Directions for Future Research

The positive results of this study produce several more questions for future research. The shortcomings in some of the measures and the lack of significant support for some of the hypotheses also reveals a need for additional study.

The significant findings that occurred when employees were asked to evaluate the PWE of fellow group members points out the need for more research at the group level of analysis. Future research should consider the impact of variables that are considered to be group-level variables, such as group norms, cohesiveness, group interdependence and altruism, on PWE perceptions at a group level of analysis. The importance of cohesiveness indicated a need to more rigorously test the impact of that group level variable on an employee's PWE. It would be helpful to replicate the finding here that cohesiveness has negative effects on employee PWE, through use of other, more objective measures of effort, if available, in a field setting.

In future research into the PWE concept, better measures should be sought. A major shortcoming of this study was skewness of the major dependent variable measure. Individuals were unlikely to admit to withholding effort at work. If quantifiable measures that actually measure effort rather than performance, are available, they should be considered in future research. In addition, it may be useful to employ measures of self-limiting behavior (Veiga,

1991) in future consideration of PWE. Self-limiting behavior has been used as a surrogate measure for social loafing (Price & Harrison, 1993) and includes such dimensions as inattention, carelessness and withdrawal. One can debate whether these dimensions represent PWE, but the concepts are potentially related.

Having noted the problem with social desirability response bias, it may be important to design impression management and deception scales into future theoretical work. It would also be meaningful to consider non-threatening ways to measure objective effort in the field as is done in the laboratory. Laboratory researchers have used strain gauges and cheerleading experiments to measure effort in PWE studies. Field researchers need to develop similar measures, perhaps in the area of job-related computer simulation. It is important to remember that these measures should consider effort rather than performance.

Spicer (1985) proposed that the type of incentive, or reward, system should moderate the way some of the variables discussed in this study would be related to PWE. He proposed that reward system would moderate the influence of group size, interdependence, altruism, and turnover rates on PWE. Using Spicer's reasoning, the relation between perceived effort norms and PWE may also be moderated by the organization's reward system.

This study did not obtain variance in reward system needed to test its moderating influence on relations between the independent variables and PWE. It is anticipated that future studies may isolate those receiving group rewards and those rewarded based on relative individual efforts. Once this is accomplished, it will be possible to test whether type of reward system moderates the relations of several variables of interest in this study, including work-group size, group effort norms and altruism, to PWE.

Another potential avenue of inquiry is the relation between organizational citizenship behaviors (OCBs) and propensity to withhold effort. Such research would extend the work done in this study, which considered altruism, an OCB dimension, as an antecedent to effort. PWE has been viewed in terms of doing less work than required or expected whereas OCBs are generally presented in terms of performing acts that are beyond what is required or expected. Of further interest are potential relations of courtesy, civic virtue, sportsmanship and other behaviors to the common good of a work group, that is, its reputation, low production costs and safe working conditions.

In addition, future research should consider whether the implications of withholding effort may differ in service industries when compared to manufacturing industries. Withholding effort when in direct contact with a customer might have quite different ramifications than withholding

effort when manufacturing a product. In the latter case, organizations may have more capable mechanisms to prevent the behavior from having an impact on the company. Contextual factors such as norms may play different roles depending upon whether the activity takes place while performing a service or making a product.

Lastly, future research should apply the findings of this study to more specific types of groups and teams, such as top-management teams, project teams or quality teams. It would be interesting to determine if the relationships found and not found in this study of generic work groups translate to specific types of work groups, or if there are moderating influences among different kinds of organizational teams.

Conclusion

Much research has been done in laboratory settings concerning the prevalence of free riding, social loafing and shirking in small temporary groups. However, previous research had not tested a comprehensive model of suggested contextual predictors of the propensity of employees to withhold effort in a single framework in multiple organizations. This study filled that gap in by constructing and testing a model that includes formal and informal contextual variables mentioned in previous conceptual work and in some instances tested.

Whereas elements of context advanced in this model did not directly explain large amounts of variance in PWE,

context should be considered in future research as a potential moderator of relationships between individual or psychological mechanisms and PWE. Some of these mechanisms include felt dispensability (e.g., Weldon & Mustari, 1988), intrinsic motivation (e.g., George, 1992), and task attractiveness (Zaccaro, 1984). For example, strong effort norms and perceived altruism in work groups may enhance the effects of intrinsic motivation and task attractiveness and negate the effects of felt dispensability on an employee's willingness to provide effort.

Psychological mechanisms such as role clarity and role ambiguity may also have an impact on PWE, and these effects again may be moderated by contextual variables. For example, employees may not provide full effort because they do not understand how to perform a task. Task interdependence, group size, and group norms could influence the degree to which an employee obtains needed clarity that might lessen the degree of PWE.

This study's focus on context can be the first step in a research program that examines these issues in different types of groups as well as in different types of organizations, i.e., the public sector. The results reported here provoke interesting questions that should be addressed as contextual causes of withholding effort continue to be examined.

ENDNOTES

1. Olson's book The Logic of Collective Action (1965) inspired research into free riding at different levels of analysis in various areas. Much of this research -- applications across organizations (e.g., Lenway & Rehbein, 1991), collective strategy and free riding (e.g., Carney, 1987) and effects of free riders on right to work laws and unionization (e.g., Zax & Ichniowski, 1991) -- is not related to the individual level of analysis that will be used in this study, so it will not be discussed in detail.

2. Albanese and Van Fleet (1985a) and Stigler (1974) suggested that "cheap rider" more accurately describes such a group member because gaining benefits usually involves at least some cost, and a pure free rider is an exception.

There are two characteristics of free-rider hypotheses. Under a strong free-rider hypothesis, none of a group's members will contribute because there is too much opportunity to free ride. For example, a softball team may not practice because all of the players regard practice to be too costly when weighed against the public good of improved team performance. In a weak free-rider hypothesis, provision of a public good will be less than needed, because some members free ride whereas others contribute (Stigler, 1974). For example, most players practice, but a few cheap riders only show up for games. Thus, team performance, is not as optimal as it could have been if all had practiced.

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APPENDIX A

ARTICLES RELEVANT TO THE TOPIC OF WITHHOLDING EFFORT

	TERM USED	TYPE	MAJOR CONCLUSIONS OR RESULTS
MANAGEMENT			
Jones, 1984	FR/ SH	T	Model suggests that free riding and shirking mediate relations between structure/ technology & outcomes
Albanese & Van Fleet, 1985a	FR	T	Free rider theory and research reviewed; importance of altruism & fairness norms stressed
Weldon & Gargano, 1985	SL	E/L	Social loafing effects occurred when Ss working on judgment tasks believed they were working alone rather than with another person
Spicer, 1985	SH/ PG	T	Applied public choice theory to study of providing effort in work group
Weldon & Mustari, 1988	SL	E/L	Feeling dispensable can cause social loafing effects while feeling needed can motivate effort
Earley, 1989	SL	E/L	Collectivistic work beliefs moderate social loafing effects
Judge & Chandler, 1990	SH	E/F	Found individual level moderators of shirking propensity, e.g. job satisfaction, race, age
Schnake, 1991a	SL/S E	E/L	Sucker effect occurs in co-acting groups and goal setting more effectively reduces it than punishment
George, 1992	SL	E/F	Relation between task visibility and social loafing was strongest when worker's intrinsic involvement was low

	TERM USED	TYPE	MAJOR CONCLUSIONS OR RESULTS
Cooper, Dyck & Frolich, 1992	SD/FR	E/L	Fair distribution rules, participatively developed, can temper social dilemmas that are inherent in gainsharing plans
Miles & Greenberg, 1993	SL	E/F	Social loafing effects attenuated and swimmers' group performance improved when Ss faced punishment
ECONOMICS			
Alchian & Demsetz, 1972	SH	T	The need to reduce shirking via monitoring was major reason for establishment of classical firm
Jensen & Meckling, 1976	M/AC	T	Combined theories of property rights, agency and finance to develop a theory of ownership structure; focused on relations between principal (owner) and agent (manager)
Leibowitz & Tollison, 1980	SH	E/F	Optimal law firm size to control shirking and free riding is about five
Akerlof, 1982	SH	T	Partial gift exchange: Worker effort depends on norms determining fair day's work
Akerlof, 1984	SH	T	Tied partial gift exchange hypothesis to efficiency wage theory of unemployment
Yellen, 1984	SH	T	Explanation of how efficiency wage hypothesis explains unemployment
Hamermesh, 1990	SH	E/F	Further growth in on-the-job leisure would reduce productivity; eliminating breaks would be counter-productive

	TERM USED	TYPE	MAJOR CONCLUSIONS OR RESULTS
Cappelli & Chauvin, 1991	SH	E/F	Greater wage premiums associated with lower levels of shirking
Krueger, 1991	SH	E/F	Monitoring difficulty influences timing & generosity of compensation
SOCIOLOGY			
Marwell & Ames, 1979	FR	E/L	Small groups w/ a person who has an interest in public good invest more than other groups
Alfano & Marwell, 1980	FR	E/L	Important normative and perceptual factors may influence individual decisions to contribute toward public goods
Marwell & Ames, 1980	FR	E/L	Ss persisted in investing in public goods despite conditions designed to maximize advantages of free riding
Marwell & Ames, 1981	FR	E/L	Economics students invested less in public goods than subjects in previous experiment
Oliver, Marwell & Teixeira, 1985	CM/ FR	T	Advanced logic of critical mass to explain how contributing to provision of public goods occurs
Macy, 1990	CM/ FR	T	Extended critical mass theory by applying social learning theory to decisions about contributing to provision of public goods
SOCIAL PSYCHOLOGY			
Ingham, Levinger, Graves & Peckham, 1974	SL	E/L	Replicated Ringelmann effect; individual performance declined when more people participated in a group's task

	TERM USED	TYPE	MAJOR CONCLUSIONS OR RESULTS
Condie, Warner & Gillmann, 1976	FR	E/F	Blood drive donors had less free riding tendencies and felt more social pressure to donate
Latané, Williams & Harkins, 1979	SL	E/L	Average sound pressure produced per person decreased as group size increased
Harkins, Latané & Williams, 1980	SL	E/L	Social loafing seems to occur when Ss perform in groups regardless of whether they also perform alone
Orbell & Dawes, 1981	SD	T	Suggested altruism as a possible motivation that may resolve some social dilemmas
Williams, Harkins & Latané, 1981	SL	E/L	Identifiability of individual effort eliminated social loafing
Harkins & Petty, 1982	SL	E/L	Unique or difficult tasks reduced or eliminated social loafing effects
Kerr, 1983	SD/ FR	E/L	Group members reduce effort if they believe a capable partner is free riding
Kerr & Bruun, 1983	SL	E/L	On disjunctive tasks, Ss w/ low ability gave less effort than high ability Ss. On conjunctive tasks Ss w/ high ability gave less effort
Zaccaro, 1984	SL	E/L	Task attractiveness moderated social loafing effects in work groups of two to four
Jackson & Harkins, 1985	SL	E/L	Found that equity-in-effort approach (sucker effect) helped explain social loafing

	TERM USED	TYPE	MAJOR CONCLUSIONS OR RESULTS
Harkins, 1987	SL	E/L	Social loafing and social facilitation can be viewed as complementary paradigms, rather than separate research streams
Harkins & Szymanski, 1989	SL	E/L	Allowing a group to evaluate its performance eliminated loafing effects
Williams & Karau, 1991	SL	E/L	People worked harder collectively when they expect co-workers to perform poorly on a meaningful task
Shepperd, 1993	SL/ FR/ SE	T	Proposed expectancy theory as a framework to organize research on social loafing, free riding and the sucker effect in performance groups

Key to Appendix A

Terms: SH (Shirking); SL (Social Loafing); FR (Free Riding); CM (Critical Mass); M (Monitoring); AC (Agency Costs); SE (Sucker Effect); PG (Public Goods).

Type of Study: T (Theoretical); E (Empirical); L (Lab); F (Field)

APPENDIX B

VARIABLES, MEASURES AND SOURCES

Variables

ORGANIZATIONAL VARIABLES: Wage Premium

GROUP CHARACTERISTIC VARIABLES: Group Size, Length of Service Demography, Turnover Rates

PERCEIVED TASK CHARACTERISTICS: Interdependence

PERCEIVED GROUP CHARACTERISTICS: Perception of Task Visibility, Perceived Peer Compliance Effort Norms, Perceived Degree of Altruism, Distributive Justice

DEPENDENT VARIABLE: Propensity to Withhold Effort

CONTROL VARIABLES: Organization Membership, Group Cohesiveness, Social Desirability, Perceived Job Alternatives

Measures and Sources

Wage premium: Group average wage minus market wage for job. Source: work group supervisor; BTA Economic Institute, 1992 Geographic Reference Report: Annual Report of Costs, Wages, Salaries and Human Resource Statistics.

Group size: Number of people reporting to the supervisor in that work group; Source: supervisor.

Task interdependence: Five items that collectively reflect reciprocal interdependence, from Pearce & Gregersen, 1991; Source: employee survey.

Perceived task visibility: Five-item scale used in an earlier study (George, 1992); Source: employee survey.

Perceived compliance effort norms: 22 original items, variations of these items were suggested by Kerr and Slocum (1987) and in Van de Ven and Ferry (1980). Source: employee survey.

Distributive justice: Three items drawn from Martin (1987); Source: employee survey.

Perceived altruism: Five items that make up a subscale of the organizational citizenship behavior measure developed by Smith, Organ and Near (1983); Source: employee survey.

Length of service demographic heterogeneity: Dissimilarity in length of service distribution in work group; Source: employee provided length of time in the work group; coefficient of variation (standard deviation divided by the mean) was computed for each group (Allison, 1978).

Turnover rates: Number gone from work group, voluntary and involuntary over last 12 months; percentage turnover calculated based on this information; Source: supervisor.

Propensity to withhold effort: Ten items drawn from Judge and Chandler (1990), George (1992), and five original items tapping dimensions of PWE; four of these items used to measure PWE in field study. Source: employee survey.

Job neglect: Six-item scale from Leck and Saunders (1992); Source: employee survey.

Group PWE: 15 items, drawn from Judge and Chandler (1990), George (1992) and original items developed for this study. Adaptation asked employees to evaluate PWE (shirk, loaf, free ride) of fellow workers; Source: employee survey.

Supervisor evaluation of employee PWE: Six-item scale, developed from proposed PWE scale through factor analysis of pre-test; Source: supervisor survey.

Group cohesiveness: Eight-item scale from Dobbins and Zaccaro (1986); Source: employee survey.

Social desirability: A 16-item, two-point "Responding Desirably on Attitudes and Opinions" (RD-16) (Schuessler, Hittle & Cardascia, 1978) was used on the field survey; Crowne and Marlowe's (1960) 32-item social desirability measure was used on the pre-test. Source: employee survey.

Perceived ease of movement: Three-item scale based on O'Reilly and Caldwell (1981) and Gerhart (1990); Source: employee survey.

Average group wage: Average hourly wage paid to members of the work group; Source: supervisor survey.

Market wages: Average wage paid in the labor market for the job performed by work group members; Source: BTA Economic Institute, 1992 Geographic Reference Report: Annual Report of Costs, Wages, Salaries and Human Resource Statistics.

Unemployment rate: Average unemployment rate over the last 12 months in the labor market; Source: Louisiana Department of Labor.

APPENDIX C
PRE-TEST INSTRUMENT

RESEARCH QUESTIONNAIRE

This questionnaire is designed to measure your attitudes and opinions concerning some job-related matters. Please answer these questions as though you were describing the job you now hold and your current work group. If you are not now employed, please answer about the job you most recently held. Your answers will be kept strictly confidential.

1. In this job, how many people, including you, report to the same supervisor? _____

PART I

PLEASE CIRCLE THE APPROPRIATE NUMBER

	NEVER			ALWAYS	
1. How often do you give 100 percent effort on the job?	1	2	3	4	5
2. How often do you expect to give 100 percent effort in the future?	1	2	3	4	5
3. How often do you perform duties that are not formally required by your job description?	1	2	3	4	5
How characteristic is each of the following item of you in terms of your job?					
4. I defer responsibilities I should assume to my coworkers.	1	2	3	4	5
5. I put forth less effort on the job when others are around to do the work.	1	2	3	4	5
6. I do not do my share of the work.	1	2	3	4	5
7. I give less effort than other members of the work group.	1	2	3	4	5
8. I avoid performing housekeeping tasks as much as possible.	1	2	3	4	5
9. I leave work for the next shift that I should really complete.	1	2	3	4	5

	NEVER			ALWAYS	
10. I take it easy if others are around to do the work.	1	2	3	4	5
11. I contribute to lowering production costs in this work group.	1	2	3	4	5
12. I am absent from work more than others in this work group.	1	2	3	4	5
13. I make an effort to increase this work group's reputation.	1	2	3	4	5
14. Improving the equipment used by this work group is not my concern.	1	2	3	4	5
15. I contribute to a work environment that is free of safety and health problems.	1	2	3	4	5

PART II

PLEASE CIRCLE THE APPROPRIATE NUMBER

	STRONGLY DISAGREE				STRONGLY AGREE		
1. My coworkers and I have a strong sense of tradition.	1	2	3	4	5	6	7
2. My coworkers and I stress teamwork.	1	2	3	4	5	6	7
3. It is the supervisor's job to see that my coworkers and work as hard as we can.	1	2	3	4	5	6	7
4. There is a great deal of pressure from my coworkers to exert effort.	1	2	3	4	5	6	7
5. My coworkers and I don't talk much about the way we do our jobs.	1	2	3	4	5	6	7
6. My coworkers and I care about each other's well being.	1	2	3	4	5	6	7

	STRONGLY DISAGREE				STRONGLY AGREE			
7. My coworkers and I are rewarded here based on how well our group does its job.	1	2	3	4	5	6	7	
8. My coworkers rarely worry about how hard I am working.	1	2	3	4	5	6	7	
9. The supervisor has little impact on how hard we work here.	1	2	3	4	5	6	7	
10. My coworkers and I have little obligation to work together to do the best job we can.	1	2	3	4	5	6	7	
11. Maintaining close friendships is important to my coworkers and me. and me.	1	2	3	4	5	6	7	
12. My coworkers and I regularly socialize together.	1	2	3	4	5	6	7	
13. I have a great deal of independence from my coworkers.	1	2	3	4	5	6	7	
14. My co-workers do not urge me to work hard.	1	2	3	4	5	6	7	
15. Each member of this work group is rewarded based on how well that person does the job, compared to other members.	1	2	3	4	5	6	7	
16. In this work group, we expect everyone to pull together to get the job done.	1	2	3	4	5	6	7	
17. It is routine for my coworkers and I to get together during non-work hours.	1	2	3	4	5	6	7	

How much do members of your work group do the following things?

	NOT AT ALL					VERY MUCH	
18. Compete with each other to achieve performance targets.	1	2	3	4	5	6	7
19. Gang up on the person whose work is far below that of the others.	1	2	3	4	5	6	7
20. Gang up on the person whose work far exceeds that of the others.	1	2	3	4	5	6	7
21. Encourage individuals to excel and strive for increasingly higher levels of work performance.	1	2	3	4	5	6	7
22. Try to get ahead at the expense of other work group members.	1	2	3	4	5	6	7

PART III

PLEASE CIRCLE THE APPROPRIATE NUMBER

	STRONGLY DISAGREE			STRONGLY AGREE	
1. Members of my work group help others who have been absent.	1	2	3	4	5
2. Members of my work group volunteer for things that are not required.	1	2	3	4	5
3. Members of my work group orient new people even though they are not required to do so.	1	2	3	4	5
4. Members of my work group help coworkers who have heavy workloads.	1	2	3	4	5
5. Members of my work group make innovative suggestions that help improve the department.	1	2	3	4	5

PART IV

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED.

STRONGLY DISAGREE

STRONGLY AGREE

1 2 3 4 5 6 7

_____ 1. Before voting, I thoroughly investigate the qualifications of all of the candidates.

_____ 2. I never hesitate to go out of my way to help someone.

_____ 3. It is sometimes hard for me to go on with my work if I am not encouraged.

_____ 4. I have never intensely disliked anyone.

_____ 5. On occasion I have had doubts about my ability to succeed in life.

_____ 6. I sometimes feel resentful when I don't get my way.

_____ 7. I am always careful about my manner of dress.

_____ 8. My table manners at home are as good as when I eat out at a restaurant.

_____ 9. If I could get into a movie without paying and be sure I was not seen I would do it.

_____ 10. On a few occasions, I have given up doing something because I thought too little of my ability.

_____ 11. I like to gossip at times.

_____ 12. There have been times when I felt like rebelling against people in authority even though I knew they were right.

_____ 13. No matter who I am talking to, I am always a good listener.

_____ 14. I can remember "playing sick" to get out of something.

_____ 15. There have been occasions when I took advantage of someone.

_____ 16. I'm always willing to admit it when I make a mistake.

_____ 17. I always try to practice what I preach.

_____ 18. I don't find it particularly difficult to get along with loud-mouthed obnoxious people.

_____ 19. I sometimes try to get even rather than forgive and forget.

_____ 20. When I don't know something, I don't at all mind admitting it.

_____ 21. I am always courteous even to people who are disagreeable.

_____ 22. At times I have really insisted on having things my own way.

_____ 23. There have been occasions when I felt like smashing things.

_____ 24. I would never think of letting someone else be punished for my wrongdoings.

_____ 25. I never resent being asked to return a favor.

_____ 26. I have never been irked when people expressed ideas very different from my own.

_____ 27. I never make a long trip without checking the safety of my car.

_____ 28. There have been times when I was quite jealous of the good fortune of others.

_____ 29. I have almost never felt the urge to tell someone off.

_____ 30. I am sometimes irritated by people who ask favors of me.

_____ 31. I have never felt that I was punished without cause.

_____ 32. I sometimes think when people have a misfortune they only got what they deserved.

_____ 33. I have never deliberately said something that hurt someone's feelings.

PART V

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED

STRONGLY
DISAGREESTRONGLY
AGREE

1 2 3 4 5 6 7

_____ 1. If given the chance, I would choose to leave my work group and join another.

_____ 2. Members of my work group get along well together.

_____ 3. Members of my work group will readily defend each other from criticism from outsiders.

_____ 4. I feel that I am really part of my work group.

_____ 5. I look forward to being with the members of my work group each day.

_____ 6. I find that I generally do not get along with the other members of my work group.

_____ 7. I enjoy belonging to this work group because I am friends with many group members.

_____ 8. The work group I belong to is a close one.

PART VI

_____ 1. If I were to leave this job, it would be difficult for me to find another job that was just as good.

_____ 2. It would be easy for me to change jobs should I decide to do so.

_____ 3. There are numerous jobs as good as this one that would be available to me if I decided to leave my current job.

PART VII

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED.

STRONGLY DISAGREE

STRONGLY AGREE

1 2 3 4 5

_____ 1. I work closely with others in doing my work.

_____ 2. I frequently must coordinate my efforts with others.

STRONGLY DISAGREE

1

2

3

STRONGLY AGREE

4

5

_____ 3. My own performance is dependent on receiving accurate information from others.

_____ 4. The way I perform my job has a significant impact on others.

_____ 5. My work requires me to consult with others fairly frequently.

_____ 6. I work fairly independently of others in my work.

_____ 7. I can plan my own work with little need to coordinate with others.

_____ 8. I rarely have to obtain information from others to complete my work.

PART VIII

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED.

NEVER

1

2

3

4

5

ALWAYS

_____ 1. Think of all the activities that make up your job. To what extent would you say that you are usually able to anticipate and predict the nature of these activities?

_____ 2. To what extent do you usually encounter the same kinds of problems in your work day after day?

_____ 3. Many jobs require the use of search procedures of one, kind or another to solve the problems encountered. To what extent are the search procedures you use similar from one day to the next?

_____ 4. To what extent are the work decisions you make similar from one day to the next?

_____ 5. If others in your work group do not do their jobs well, to what extent does this hinder you doing your job well?

_____ 6. To what extent must you communicate with others in your department in order for you to do your job well?

_____ 7. To what extent is your planned work interrupted by unexpected problems?

NEVER ALWAYS
1 2 3 4 5

_____ 8. To what extent do you need help to solve the unexpected problems you encounter?

PART IX

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED.

STRONGLY DISAGREE STRONGLY AGREE
1 2 3 4 5 6 7

_____ 1. I am compensated fairly for the work I do here, based on the effort I give on the job.

_____ 2. I am compensated fairly for the work I do here, compared to my coworkers.

_____ 3. I am compensated fairly here, considering the responsibilities I have.

PART X

_____ 1. My supervisor is generally aware of when I am putting forth 1 below average effort.

_____ 2. My supervisor is aware of the amount of work I do.

_____ 3. It is generally hard for my supervisor to figure out how hard I am working.

_____ 4. My supervisor usually notices when I am slacking off.

_____ 5. It is difficult for my supervisor to determine how much effort I exert on the job.

PART XI

PLEASE WRITE THE APPROPRIATE NUMBER IN THE SPACE PROVIDED.

NEVER ALWAYS
1 2 3 4 5

_____ 1. How often do members of the work group give 100 percent effort on the job?

_____ 2. How often do you expect members of this work group to give 100 percent effort in the future?

_____ 3. How often do members of this work group perform duties not formally required by their job description?

NEVER

1

2

3

4

ALWAYS

5

Some members of my work group:

_____ 4. Defer responsibilities they should assume to other members.

_____ 5. Put forth less effort on the job when others are around to do the work.

_____ 6. Do not do their share of the work.

_____ 7. Give less effort than other members of the work group.

_____ 8. Avoid performing housekeeping tasks much as possible.

_____ 9. Leave work for the next shift that they should really complete.

_____ 10. Take it easy if others are around to do the work.

_____ 11. Contribute to lowering production costs in this company.

_____ 12. Are absent from work more than others in this company.

_____ 13. Make an effort to increase this work group's reputation.

_____ 14. Believe that improving the equipment used by this work group is an important concern.

_____ 15. Contribute to a work environment that is free of safety and health problem.

PART XII

What is your age? _____

What is your race? _____

Are you male or female? _____

How far have you gone in formal schooling? _____

Are you a full-time or part-time employee? _____

Do you supervise others in your job? _____

Please circle the correct response to the following statement.

My job is in the:

SERVICE SECTOR.

MANUFACTURING SECTOR.

PUBLIC SECTOR.

THANK YOU VERY MUCH FOR ANSWERING THESE QUESTIONS.

APPENDIX D
FIELD STUDY INSTRUMENT

CO ID___ WG ID___ EMP ID___

Employee Research Questionnaire
 College of Business
 Louisiana State University

This survey is designed to help us learn more about what makes work groups successful. Listed below are some statements about your attitudes and opinions about your job, your manager and your current work group. Please show the degree to which you agree/disagree with each statement regarding your job by writing the appropriate number (1 to 5) in the blank alongside each statement. Your answers will be kept strictly confidential and will be seen only by researchers at LSU.

Strongly disagree			Neither agree nor disagree		Strongly agree
1	2	3	4	5	

_____ Members of my work group help others who have been absent.

_____ Members of my work group volunteer for things that are not required.

_____ Members of my work group orient new people even though they are not required to do so.

_____ Members of my work group help coworkers who have heavy workloads.

_____ Members of my work group make innovative suggestions that help improve the department.

_____ I defer responsibilities I should assume to my coworkers.

_____ I put forth less effort on the job when others are around to do the work.

_____ I give less effort than other members of the work group.

_____ I avoid performing housekeeping tasks as much as possible.

_____ I leave work for the next shift that I should really complete.

Strongly
disagree
1

2

Neither
agree nor disagree
3

4

Strongly
agree
5

_____ I take it easy if others are around to do the work.

_____ I work closely with others in doing my work.

_____ I frequently must coordinate my efforts with others.

_____ My own performance is dependent on receiving accurate information from others.

_____ The way I perform my job has a significant impact on others.

_____ My work requires me to consult with others fairly frequently.

_____ I work fairly independently of others in my work.

_____ I can plan my own work with little need to coordinate with others.

_____ I rarely have to obtain information from others to complete my work.

_____ Members of my work group give 100 percent effort on the job.

_____ I expect members of my work group to give 100 percent effort in the future.

_____ Some members of my work group defer responsibilities they should assume to other members.

_____ Some members of my work group put forth less effort on the job when others are around to do the work.

_____ Some members of my work group do not do their share of the work.

_____ Some members of my work group give less effort than other members of the work group.

_____ Some members of my work group avoid performing housekeeping tasks as much as possible.

_____ Some members of my work group leave work for the next shift that they should really complete.

_____ Some members of my work group take it easy if others are around to do the work.

_____ Some members of my work group contribute to lowering production costs in this company.

_____ Some members of my work group are absent from work more than others in this company.

_____ Some members of my work group make an effort to increase this work group's reputation.

_____ Some members of my work group contribute to a work environment that is free of safety and health problems.

Please show the degree to which you agree or disagree with each statement regarding your job by writing the appropriate number (1 to 7) alongside each statement.

Strongly disagree				Neither agree nor disagree			Strongly agree
1	2	3	4	5	6	7	

_____ My coworkers and I stress teamwork.

_____ There is a great deal of pressure from my coworkers to exert effort.

_____ My coworkers and I are rewarded here based on how well our group does its job.

_____ My coworkers and I have little obligation to work together to do the best job we can.

_____ In this work group, we expect everyone to pull together to get the job done.

_____ Members of my work group encourage individuals to excel and strive for increasingly higher levels of performance.

_____ If given the chance, I would choose to leave my work group and join another.

_____ The members of my work group get along well together.

_____ The members of my work group will readily defend each other from criticism from outsiders.

_____ I feel that I am really part of my work group.

_____ I look forward to being with the members of my work group each day.

Strongly disagree				Neither agree nor disagree			Strongly agree
1	2	3	4	5	6	7	

_____ I find that I generally do not get along with the other members of my work group.

_____ I enjoy belonging to this work group because I am friends with many group members.

_____ The work group I belong to is a close one.

_____ If I were to leave this job, it would be difficult for me to find another job that was just as good.

_____ It would be easy for me to change jobs should I decide to do so.

_____ There are numerous jobs as good as this one that would be available to me if I decided to leave my current job.

_____ I am compensated fairly for the work I do here, based on the effort I give on the job.

_____ I am compensated fairly for the work I do here, compared to my co-workers.

_____ I am compensated fairly here considering the responsibilities I have.

_____ My supervisor is generally aware of when I am putting forth below average effort.

_____ My supervisor is aware of the amount of work I do.

_____ It is generally hard for my supervisor to figure out how hard I am working.

_____ My supervisor usually notices when I am slacking off.

_____ It is difficult for my supervisor to determine how much effort I exert on the job.

How likely would you be to do the following behaviors at work?

Not at all							Extremely
likely							likely
1	2	3	4	5	6		7

_____ Avoid working by talking to coworkers, attending to personal business, daydreaming, etc.

_____ Put in less effort in your work than you know you can.

_____ Show up late for work even when you could make it on time.

_____ Deliberately avoid your boss.

_____ Take more and longer breaks than you should.

_____ Call in sick even when you are not sick.

Please write the number in the space provided that most closely matches the way you feel about the following statements.

Never					Always
1	2	3	4		5

Think of all the activities that make up your job.

_____ 1. How much would you say you are usually able to anticipate and predict the nature of these activities?

_____ 2. How much do you usually encounter the same kinds of problems in your work day after day?

_____ 3. Many jobs require using search procedures of one kind or another to solve problems encountered. How much are the search procedures you use similar from one day to the next?

_____ 4. How much are the work decisions you make similar from one day to the next?

_____ 5. If others in your work group do not do their jobs well, how much does this hinder you in doing your job well?

_____ 6. How much must you communicate with others in your department in order for you to do your job well?

Never				Always
1	2	3	4	5

____ 7. How much is your planned work interrupted by unexpected problems?

____ 8. How much do you need help to solve the unexpected problems you encounter?

Please circle "A" or "D" to show whether you agree or disagree with the following statements. Do not omit any items.

- | | | |
|---|---|---|
| A | D | I find that I can help others in many ways. |
| A | D | I feel that I am better off than my parents were at my age. |
| A | D | In spite of many changes, there are still definite rules to live by. |
| A | D | One can always find friends if he tries. |
| A | D | Anyone can raise his standard of living if he is willing to work at it. |
| A | D | Most people really believe that honesty is the best policy. |
| A | D | In general I am satisfied with my lot in life. |
| A | D | People will be honest with you if you are honest with them. |
| A | D | It is difficult to think clearly about right and wrong these days. |
| A | D | Many people are friendly only because they want something from you. |
| A | D | If the odds are against you, it's impossible to come out on top. |
| A | D | At times I feel that I am a stranger to myself. |
| A | D | The future looks very bleak. |
| A | D | I often feel that no one needs me. |
| A | D | I am so fed up that I can't take it any more. |
| A | D | To get along with people, one must put on an act. |

Please show the degree to which you agree or disagree with the accuracy of each of the following statements by writing the appropriate number on the blank alongside each statement.

- | | | | | | | |
|----------------------|---|---|-------------------------------|---|---|-------------------|
| Strongly
disagree | | | Neither
agree nor disagree | | | Strongly
agree |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
- _____ My supervisor knows a great deal about the technical side of my job.
- _____ My supervisor has a good understanding of the procedures I use in my work.
- _____ My supervisor provides appreciation and encouragement.
- _____ My supervisor gives recognition for a job well done.
- _____ My supervisor is concerned that I grow and get ahead.
- _____ I am satisfied with my job.
- _____ I am satisfied with my pay.
- _____ I am satisfied with my benefits.
- _____ I am satisfied with my promotion opportunities.
- _____ I am satisfied with the recognition I receive.
- _____ I am satisfied with the amount of say I have in how my work is done.
- _____ I am satisfied with my job security.
- _____ I do not feel a strong sense of belonging to my organization.
- _____ I do not feel "emotionally attached" to this organization.
- _____ This organization has great personal meaning for me.
- _____ I do not feel like part of the family at this organization.
- _____ I would be very happy to spend the rest of my career with this organization.
- _____ I enjoy discussing my organization with people outside it.

Strongly disagree				Neither agree nor disagree			Strongly agree
1	2	3	4	5	6	7	

_____ I really feel as if this organization's problems are my own.

_____ I could easily become as attached to another organization as I am to this one.

In my job, I am evaluated on the basis of (Circle one of the following):

- A. The performance of my work group.
- B. My individual performance.
- C. Some combination of A and B.

Please write the number in the blank provided that shows your agreement about each of the following two statements.

Almost never	Seldom	About half the time	Often	Almost always
1	2	3	4	5

When target performance goals for your work group are met or surpassed, how often do the following things happen?

_____ 1. All people in this work group are rewarded or recognized as a group for their team achievements.

_____ 2. Specific individuals in this work group are rewarded or recognized for their individual achievements.

When target performance goals for your work group are not attained, how often do the following things happen?

_____ 1. The work group is reprimanded or told to "shape up" to improve work group performance.

_____ 2. Specific individuals in your work group are reprimanded or told to shape up to improve their individual performance.

GENERAL INFORMATION

How long have you been employed at this company?
_____years_____months

How long have you been a member of this particular work group?
_____years_____months

Are you (circle one): White Black Hispanic Asian Other

Are you (circle one): Male Female

How far did you go in formal schooling?
_____11th grade or less _____High school diploma or GED
_____Some College _____College Degree _____Graduate
School

What is your age?_____

Are you a full-time or part-time employee?_____

THANK YOU VERY MUCH FOR ANSWERING THESE QUESTIONS. IF
YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT THIS SURVEY, PLEASE
FEEL FREE TO CONTACT ROLAND KIDWELL AT (504) 388-6150 OR
6748.

____CO ID____WG ID____EMP ID

**Supervisor Research Questionnaire
College of Business
Louisiana State University**

On the following pages are some statements asking for your opinions about members of your current work group. Please complete a page for each employee. Your answers will be kept strictly confidential. The results will be seen only by the research staff at LSU, and all responses will be identified only by ID codes, not the names of individual respondents.

**IF YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT THIS
SURVEY, PLEASE FEEL FREE TO CONTACT ROLAND KIDWELL AT (504)
388-6150 OR 6748. THANK YOU VERY MUCH FOR YOUR ASSISTANCE.**

Please answer the following questions about your work group.

1. How long have you supervised this work group? ____ years
____ months
2. How many employees do you supervise in this work group?

3. How many employees were in this work group 12 months ago?

4. In the last 12 months, how many employees in this work group have ____ quit ____ been fired ____ been transferred
____ been laid off?
5. How many of these employees have been replaced? _____
6. What is the average hourly pay of the members of this work group? _____
7. The employees I supervise are evaluated based on (Circle one of the following):
 - A. The performance of their work group.
 - B. Their individual performance.
 - C. Some combination of A and B.

Please write the number in the blank provided that shows your agreement about each of the following statements.

Almost never	Seldom	About half the time	Often	Almost always
1	2	3	4	5

When target performance goals for your work group are met or surpassed, how often do the following things happen?

- ____ 1. All people in this work group are rewarded or recognized as a group for their team achievements.
- ____ 2. Specific individuals in this work group are rewarded or recognized for their individual achievements.

When target performance goals for your work group are not attained, how often do the following things happen?

- ____ 1. The work group is reprimanded or told to "shape up" to improve work group performance.
- ____ 2. Specific individuals in your work group are reprimanded or told to shape up to improve their individual performance.

GENERAL QUESTIONS

How many people in your work group are:

White_____

Black_____

Hispanic_____

Other_____

How many people in your work group are:

Male_____

Female_____

How far did you go in formal schooling?

_____ 11th grade or less

_____ College Degree

_____ High school diploma or GED

_____ Graduate School

_____ Some College

____ Employee Initials

____ Employee Number

What percent of the time does this employee provide full effort in doing his or her job? (100% = always)

Please write the number in the space provided that shows how strongly, you agree or disagree with the following statements about each of the employees you supervise.

Strongly disagree			Neither agree nor disagree			Strongly agree
1	2	3	4	5	6	7

This employee ...

____ Defers responsibilities he/she should assume to coworkers.

____ Gives less effort on the job when others are around to do the work.

____ Gives less effort than other members of the work group.

____ Avoids performing housekeeping tasks as much as possible.

____ Leaves work for the next shift that he/she should really complete.

____ Takes it easy if others are around to do the work.

____ Comes to work more often than the average employee.

____ Does not take extra breaks.

____ Obeys company rules and regulations even when no one is watching.

____ Is one of my most conscientious employees.

____ Believes in giving an honest day's work for an honest day's pay.

____ Consumes a lot of time complaining about trivial matters.

____ Always focuses on what's wrong, rather than positive side.

____ Tends to make mountains out of molehills.

____ Always finds fault with what the organization is doing.

Strongly disagree			Neither agree nor disagree			Strongly agree
1	2	3	4	5	6	7

- _____ Is the classic "squeaky wheel" that always needs greasing.
- _____ Attends meetings that are not mandatory, but are considered important.
- _____ Attends functions that are not required, but help the company image.
- _____ Keeps abreast of changes in the organization.
- _____ Reads and keeps up with organization announcements and memos.
- _____ Takes steps to try to prevent problems with other workers.
- _____ Is mindful of how his/her behavior affects other people's jobs.
- _____ Does not abuse the rights of others.
- _____ Tries to avoid creating problem for coworkers.
- _____ Considers the impact of his/her actions on coworkers.
- _____ Helps others who have been absent.
- _____ Helps others who have heavy workloads.
- _____ Helps orient new people even though it is not required.
- _____ Willingly helps others who have work related problems.
- _____ Is always ready to lend a helping hand to those around him/her.

APPENDIX E
SCALE ITEMS USED IN FIELD STUDY

Altruism (alpha = .78)

1. Members of my work group help others who have been absent.
2. Members of my work group volunteer for things that are not required.
3. Members of my work group orient new people even though they are not required to do so.
4. Members of my work group help co-workers who have heavy work loads.
5. Members of my work group make innovative suggestions that help improve the department.

Task interdependence (alpha = .67)

1. I work closely with others in doing my work.
2. I frequently must coordinate my efforts with others.
3. My own performance is dependent on receiving accurate information from others.
4. The way I perform my job has a significant impact on others.
5. My work requires me to consult with others fairly frequently.

Group effort norms (alpha = .74)

1. My co-workers and I stress teamwork.
2. In this work group, we expect everyone to pull together to get the job done.
3. Members of my work group encourage individuals to excel and strive for increasingly higher levels of performance.

Distributive justice (alpha = .85)

1. I am compensated fairly for the work I do here, based on the effort I give on the job.
2. I am compensated fairly for the work I do here, compared to my co-workers.
3. I am compensated fairly here considering the responsibilities I have.

Perceived task visibility (alpha = .70)

1. My supervisor is generally aware of when I am putting forth below average effort.
2. My supervisor is aware of the amount of work I do.
3. It is generally hard for my supervisor to figure out

- how hard I am working.
4. My supervisor usually notices when I am slacking off.
 5. It is difficult for my supervisor to determine how much effort I exert on the job.

Group cohesiveness (alpha = .88)

1. If given the chance, I would choose to leave my work group and join another.
2. The members of my work group get along well together.
3. The members of my work group will readily defend each other from criticism from outsiders.
4. I feel that I am really part of my work group.
5. I look forward to being with the members of my work group each day.
6. I find that I generally do not get along with the other members of my work group.
7. I enjoy belonging to this work group because I am friends with many group members.
8. The work group I belong to is a close one.

Perceived ease of movement (alpha = .73)

1. If I were to leave this job, it would be difficult for me to find another job that was just as good.
2. It would be easy for me to change jobs should I decide to do so.
3. There are numerous jobs as good as this one that would be available to me if I decided to leave my current job.

APPENDIX F
CORRELATIONS AMONG THE VARIABLES

VARIABLE	1	2	3	4	5	6	7	8
1. PWE								
2. Job Neglect	.245 ³							
3. SPWE	.003	.169 ³						
4. GPWE	.089 ²	.151 ²	-.028					
5. Wage Premium	-.004	.020	.053	.158 ³				
6. Group Size	.079 ¹	.001	.103 ²	.239 ³	.540 ³			
7. Interdepen.	-.045	-.116 ³	-.002	-.062	.047	.027		
8. Task Visib.	-.086 ²	-.089 ²	-.148 ³	-.179 ³	-.142 ³	-.129 ³	.157 ³	
9. Eff. Norms	-.138 ³	-.289 ³	-.056	-.345 ³	-.044	-.078	.224 ³	.278 ³
10. Dist. Just.	-.058	-.074 ¹	-.171 ³	-.158 ³	.107 ²	.042	.081 ¹	.209 ³
11. Altruism	-.181 ³	-.220 ³	-.094 ²	-.508 ³	-.149 ³	-.179 ³	.205 ³	.300 ³
12. Turn. Rate	-.073 ¹	-.066	-.001	.003	-.229 ³	-.187 ³	-.027	-.056
13. LOS Hetero.	-.001	-.062	.059	.056	-.062 ¹	-.022	.001	-.042
14. Soc. Desir.	-.181 ³	-.204 ³	-.130 ³	-.182 ³	.018	-.039	.057	.194 ³
15. Cohesive.	-.203 ³	-.212 ³	-.135 ³	-.470 ³	-.153 ³	-.237 ³	.213 ³	.408 ³
16. Unemp. Rate	-.088 ²	-.025	-.150 ³	-.247 ³	-.519 ³	-.524 ³	-.092 ²	.082 ¹
17. E. of Move.	.093 ²	.067	.149 ³	.076 ¹	-.116 ²	-.049	-.084 ²	-.121 ³
18. Racial Het.	.079 ¹	-.015	.022	.211 ³	.436 ³	.810 ³	.015	-.076 ¹
19. Gender Het.	.052	.094 ²	.032	.001	.043	-.010	.071 ¹	.025
20. Educ. Het.	.001	.017	-.066	.063	.054	.307 ³	-.073 ¹	.072 ¹
21. Age Hetero.	-.022	-.027	-.023	-.025	-.335 ³	-.400 ³	.032	.098 ²
Mean	1.593	2.005	15.50	24.91	1.77	12.66	20.44	24.83
S.D.	.342	.412	8.76	9.57	1.89	16.06	3.82	6.34
VARIABLE	9	10	11	12	13	14	15	
10. Dist. Just.	.225 ³							
11. Altruism	.520 ³	.228 ³						
12. Turn. Rate	-.016	-.109 ²	-.051					
13. LOS Hetero.	.005	-.082 ¹	-.039	.393 ³				
14. Soc. Desir.	.188 ³	.242 ³	.201 ³	-.053	-.060			
15. Cohesive.	.604 ³	.289 ³	.616 ³	-.008	.001	.331 ³		
16. Unemp. Rate	.095 ²	.033	.215 ³	.157 ³	-.087 ²	.083 ¹	.232 ³	
17. E. of Move.	-.176 ³	-.242 ³	-.123 ³	.184 ³	.111 ³	-.091 ²	-.262 ³	
18. Racial Het.	-.024	.002	-.127 ³	-.174 ³	.027	-.083 ¹	-.204 ³	
19. Gender Het.	-.070	-.038	-.077 ¹	.110 ³	.080 ¹	.002	.016	
20. Educ. Het.	-.046	-.030	-.055	.024	.023	-.046	-.094 ²	
21. Age Hetero.	.019	-.079 ¹	.092 ²	.170 ³	.146 ³	-.062	.072 ¹	
Mean	16.98	12.85	19.12	.191	.851	13.62	44.28	
S.D.	3.89	5.31	4.20	.261	.130	2.08	10.05	
VARIABLE	16	17	18	19	20	21		
17. Ease of Movement	.045							
18. Racial Hetero.	-.486 ³	-.019						
19. Gender Hetero.	-.040	-.037	-.062					
20. Education Het.	.120 ³	-.073 ¹	.294 ³	.064				
21. Age Hetero.	.392 ³	.234 ³	-.354 ³	-.041	.024			
Mean	8.009	9.86	-6.13	-2.17	-.952	.223		
S.D.	.888	4.97	2.46	1.11	.980	.105		

¹ -- $p \leq .1$ ² -- $p \leq .05$ ³ -- $p \leq .01$

VITA

Roland Kidwell, a native of Washington, D.C., has been an assistant professor in the Department of Management and Marketing at Louisiana State University in Shreveport since August, 1993. He has authored or co-authored articles that have appeared in Academy of Management Review, Group & Organization Management, Academy of Management Executive, Small Group Research, and Journal of Employee Assistance Research.

After graduating from the University of Maryland in 1978 with a degree in journalism, Kidwell worked as a newspaper reporter and city editor for 11 years in Roanoke, Va. He attended Radford University during evening sessions from 1983 to 1987, and was awarded an MBA degree. Having raised his GMAT scores by 120 points in those four years, he was invited to enter several Ph.D. programs. Because of his taste for Mardi Gras, crawfish and humidity, Kidwell picked Louisiana State University in Baton Rouge. At LSU, he met Linda Achey in a multivariate statistics class, and they were married on December 28, 1991. Roland and Linda currently reside on the outskirts of Shreveport.

DOCTORAL EXAMINATION AND DISSERTATION REPORT

Candidate: Roland E. Kidwell, Jr.

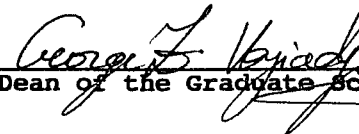
Major Field: Business Administration (Management)

Title of Dissertation: The Impact of Contextual Variables on the
Propensity of Individual Employees to Withhold Effort: A Multi-Organization
Analysis

Approved:

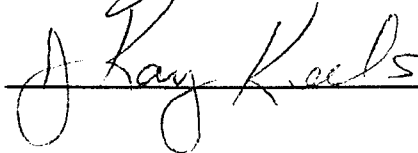
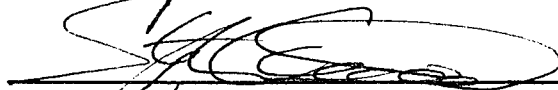
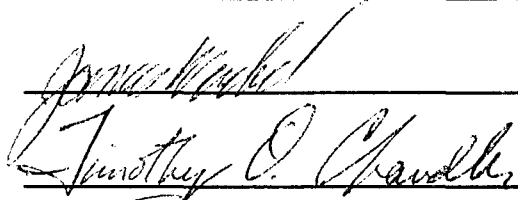
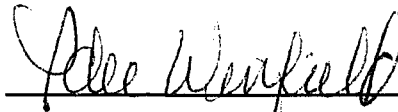


Major Professor and Chairman



Dean of the Graduate School

EXAMINING COMMITTEE:



Date of Examination:

March 11, 1994