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An evolution perspective of coalition formation within organizations

Shawn Michael De Duco

An Evolutionary Perspective of Coalition Formation Within

Organizations

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A Project

Presented to the

Faculty of

California State University,

San Bernardino

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Psychology

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by

Shawn Michael Del Duco

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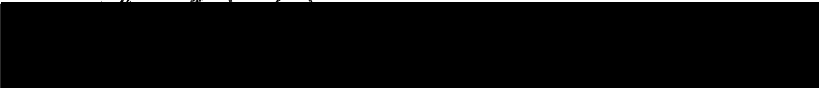An Evolutionary Perspective of Coalition Formation Within

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ABSTRACT

The study of coalition formation has produced a voluminous
body of research encompassing myriad approaches. This
research primarily resides at a *descriptive* level of
analysis. In contrast, Tooby and Cosmides (1993) suggest
that humans have evolved adaptations that govern coalitional
behavior. The present study hypothesized that individuals
will want to form coalitions to acquire resources that were
previously unattainable. The amount and type of information
possessed by organizational members led to differences in
the desire to form coalitions. These findings extend
previous literature by addressing *why* coalitions form. This
research also establishes information as a resource
contributing to coalition formation. Practical implications,
limitations, and directions for future study are provided.

ACKNOWLEDGMENTS

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INTRODUCTION

Psychological science is currently in conceptual disarray, characterized by un-connected mini-theories and isolated empirical findings. We lack a theory of the functional properties of the human mind that could provide the needed integration - a theory about what the mechanisms of mind are 'designed' to do. (Buss, 1995, p.1)

The study of coalition formation is currently in a state of conceptual disarray. Social psychological, game theoretic, and political models of coalition formation have provided independent sets of investigations (Murnighan, 1978). Until recently (Tooby & Cosmides, 1993), this research has neglected a critical *functional* level of analysis. Shackelford and Buss (1996) state, "coalitions are cross-culturally universal human relationships."(p.1151) The prevalence of coalitions extends to organizational contexts.

Although researchers have noted the importance of coalitions within organizations, the concept of coalition formation has received little attention in the empirical study of organizations (Murnighan & Brass, 1990). An important question for organizations is *whether* or *when* coalitions will form (Miller & Komorita, 1986). Thus, prior research suggests the need to examine coalition formation within organizations.

Evolutionary psychology provides an integrative framework for examining coalition formation within organizations. An evolutionary approach is rare among applied psychologists and organizational scientists

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(Colarelli, 1998). The evolutionary perspective in applied psychology addresses "why" and "function" questions, while the traditional perspective is concerned with "what" and "how" questions (Colarelli, 1998). For example, the field of organizational behavior has established that coalitions form in organizations, but has not addressed *why* this behavior occurs. An evolutionary perspective of coalition formation suggests that humans have evolved a collection of adaptations that govern coalitional behavior. These adaptations have evolved to solve a recurrent problem of resource accrual. Organizations may be regarded as pools of resources. Information is an important resource. The present study suggests that individuals will want to form coalitions to acquire information. Furthermore, individuals will want to form coalitions to acquire information pertaining to cheaters, or those who accept a benefit without paying a cost.

Evolutionary Psychology

Evolutionary psychology proposes causal processes to account for the origins of complex psychological mechanisms (Buss, 1995). This level of innate psychological mechanisms is a crucial link in the causal chain from the evolutionary process to manifest behavior (Cosmides & Tooby, 1987). Buss (1995) states, "all manifest behavior depends on underlying psychological mechanisms."(p.1) Rather than applying evolutionary theory directly to the level of manifest

behavior, evolutionary psychology uses evolutionary theory as a guide for the identification of innate psychological mechanisms (Cosmides & Tooby, 1987). Natural selection cannot select for behaviors, but selects for psychological mechanisms that produce behavior (Cosmides & Tooby, 1987). Evolutionary psychology seeks to identify, understand, and explain the nature of psychological mechanisms by articulating their functions, or the adaptive problems they were designed by selection to solve (Buss, 1995). These mechanisms evolve and generate manifest behavior in interaction with environmental input (Cosmides & Tooby, 1987).

A central goal of evolutionary psychology is to explicate several forms of contextual input (e.g. immediate situational inputs) that activate the operation of particular psychological mechanisms (Buss, 1996). For example, Cosmides and Tooby (1992) empirically support the hypothesis that the human mind is imbued with psychological mechanisms for reasoning about social exchange. One psychological mechanism is capable of detecting cheaters in social exchange situations. This mechanism can *only* be activated by particular contextual input, such as the nonreciprocation of others. Buss (1996) explains, "Just as callous-producing mechanisms are activated only if an individual experiences repeated friction to the skin, so psychological mechanisms…are activated only by particular

contextual input." (p.9) Therefore, evolutionary psychology presents an interactionist framework. It does not suggest that a particular behavior is rigid or genetically inflexible. Rather, psychological mechanisms must be activated by contextual input. Accordingly, "all manifest behavior is necessarily an interactional product of contextual input and evolved psychological mechanisms." (p.10)

Evolved psychological mechanisms are also domain specific. That is, what constitutes a successful solution to an adaptive problem differs across adaptive domains (e.g. detecting cheaters vs. avoiding snakes). For example, a fear of snakes solves the problem of avoiding a dangerous environmental hazard but does not solve the adaptive problem of which foods to consume (Buss, 1995). Thus, different adaptive problems select for different adaptive solutions. A major premise of evolutionary psychology is that psychological mechanisms cannot be completely domain-general because there is no such thing as a general problem. We display great flexibility in dealing with our social environments because we possess many complex and specific psychological mechanisms that can be deployed individually and in complex combinations depending on circumstances (Buss, 1995). To summarize, evolutionary psychology suggests that a multitude of psychological mechanisms have evolved because of the large number and diversity of adaptive

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problems faced recurrently over our evolutionary history. These psychological mechanisms provide us with a great deal of flexibility when interacting with our environment. This approach radically departs from currently practiced psychology.

Tooby and Cosmides (1989) enumerate the assumptions of a successful psychological research paradigm: 1) the mind is comprised of a multitude of domain-specific, psychological mechanisms, organized into a highly intricate architecture; 2) psychological research must acknowledge function; 3) research needs to emphasize the discovery and characterization of psychological mechanisms as adaptations, rather than the description and analysis of behavior; 4) "models of psychological phenomena need to be expressed in an algorithmic, procedural form, or at least as structured and well-specified 'cause and effect' models, instead of in vague, qualitative descriptions, or as patterns found in behavior;"(p.32) and 5) evolutionary biology provides the needed framework to incorporate these notions.

Evolutionary psychology provides a powerful explanatory framework capable of integrating isolated empirical findings in psychological science. Specifically, psychological science has amassed many interesting descriptions and important empirical generalizations (Buss, 1996). Evolutionary psychology generates reasoned connections among these disparate empirical findings. Psychological science

primarily resides at a *descriptive* level of analysis, while evolutionary psychology addresses a critical *functional* level of analysis.

Harcourt and DeWaal (1992) contend that the causal analysis of most social scientists resides almost exclusively at a proximate level of explanation. Proximate explanations include the direct experiences, stimuli, and situations that evoke a particular behavior. In contrast, ultimate explanations of behavior attempt to account for how a particular behavior originated. Evolutionary theorists address both levels of explanation.

According to Buss (1996), "Posing why questions requires that we turn our attention toward two key issues: (1) the *origins* of whatever psychological mechanisms we possess,"(p.3) and (2) the *functions* of those mechanisms, or what problems they were designed by selection to solve. For example, the field of astronomy not only deals with patterns of particle matter in the universe, but also with the *origins* of those patterns (Buss, 1996). Similarly, Buss (1996) states, "Just as knowledge of *physiological mechanisms* such as hearts, lungs, and livers would be incomplete without an account of their functions (e.g. to pump blood, to uptake oxygen, to filter toxins), knowledge of *psychological mechanisms* is incomplete without knowledge of their functions."(p.3) An evolutionary perspective is obviously indispensable for understanding complex phenomena.

Why, then, have researchers neglected this critical perspective?

Although it has been discredited for decades, the lingering and erroneous association with social Darwinism probably discouraged applied researchers from pursuing practical applications of evolutionary theory (Colarelli, 1998). Schaller and Crandall (1999) argue that scientific progress "depends on the publication of ideas that transcend accepted wisdom. However, compared with older, more familiar ideas, brand-new ideas are perceived to have a greater likelihood of being wrong."(p.778) Colarelli (1998) emphasizes the importance of an evolutionary perspective for organizations.

Importance of Evolutionary Psychology for organizations

Applied psychologists would undoubtedly benefit from an evolutionary perspective. Evolutionary psychology provides an integrative framework that is capable of generating meaningful and reasoned connections between seemingly disparate empirical findings in organizational literature. In addition, an evolutionary perspective holds the promise of occupying an important place in organizational theory because organizations present many complex and distinct problems. Colarelli (1998) states, "evolved cognitive capacities, combined with mundane experience, allow people to build up useful reservoirs of knowledge and decision-making algorithms. Although fallible, these reservoirs and

algorithms allow people to manage reasonably effectively in a complex reality." (p.1049) We display great flexibility in dealing with organizational environments because we have evolved many complex and specific psychological mechanisms. Therefore, it is important to explain the nature of those psychological mechanisms by articulating their functions, or the specific problems they were designed to solve.

Organizational coalitions

Coalitions play an integral role in organizations. For example, coalitions allow members to exert considerably more influence than they could as individual employees. By forming a coalition, individuals have the opportunity to affect organizational decisions, policies, and reward structures. The concept of "coalition" has been prominent in organizational literature for over 35 years. Stevenson, Pearce, and Porter (1985) define a coalition as "an interacting group of individuals, deliberately constructed, independent of the formal structure, lacking its own internal structure, consisting of mutually perceived membership, issue oriented, focused on a goal or goals external to the coalition, and requiring concerted member action." (p.261) Although this definition is widely accepted by researchers, Murnighan and Brass (1990) offer a more concise definition: "a coalition is composed of two or more individuals who have coalesced as a political unit to address a particular issue." (p.285) These researchers

identify coalition members and discuss the formation process.

The founder of an organizational coalition defines an issue or identifies an issue as important. Founders establish themselves as the center of the coalition's communication network (Murnighan & Brass, 1990). Founders must acquire knowledge of others' preferences regarding a particular issue. Pfeffer (1981) agrees that coalition formation requires information that one member's interests are congruent with another's. Thus, a successful founder must be well connected (Murnighan & Brass, 1990).

Once the founder has identified an important issue, the recruitment of key allies begins. Murnighan and Brass (1990) state that successful contacts depend largely on proximity and/or fortuitous encounters, but "the founder may calculate who to approach first, who to avoid, how to time the initial contacts, and how to proceed further."(p.290) Coalitions form incrementally, by adding one member at a time. Thus, initial coalition contacts are dyadic. Moreover, founders are likely to seek just enough members to create a sufficiently powerful coalition (Murnighan & Brass, 1990).

To summarize, successful coalitions form quietly and disband quickly (Murnighan & Brass, 1990). They are merely temporary alliances. Coalitions form in response to a particular issue. As issues change, membership changes (Murnighan & Brass, 1990). Thompson, Mannix, and Bazerman

(1988) empirically support the inherent instability of coalitions. Thus, relatively weak ties between members characterize coalitions. Once formed, coalitions do not last long (Murnighan & Brass, 1990). The field of organizational behavior has established the existence of coalitions. In addition, organizational behavior research has described coalitions and the formation process. However, this research has not addressed *why* organizational coalitions form.

Coping effectively in organizational environments requires flexibility. Evolutionary psychology suggests that we possess adaptations that provide flexibility when confronted with coalition-choice situations. Again, the flexibility afforded by a mind comprised of many complex and specialized psychological mechanisms allows us to successfully negotiate social environments. Evolutionary psychology provides a framework that is powerful enough to interpret behavior in an environment that poses a large number of diverse problems - the organization.

Coalition Formation

Tooby and Cosmides (1988; as cited in van der Dennen, 1991) state that humans possess the requisite cognitive mechanisms for observing, assessing, and regulating the appropriate pattern of response toward coalitions. Specifically, humans have evolved a diverse collection of complexly specialized psychological mechanisms that govern coalitional behavior. These adaptations "allow coalitions to

coalesce, function, and sustain themselves as groups of cooperating individuals."(Tooby & Cosmides, 1993, p.39) In evolutionary terms, coalition formation has enabled our ancestors to out-compete those who did not form coalitions (Buss, 1996).

Over evolutionary history, situations of potential or actual cooperation allowed more effective cooperators to gain resources denied to unallied individuals or less effective cooperators. For example, those ancestors who were less skilled hunters survived by allying themselves with more skilled hunters. The formation of coalitions allowed these individuals to acquire resources (i.e., food, hunting skills, safety) that were previously unattainable. Ancestral resource acquisition may have been a function of the extent to which our ancestors were reciprocally allied with others in the local population (Shackelford & Buss, 1996). Indeed, poor social connections may inhibit resource acquisition. Over evolutionary history, different resources have been gained and lost from coalitions (Shackelford & Buss, 1996).

The human proclivity to form coalitions has a long evolutionary history (Harcourt & DeWaal, 1992). Coalition formation clearly affects the distribution of resources. In fact, some researchers contend that coalitions determine access to resources (Harcourt & DeWaal, 1992). The notion that coalitions determine access to resources stems from earlier research regarding coalition formation.

Traditional approaches to coalition formation

Research regarding coalition formation is characterized
by little overlap (Murnighan, 1978). Similar to other areas
of psychological science, coalition research has yielded
disparate empirical findings. Three areas have contributed
independent sets of investigations: social psychological,
game theoretic, and political models of coalition formation
(Murnighan, 1978).

Caplow (1956) proposed the first social psychological
model of coalition formation. He examined the tendency of a
triad to become a coalition of two against one. Small
differences in power, activity, and other member
characteristics exert considerable influence upon the
formation of coalitions. Caplow (1956) states, "the
formation of given coalitions depends upon the initial
distribution of power in the triad."(p.489) He presents a
typology of coalitions. For example, one triad might consist
of member A, whose power (controlling of resources) exceeds
that of member B, whose power exceeds a third member, C.
Caplow (1956) suggested that C can extract resources from B
in return for entering the coalition BC, "despite the fact
that B is stronger."(p.492) Thus, "the nature of the triadic
situation often favors the weak over the strong."(p.490)

The "weakness-is-strength" effect (Miller & Komorita,
1986) suggests that those who are weak in resources are more
likely to be included in coalitions than those who are

strong in resources. Mannix and White (1992) demonstrate that those with fewer resources are more likely to be included in a coalition. In contrast, those who must invest greater resources are less likely to join a coalition (Miller & Komorita, 1986). Thus, individuals are more likely to form a coalition the more they have to gain by doing so.

Additional social psychological approaches to coalition formation are bargaining theory and the weighted probability model. Bargaining theory and the weighted probability model predict that coalitions with few members will be the most common (Murnighan, 1978). As opposed to the static predictions provided by other models of coalition formation, bargaining theory offers differential predictions based on the quality of members' alternatives. Bargaining theory predicts that members' rewards will change over time. These "predictions are based on the use of alternative coalitions as threats during coalition bargaining."(Murnighan, 1978, p.1136) An advantage of the weighted probability model is that it offers exact predictions for the probabilities of several different coalitions. This model assumes that individuals will attempt to maximize their rewards. However, unlike bargaining theory, determination of the predicted rewards depends on the quantity of a member's alternatives (Murnighan, 1978). A member with twice as many alternatives as another member is predicted to receive a payoff that is

twice the size of the other member's (Murnighan, 1978).

Game theoretic models of coalition formation focus primarily on game characteristics rather than coalition members. Specifically, game theory emphasizes a coalition's payoffs, or the rewards accrued to each coalition member. Lawler and Youngs (1975) found that payoff is the least important determinant of coalition choices. Instead, attitudinal agreement emerged as the most important basis of coalitional decisions. This finding contradicts an assumption of evolutionary psychology. Evolutionary psychologists assume that individuals form coalitions to achieve what cannot be achieved alone, regardless of the attitudinal agreement between members.

Political models of coalitional behavior emphasize a long-term consideration: the expectation of outcomes resulting from the formation of a particular coalition. Examples of political models include Riker's size principle, the policy distance minimization model, and the minimum range – conflict of interest model. Riker's size principle adheres to several strict assumptions for predicting the size of political coalitions. The model predicts that minimum winning coalitions will form, whereby removal of a single member would render a coalition no longer winning (Murnighan, 1978). "A minimum winning coalition controls the smallest amount of resources necessary to realize success."(Murnighan, 1978, p.1139) The policy distance

minimization model allows for the possibility of larger than minimum winning coalitions. The minimum range - conflict of interest model is based on the notion that members with similar ideologies will be the most likely coalition partners (Murnighan, 1978).

Little overlap exists in this body of literature (Murnighan, 1978). To apply any of these models to real coalition situations, we must consider the utility of each approach. Social psychology's emphasis on a member's resources, game theory's emphasis on coalitional payoffs, and the political emphasis on ideological similarity provide a cursory description of coalition formation. This research has provided important findings. However, similar to other areas, coalition research has failings. Buss (1995) states that a descriptive level of analysis avoids "entirely the key questions of the origins and functions of the social phenomenon documented."(p.17) An evolutionary perspective of coalition formation will generate meaningful and reasoned connections between social psychological and game theoretic approaches. Specifically, the notion of coalitional psychology jointly addresses coalition members' resources and the rewards accrued to each member by forming a coalition. Similar to other models, evolutionary psychology suggests that individuals will form coalitions to acquire resources that were previously unattainable. This propensity to form coalitions solved a specific adaptive problem

recurrently faced by our ancestors over our evolutionary history – resource accrual. Therefore, an evolutionary approach will integrate seemingly disparate areas of research by focussing upon the adaptive function of coalition formation.

Coalition formation within organizations

Murnighan (1986) views coalitions as a necessity. The majority of organizational coalitions follow the same basic process: one individual contacts another. The individual who cannot achieve what he or she desires without assistance (i.e., without a coalition) typically initiates action (Murnighan, 1986). Altering resource allocations is a major goal of coalitions (Stevenson, Pearce, & Porter, 1985).

Stevenson, Pearce, and Porter (1985) present two hypotheses: 1) a major change – an increase, decrease, or reallocation in resources – increases the likelihood of coalition formation; and 2) unfavorable contrasts between one's own position relative to comparable others will also increase the likelihood of coalition formation.

The organization may be regarded as a pool of resources varying in attainability. This variation, particularly a scarcity of resources, "increases the vigor with which different parts of the organization conflict with one another."(Notz, Starke, & Atwell, 1983, p.149) Pearce, Stevenson, and Porter (1986) argue that the more scarce the resources, the greater the coalition activity. Pfeffer

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(1981) states that coalition formation "will be more prevalent to the extent that there is more task and resource interdependence within the organization."(p.157) In contrast, coalition formation will be reduced within environments of resource abundance or less interdependence.

White (1974) defines an organization as a "formally constituted collectivity which utilizes resources."(p.367) He views resources as determinants of organizational behavior. The influence of scarce resources (including information) imposes constraints on behavior (White, 1974). These constraints on individuals are attributable to: 1) the limits of utilization of resources controlled by the organization; and 2) the flows of resources necessary for their utilization. White (1974) provides an example of the Nambikwara hunters and gatherers in South America. The population is organized in bands of followers and a leader (the most skilled hunter). Those less skilled in hunting must ally themselves with more skilled hunters if they are to survive. Coalitions offer an important source of power and influence.

Coalitions form because they allow members to exert more influence than they could independently (Stevenson, Pearce, & Porter, 1985). Many employees do not possess the power to acquire resources, so they form coalitions (Mannix & White, 1992). The formation of coalitions offers an opportunity for disadvantaged employees "to garner power

through the pooling of resources with other group members."(Mannix & White, 1992, p.201) The more critical and important the resource, the greater the power of the member who is instrumental in providing the resource (Pfeffer, 1981). Thus, power depends on the possession of resources (Pfeffer, 1982).

To summarize, organizational coalitions form because they enable individual employees to achieve what cannot be achieved alone. Specifically, coalitions serve the important function of resource accrual. Organizations present an environment characterized by limited resources. The individual success of employees depends on their ability to form coalitions with other employees. The formation of organizational coalitions provides access to resources that are individually unattainable. Important organizational resources include special skills, effort, votes, money, and information (Miller & Komorita, 1986).

Information

Information is a source of power within organizations (Cobb, 1986). The control of information is an important aspect of the resource allocation process in organizations (Pfeffer, 1982). The hierarchical arrangement of positions implies that the organization bestows more information on the more highly placed members. In addition, the information which people have access to in organizational contexts is often limited and ambiguous.

Members of an organization have limited access to information (Pfeffer, 1982). Constraints on communication among organizational members can further restrict the availability of information (Miller & Komorita, 1986). Individuals are likely to form coalitions with those they can communicate with directly, rather than with others with whom they can communicate only indirectly.

Information is an important organizational resource. However, the organization imposes constraints on the availability of information, such as organizational position and communication networks. These constraints can create "information scarcities" and therefore are likely to yield coalitions between organizational members. Past coalition theory and research has attempted to determine why individuals choose to join one coalition rather than another in a forced coalition-choice situation (Lawler & Youngs, 1975). An important question in organizational contexts is *whether* or *when* coalitions will form (Miller & Komorita, 1986).

Similar to other models, evolutionary psychology claims that coalition formation enables individuals to acquire resources that were previously unattainable. A logical extension of this premise is that those with fewer resources will have a greater need to form coalitions. Thus, individuals with fewer resources will be more likely to want to form a coalition than those possessing greater resources.

In addition, the "weakness-is-strength" effect (Miller &
Komorita, 1986) predicts that those with fewer resources are
more likely to be included in coalitions than those
possessing greater resources. Conversely, those with greater
resources are less likely to join a coalition (Miller &
Komorita, 1986). The present study provides a direct test of
these predictions.

Furthermore, this study seeks to demonstrate that
information is an important organizational resource that
contributes to coalition formation. According to Miller and
Komorita (1986), "few studies have systematically
manipulated information and communication variables."(p.125)
In addition, "very little is known about the effects of
information and communication restrictions on coalition
behavior."(p.126) A relationship between information and
coalition formation would lend further credence to the
evolutionary notion of coalitional psychology. The present
study offers a test of the following hypothesis:

*Hypothesis 1: Differences in the amount of information
will lead to differences in the desire to form coalitions.*

*Hypothesis 1a: Individuals with less information will
be more likely to want to form coalitions.*

*Hypothesis 1b: Individuals with more information will
be less likely to want to form coalitions.*

The first hypothesis considers the *amount* of information possessed. Evolutionary psychology not only provides the framework to examine information as a resource contributing to coalition formation, but also allows predictions based on *type* of information. As mentioned previously, Cosmides and Tooby (1992) identify a psychological mechanism enabling the detection of cheaters in social exchange situations. Over evolutionary history, those ancestors capable of successfully detecting cheaters were able to out-compete those less skilled at detecting cheaters.

Paleoanthropological evidence reveals that our ancestors have engaged in social exchange for several million years (Cosmides & Tooby, 1992). "Social exchange behavior is both universal and highly elaborated across all human cultures."(Cosmides & Tooby, 1992, p.164) Cosmides and Tooby (1992) explore the hypothesis that the human mind contains psychological mechanisms designed for reasoning about social exchange, including a mechanism for detecting cheaters in social exchange situations.

Cosmides and Tooby (1992) define cheating as a violation of a social contract. A social contract is "a situation in which an individual is obligated to satisfy a requirement of some kind, usually at some cost to him- or

herself, in order to be entitled to receive a benefit from another individual (or group)."(p.180) A wealth of empirical evidence supports the view that individuals possess cognitive adaptations specialized for detecting cheaters.

Cosmides and Tooby (1992) provide evidence that humans are highly skilled at detecting violations of conditional rules that express social contracts. Furthermore, this competency is realized regardless of individuals' familiarity with the content of the social contract. These findings (as well as others) suggest several features of social exchange adaptations.

First, the algorithms that govern reasoning about social contracts include psychological mechanisms that are specialized for cheater detection. Second, these algorithms operate even in unfamiliar situations. Finally, the algorithms "cannot operate so as to detect cheaters unless the rule has been assigned the cost-benefit representation of a social contract."(Cosmides & Tooby, 1992, p.206)

To summarize, the human mind is imbued with psychological mechanisms for reasoning about social exchange. One psychological mechanism is capable of detecting cheaters in social exchange situations. This mechanism can *only* be activated by particular contextual input, such as the nonreciprocation of others. This research

suggests that individuals will be especially cognizant of information regarding cheating behavior. Furthermore, individuals may value cheating information more than other types of information. This preference may have had an influence on ancestral coalition formation. That is, our evolutionary ancestors might have been more likely to form coalitions with those possessing cheating information. This is particularly relevant to organizational behavior. For example, employees may regard equity (equity theory; Adams, 1965) as important for success within the organization, which creates a need to be recognized for their efforts. Cheaters can be viewed as those employees who accept recognition without putting forth effort (i.e., profitable inequity). Identifying cheaters is important for maintaining an equitable (and satisfying) work environment. The present study offers a test of the following hypothesis:

Hypothesis 2: Differences in the type of information will lead to differences in the desire to form coalitions.

Hypothesis 2a: Individuals will be more likely to want to form coalitions with those possessing cheating information than with those possessing other types of information.

METHOD

Participants

A total of 151 students were recruited from several sections of undergraduate psychology courses at California State University, San Bernardino to participate in the study. Students received extra credit for their research participation. Seventy-six percent of the participants were female and 24% were male. Seven percent of the participants were African-American, 5% were Asian, 60% were Caucasian, 18% were Hispanic, and 10% of the participants indicated other ethnic backgrounds. The age of the participants ranged from 18 to 58 (M = 25.29, SD = 7.89), with the majority (70%) falling between 18 and 25 years of age.

Measure

Each participant completed one form of an organizational behavior survey. The surveys consisted of two scenarios and several questions (see Appendix). The use of scenarios to test the hypotheses was undertaken for several reasons. First, this scenario-based approach is more feasible than a field design. The use of scenarios provides an adequate test of the hypotheses and avoids the arduous task of collecting coalition data in an actual organization. In addition, the organizational scenarios provide a context, albeit constructed, for the activation of the psychological mechanism enabling coalition formation. Evolutionary psychology maintains that psychological mechanisms are

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context-dependent. As stated earlier, psychological

mechanisms can *only* be activated by particular contextual

input. A goal of evolutionary psychology is to explicate

several forms of contextual input (e.g. immediate

situational inputs) that activate the operation of

particular psychological mechanisms. It is necessary to

provide a context so that a psychological mechanism can be

activated.

Organizational Scenarios A and B represent Hypotheses 1

and 2, respectively. In Organizational Scenario A, each

participant read:

Assume you are a manager in Xanadu, Inc. Xanadu has recently
experienced dramatic reductions in customers. The company web page has
successfully attracted many new customers in the past. However, Xanadu's
web page has not been updated for several years. Therefore, the
president of Xanadu has asked four department managers to provide
designs for a new company web page. The department or departments (if
managers choose to work together) providing the best design will receive
an increase in important resources (like more money and more staff
positions). If managers work together and provide the best design, they
will have to divide the resources among themselves. The department
managers selected to participate in the design of a new company web page
are A, B, C, and D.

Approximately half (n = 74) of the participants read

that they were the manager of Department A (who possessed

little information):

As the manager of Department A, you lack technological
information. You have only been an employee of Xanadu for three months,

and you are not yet completely familiar with your position. The manager of Department B possesses a similar amount of technological information.

In contrast, the managers of departments C and D possess a tremendous amount of technological information. In fact, these managers have been employees of Xanadu for over three years, and are very familiar with their positions.

Approximately half (n = 75) of the participants read that they were the manager of Department D (who possessed a great amount of information):

As the manager of Department D, you possess a tremendous amount of technological information. You have been an employee of Xanadu for over three years, and you are very familiar with your position. The manager of Department C possesses a similar amount of technological information.

In contrast, the managers of departments A and B lack technological information. These managers have only been employees of Xanadu for three months, and are not yet completely familiar with their positions.

The two forms of Organizational Scenario A represent two levels of quantity of information. Hypothesis 1 states that differences in the amount of information will lead to differences in the desire to form coalitions. Participants read that, by providing the best design for a new company web page, they will receive an increase in important resources. The task of designing the web page is likely to be facilitated by the possession of technological information. Those that possess technological information are expected to be viewed as more likely to provide the best design for the web page (thereby receiving an increase in

important resources) than those lacking technological information. In addition, participants are provided with an opportunity to work with others, which may improve their likelihood of providing the best design for the web page and receiving an increase in resources. The amount of information possessed by managers is intended to capture the hierarchical arrangement of positions within organizations. Managers C and D possess more information than managers A and B presumably because of their job tenure.

The scenario was followed by four questions that assessed whether the participants received the manipulation as intended. Participants were asked to indicate the amount of technological information possessed by each department manager. Responses could range from 1 to 5 and were anchored as follows: 1 = *No information*, 2 = *Little information*, 3 = *Moderate amount of information*, 4 = *Much information*, 5 = *Great amount of information*. Participants were also asked to rate the likelihood of a series of actions that could be taken to design the new company web page. These actions included working with each department manager and designing the web page alone. Again, it was expected that those with less information (the manager of Department A) would be more likely to want to form coalitions than those possessing a great amount of information (the manager of Department D). Responses could range from 1 to 5 and were anchored as

follows: 1 = *Will not do*, 2 = *Not very likely*, 3 = *Somewhat likely*, 4 = *Very likely*, 5 = *Will do*.

In Organizational Scenario B, participants read:

Assume you are a manager in Utopia, Inc. Utopia has recently experienced dramatic reductions in customers. The company web page has successfully attracted many new customers in the past. However, Utopia's web page has not been updated for several years. Therefore, the president of Utopia has asked four department managers to provide designs for a new company web page. The department or departments (if managers choose to work together) providing the best design will receive an increase in important resources (like more money and more staff positions). If managers work together and provide the best design, they will have to divide the resources among themselves. The department managers selected to participate in the design of a new company web page are A, B, C, and D. You are the manager of Department D.

Manager A possesses information about graphic design. In fact, Manager A has improved the artistic quality of past projects. Manager B possesses customer relations information. Manager B has an understanding of customer needs. Manager C possesses information about which managers at Utopia are likely to use trickery (e.g. stealing other managers' ideas) to compete for scarce resources. You are Manager D. As Manager D, you possess information regarding only your department and general job duties.

This scenario presents different types of information. Hypothesis 2 states that differences in the type of information will lead to differences in the desire to form coalitions. Participants read again that, by providing the best design for a new company web page, they will receive an increase in important resources. Providing the best design for the web page is likely to be facilitated by the possession of a particular type of information (i.e.,

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information about which managers are likely to steal other managers' ideas while competing for scarce resources). Those that possess cheating information are expected to be viewed as more likely to provide the best design for the web page (thereby receiving an increase in important resources) than those possessing other types of information (e.g., customer relations information). Again, participants are provided with an opportunity to work with others, which may improve their likelihood of providing the best design for the web page and receiving an increase in resources. Over evolutionary history, those ancestors capable of successfully detecting cheaters were able to out-compete those less skilled at detecting cheaters. This suggests that individuals may be especially cognizant of information regarding cheating behavior, as opposed to other types of information. Furthermore, individuals may value cheating information more than other types of information. Therefore, our ancestors may have been more likely to form coalitions with those possessing cheating information than with those possessing other types of information.

Four questions assessed whether the manipulation was received as intended. Participants were asked: "Which manager possesses information regarding graphic design?," "Which manager possesses information about the ways that other managers might cheat?," "Which manager possesses information regarding only their own job duties?," "Which

manager possesses customer relations information?."
Participants were also asked to rate the likelihood of a
series of actions that could be taken to design the new
company web page (e.g., "How likely are you to work with
Manager A, as opposed to B or C?"). These actions included
working with each department manager (as opposed to the
other managers) and designing the web page alone. It was
expected that individuals would be more likely to want to
form coalitions with those possessing cheating information
(Manager C) than with those possessing other types of
information (managers A or B). It was also expected that
individuals would be more likely to want to form coalitions
with those possessing cheating information (Manager C) than
design the web page alone. Responses could range from 1 to 5
and were anchored as follows: 1 = *Will not do*, 2 = *Not very*
likely, 3 = *Somewhat likely*, 4 = *Very likely*, 5 = *Will do*.

Procedure

Initial versions of the organizational behavior surveys
were pilot tested. Results from these preliminary tests were
satisfactory. That is, pilot testing revealed that the
manipulations for each organizational scenario were received
as intended. For the primary data collection, students were
asked to participate in a study of organizational behavior.
They were instructed to read each scenario carefully and
respond to the accompanying questions. Participants were
also informed that they would be participating in a

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simulated business exercise during the last phase of the study. They were to use the information provided in the scenarios while participating in the exercise. Students did not participate in a simulated business exercise. This statement was included among the directions for completing the survey to enhance the involvement of the participants.

Presentation of the two scenarios was counterbalanced to reduce the possible influence of order effects. Seventy-five participants completed surveys that presented Organizational Scenario A before Organizational Scenario B. Seventy-four participants were presented with Organizational Scenario B followed by Organizational Scenario A. Data from these forms was compared to determine whether the order of presenting the two scenarios influenced participants' responses.

RESULTS

All analyses were performed using SPSS. Mean comparisons were initially conducted to determine if order effects were present (i.e., the extent to which counterbalancing influenced participant responses). A total of 16 t-tests were conducted between the counterbalanced forms. Due to the large number of tests, the Bonferroni adjustment for Type I error was employed. Dividing the desired alpha level ($\alpha = .05$) by the total number of tests (16) yielded a conservative alpha level ($\alpha = .003$) to evaluate each t-test. As shown in Table 1, no significant differences emerged between the two forms. In the absence of meaningful order effects, only two forms of the survey were considered for subsequent analyses: those respondents possessing "less" information in Organizational Scenario A and those respondents possessing a "great amount" of information. All of the respondents completed Organizational Scenario B.

A manipulation check was conducted to ensure that the manipulation for Organizational Scenario A was received as intended. A within-subjects ANOVA was performed for the first four questions following Organizational Scenario A ("How much technological information does the Department A manager possess? Department B manager? Department C manager?

Table 1

t-tests: Counterbalanced forms (by question)

Question	Survey form	n	M	t	p-value
Scenario Aq1	1	38	2.16	1.47	.15
	2	35	1.89		
Scenario Aq2	1	38	2.18	1.43	.16
	2	35	1.97		
Scenario Aq3	1	38	4.76	.15	.88
	2	35	4.74		
Scenario Aq4	1	38	4.76	.67	.51
	2	35	4.66		
Scenario Aq5a	1	38	2.47	2.10	.04
	2	36	2.00		
Scenario Aq5b	1	38	1.87	-.32	.75
	2	36	1.94		
Scenario Aq5c	1	38	4.29	-.28	.78
	2	36	4.33		
Scenario Aq5d	1	38	4.24	-.07	.95
	2	36	4.25		
Scenario Bq1	1	38	1.13	.74	.47
	2	36	1.01		
Scenario Bq2	1	38	2.97	.02	.98
	2	36	2.97		

Table 1 (continued)

Question	Survey form	$\underline{n}$	$\underline{M}$	$\underline{t}$	$\underline{p}$-value
Scenario Bq3	1	38	3.97	1.13	.26
	2	36	3.86		
Scenario Bq4	1	38	2.07	.33	.74
	2	36	2.06		
Scenario Bq5a	1	38	3.50	-.22	.83
	2	36	3.56		
Scenario Bq5b	1	38	1.97	-.88	.38
	2	36	2.19		
Scenario Bq5c	1	38	2.55	1.33	.19
	2	36	2.25		
Scenario Bq5d	1	38	3.42	.40	.69
	2	36	3.33		
Scenario Aq1	3	38	1.92	-.64	.53
	4	37	2.03		
Scenario Aq2	3	38	1.95	-.36	.72
	4	37	2.00		
Scenario Aq3	3	38	4.18	-1.44	.15
	4	37	4.43		
Scenario Aq4	3	38	4.52	-.49	.63
	4	37	4.62		

Table 1 (continued)

Question	Survey form	$\underline{n}$	$\underline{M}$	$\underline{t}$	$\underline{p}$-value
Scenario Aq5a	3	38	2.16	-1.52	.13
	4	37	2.51		
Scenario Aq5b	3	38	3.42	.71	.48
	4	37	3.24		
Scenario Aq5c	3	38	3.76	.85	.40
	4	37	3.57		
Scenario Aq5d	3	38	2.11	-1.48	.14
	4	37	2.43		
Scenario Bq1	3	39	1.08	1.32	.19
	4	37	1.00		
Scenario Bq2	3	39	2.97	.49	.63
	4	37	2.95		
Scenario Bq3	3	39	3.69	-1.43	.16
	4	37	3.92		
Scenario Bq4	3	39	1.97	.03	.98
	4	37	1.97		
Scenario Bq5a	3	38	3.55	-.56	.58
	4	37	3.70		
Scenario Bq5b	3	38	2.18	-.73	.47
	4	37	2.32		
Scenario Bq5c	3	38	2.29	-1.08	.29
	4	37	2.51		

Table 1 (continued)

Question	Survey form	$\underline{n}$	$\underline{M}$	$\underline{t}$	$\underline{p}$-value
Scenario Bq5d	3	38	3.34	.94	.35
	4	37	3.14		

Department D manager?"). The overall test was significant, $F(3, 146) = 299.98$, $p < .001$. Comparisons employing the Bonferroni adjustment evaluated the mean differences between each item. It was expected that respondents would view managers A and B as possessing relatively less information, while managers C and D would be viewed as possessing great amounts of information. The Department A manager was viewed as possessing significantly less information ($M = 2.00$) than the Department C manager ($M = 4.52$), mean difference = -2.52, $p < .001$. The Department A manager was also viewed as possessing significantly less information ($M = 2.00$) than the Department D manager ($M = 4.64$), mean difference = -2.64, $p < .001$. Similarly, the Department B manager was viewed as possessing significantly less information ($M = 2.03$) than the Department C manager ($M = 4.52$), mean difference = -2.50, $p < .001$. The Department B manager was also viewed as possessing significantly less information ($M = 2.03$) than the Department D manager ($M = 4.64$), mean difference = -2.61, $p < .001$. As expected, the quantity of information possessed by the managers of departments A and B did not significantly differ. The manager of Department D was viewed as possessing a significantly greater amount of information ($M = 4.64$) than the Department C manager ($M = 4.52$), mean difference = .114, $p < .05$. This finding was unexpected. A close examination of the two means suggests that the difference is negligible. Thus, the results

revealed that the manipulation for the first scenario was received as intended.

A manipulation check for Organizational Scenario B was conducted. A series of chi-square goodness of fit tests were conducted for the first four questions following Organizational Scenario B ("Which manager possesses information regarding graphic design? Information about the ways that other managers might cheat? Information regarding only their own job duties? Customer relations information?"). Chi-square tests were performed because there were "correct" and "incorrect" response options for each question. This analysis enabled the examination of the frequencies of "correct" and "incorrect" responses. For example, respondents were expected to correctly identify Manager A as possessing information regarding graphic design. SPSS requires a minimum of one expected frequency to be specified for each response category. So, for each goodness of fit test, it was specified that the majority of participants (145 of a possible 151) would endorse the "correct" option, while two participants would mistakenly endorse each of the three remaining "incorrect" options. Each of the obtained chi-square values failed to reach significance. One-hundred and forty-five participants correctly identified Manager A as possessing information regarding graphic design, $\chi^2(3) = 1.00$, $\underline{p} > .20$. Similarly, 143 participants correctly identified Manager C as

possessing cheating information, $\chi^2(3) = 5.03$, $\underline{p} > .10$.

Manager D was correctly identified as possessing information

regarding simple job duties by 142 participants, $\chi^2(3) =$

4.56, $\underline{p} > .20$. One-hundred and forty-three subjects

correctly identified Manager B as possessing customer

relations information, $\chi^2(3) = 3.03$, $\underline{p} > .30$. These results

support the goodness of fit of the expected values.

Therefore, the manipulation for the second scenario was

received as intended, with respondents correctly identifying

the type of information possessed by each department

manager.

　　　To test Hypothesis 1, t-tests were initially performed

to evaluate the mean differences between the two forms

(participants with less information and those possessing a

great amount of information) for responses to Organizational

Scenario A questions. This analysis compared responses to

the three questions that were identical across both forms of

Organizational Scenario A ("How likely are you to work with

the Department B manager? Department C manager? Design the

web page by yourself?"). Each t-test was based on a priori

expectations. Participants with less information were

expected to report a greater likelihood of wanting to form a

coalition with the manager of Department C (who possessed a

great amount of information) than those possessing a great

amount of information. Those possessing a great amount of

information were expected to report a greater likelihood of wanting to design the web page alone (i.e., not form a coalition) than participants with less information. Finally, participants with less information were expected to report a greater likelihood of wanting to form a coalition with the manager of Department B (who also possessed little information) than those possessing a great amount of information. As shown in Table 2, those with less information were more likely to work with the Department C manager (M = 4.31) than those possessing a great amount of information (M = 3.67), t(147) = 4.66, p < .001. This result supports Hypothesis 1. Also supporting Hypothesis 1, those possessing a great amount of information reported a significantly greater likelihood of designing the web page alone (M = 3.33) than those with less information (M = 1.91), t(147) = 8.33, p < .001. Those with less information did not report a greater likelihood of wanting to work with the Department B manager (M = 2.24) than those possessing a great amount of information (M = 2.33), t(147) = -.547, ns, which does not support Hypothesis 1 (see Table 2).

In the first test of Hypothesis 1, it is possible that participants may have chosen only one of the managers among the coalition-choice options, as opposed to choosing to form a coalition with all of the managers. Therefore, a second test of Hypothesis 1 was conducted. A new variable was created by identifying the highest value among the

Table 2

Hypothesis 1: t-tests

	Less information		More information		
	M	SD	M	SD	t
Work with Manager B (less information)	2.24	.99	2.33	1.02	-.55
Work alone	1.91	1.01	3.33	1.08	-8.33*
Work with Manager C (great amount of information)	4.31	.66	3.67	.99	4.66*

*p < .001.

coalition-choice options for each respondent. It was
expected that participants with less information would
report a greater likelihood of forming a coalition, once a
choice to form a coalition across managers was made, than
those possessing a great amount of information. A t-test
was conducted to assess whether those with less information
were more likely to form a coalition than those possessing a
great amount of information. The results supported this
hypothesis. Those with less information were more likely to
form a coalition with a department manager ($\underline{M}$ = 4.35) than
those possessing a great amount of information ($\underline{M}$ = 3.83),
$\underline{t}$(147) = 3.93, $\underline{p}$ < .001. An additional analysis was
conducted to determine whether age of respondents was
related to reported likelihood of coalition formation. It
was not, $\underline{r}$ (146) = .03, $\underline{p}$ > .10.

Finally, a third test of Hypothesis 1 was conducted. A
within-subjects ANOVA was performed to examine differences
regarding which managers the participants wanted to form a
coalition with to design the web page. Analyses were
initially conducted for participants with little
information. Again, the two forms of the scenario were
constructed so that approximately half ($\underline{n}$ = 74) of the
participants read that they were the manager of Department A
(who possessed little information). These participants were
asked a question regarding the likelihood of working with
the Department D manager. In contrast, approximately half ($\underline{n}$

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= 75) of the participants read that they were the manager of Department D (who possessed a great amount of information). These participants were asked a question regarding the likelihood of working with the Department A manager. Thus, the differences between the two forms required analyzing the responses to the four questions separately for each form. Participants with less information were expected to report a greater likelihood of forming a coalition with the managers of departments C and D (who possessed great amounts of information) than with the manager of Department B (who possessed little information). The overall test was significant, $\underline{F}$(2, 72) = 97.49 , $\underline{p}$ < .001. Participants with less information did report a greater likelihood of working with the Department C manager, who possessed a great amount of information ($\underline{M}$ = 4.31), than working with manager B, who possessed less information ($\underline{M}$ = 2.24), mean difference = 2.07, $\underline{p}$ < .001. Similarly, participants with less information were more likely to work with manager D, who possessed a great amount of information ($\underline{M}$ = 4.24), than with manager B ($\underline{M}$ = 2.24), mean difference = 2.00, $\underline{p}$ < .001. There was not a significant difference regarding the likelihood of working with managers C or D. These results support the expectations. Analyses were repeated for those possessing a great amount of information. It was expected that those possessing a great amount of information would not report a preference for forming a coalition with the

managers of departments A, B, or C. The overall test statistic was significant, $F(2, 73) = 41.36$, $p < .001$. Interestingly, those respondents possessing a great amount of information reported a greater likelihood of working with the Department C manager ($M = 3.67$), who also possessed a great amount of information, than the Department B manager ($M = 2.33$), mean difference = 1.33, or the Department A manager, who possessed little information ($M = 2.27$), mean difference = 1.40, $ps < .001$. This result was unexpected. There was not a significant difference regarding the likelihood of working with managers A or B, who possessed similar amounts of information.

To test Hypothesis 2, a within-subjects ANOVA was conducted for responses to Organizational Scenario B questions. Again, respondents were expected to report a greater likelihood of forming a coalition with Manager C (who possessed cheating information) than with managers A or B, or designing the web page alone. As shown in Table 3, a priori contrasts revealed that participants were less likely to work with Manager C, who possessed information regarding cheaters ($M = 2.39$), than work with Manager A, who possessed graphic design information ($M = 3.58$), $F(1, 149) = 87.34$, $p < .001$. Participants were also less likely to work with Manager C ($M = 2.39$) than with Manager B, who possessed customer relations information ($M = 3.31$), $F(1, 149) = 78.38$, $p < .001$. These results do not support the

Table 3

Hypothesis 2: Means and standard deviations

	M	SD
Work with manager A (graphic design information)	3.58	1.11
Work alone	2.17	.96
Work with manager C (cheating information)	2.39	.94
Work with manager B (customer relations information)	3.31	.94

Table 4

Hypothesis 2: F-values and estimates of magnitude

Source	SS	df	MS	F	R²
Comp. 1	211.23	1	211.23	87.24**	.37
Comp. 2	7.71	1	7.71	5.51*	.04
Comp. 3	125.13	1	125.23	78.38**	.35
error					
Comp. 1	360.77	149	2.42		
Comp. 2	208.29	149	1.40		
Comp. 3	237.87	149	1.60		

Note. Comp. 1 = work with manager A (graphic design information) compared to manager C (cheating information); Comp. 2 = work with manager C, compared to work alone; Comp. 3 = work with manager B (customer relations information) compared to manager C.

*p < .05. **p < .001.

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hypothesis. Subjects were, however, more likely to work with Manager C (M = 2.39) than design the web page alone (M = 2.17), $F(1, 149)$ = 5.513, p < .05. F-values and estimates of the magnitude of each single-df comparison are presented in Table 4. An additional analysis was conducted to determine whether the respondents' gender was related to reported likelihood of coalition formation. Each of the interactions between the aforementioned contrasts and gender failed to reach significance. Therefore, gender was not related to reported likelihood of coalition formation.

DISCUSSION

The results support Hypothesis 1, which states that differences in the amount of information will lead to differences in the desire to form coalitions. However, a lack of support was found for Hypothesis 2. As stated earlier, individuals were expected to be more likely to want to form coalitions with those possessing cheating information than with those possessing other types of information. This was not the case. Results of the tests of these hypotheses will be discussed in terms of prior research. Practical implications of this research, limitations, and directions for future research will also be provided.

Results from three sets of analyses support Hypothesis 1. The first test revealed that individuals possessing a great amount of information are more likely to work alone (i.e., not form a coalition) than those with less information. Evolutionary psychology suggests that individuals will form coalitions to acquire resources that were previously unattainable. Coalitions allow individuals to achieve what cannot be achieved alone. Individuals are more likely to form a coalition the more they have to gain by doing so. Individuals already possessing large amounts of resources have little to gain by forming a coalition, relative to those possessing few resources. Therefore,

forming a coalition is less necessary for those possessing large amounts of resources.

Individuals with less information were more likely to want to form a coalition with one who possessed a great amount of information, as compared to those who already possessed a great amount of information. This finding supports an evolutionary perspective. Similar to other models, evolutionary psychology maintains that forming coalitions allows members to acquire resources that they were previously denied as unallied individuals. The propensity to form coalitions solved the adaptive problem of resource accrual recurrently faced by our ancestors. Again, individuals are more likely to form a coalition the more they have to gain by doing so. It is not surprising that those with fewer resources (less information) were more likely to want to form a coalition with one who possessed more resources (a great amount of information) than individuals who already possessed a large amount of resources.

It was expected that individuals with less information would report a greater likelihood of wanting to form a coalition with others, regardless of the amount of resources they possessed, as compared to individuals with a great amount of information. Although this was the case in relation to the Department C manager, who possessed a great amount of information (as discussed previously), this was

not the case with the Department B manager. Individuals possessing less information did not differ from those possessing a great amount of information regarding their reported likelihood of wanting to form a coalition with the Department B manager. This result was unexpected. We form coalitions to achieve what cannot be achieved alone. For example, those employees who are less skilled can successfully complete tasks by allying themselves with more skilled employees (rather than allying themselves with other, less skilled employees). The relative reluctance of individuals with less information to form a coalition with one similarly situated is consistent with an evolutionary perspective. In addition, the second test of Hypothesis 1 revealed that individuals with less information *did* report a greater likelihood of wanting to form a coalition (across managers) than those possessing a great amount of information. This result supports the expectation that individuals with less information would be more likely to want to form a coalition than those with a great amount of information.

Specifically, it was expected that individuals with less information would report a greater likelihood of forming a coalition (once a choice to form a coalition was made) than those possessing a great amount of information. Individuals with less information expressed a greater likelihood of forming a coalition than those possessing a

great amount of information, as revealed by the highest value among the coalition-choice options for each respondent. This finding demonstrates that, upon expressing a desire to want to form a coalition, those with fewer resources (less information) report a greater likelihood of wanting to form a coalition than those possessing relatively greater amounts of resources. Again, individuals are more likely to form a coalition the more they have to gain by doing so. Our underprivileged ancestors who formed coalitions were able to out-compete those who were similarly situated and did not form coalitions. To summarize, the finding that individuals with less information expressed a greater likelihood of forming a coalition (once a choice to form a coalition was made) than those possessing a great amount of information provides additional support for Hypothesis 1.

A third test of Hypothesis 1 provides further support and amplification. Individuals with less information reported a greater likelihood of wanting to form a coalition with managers C and D, who possessed great amounts of information, than form a coalition with manager B, who possessed little information. As discussed previously, coalition formation allows us to acquire resources that are individually unattainable. Forming coalitions allows individuals to achieve what cannot be achieved alone. Although coalition formation enabled our ancestors to out-

compete those who did not form coalitions, it is reasonable to suspect that it would have been more advantageous for our underprivileged ancestors to form coalitions with those possessing great amounts of resources, as opposed to those who possessed few resources. Parallel findings were obtained for those participants possessing great amounts of information. Individuals with a great amount of information reported a greater likelihood of wanting to form a coalition with manager C, who possessed a great amount of information, than form a coalition with managers A or B, who possessed little information. This finding was unexpected. It suggests that, regardless of the amount of resources that we possess, when we choose to form a coalition we choose to form with those who possess a great amount of resources. The "weakness-is-strength" effect (Miller & Komorita, 1986) suggests that those with fewer resources are more likely to be included in coalitions than those possessing greater amounts of resources. In contrast, the present finding demonstrates that those possessing greater amounts of resources are more likely to be included in a coalition than those with fewer resources. It is reasonable to expect that little benefit can be derived from forming a coalition with one who possesses few resources. Those ancestors who formed coalitions with individuals possessing great amounts of resources probably fared better than those who formed coalitions with individuals possessing few resources.

Additional research is needed to further explain this finding.

Results from these three sets of analyses support Hypothesis 1. Differences in the amount of information did lead to differences in the desire to form coalitions. Consistent with an evolutionary perspective, those with fewer resources were more likely to form coalitions than those possessing greater amounts of resources. Furthermore, when confronted with an environment of scarce resources, those possessing few resources were more likely to form coalitions than fend for themselves. These results not only support an evolutionary perspective, but also demonstrate that information is an important organizational resource that contributes to coalition formation. Again, these results offer two important contributions: 1) the results establish information as a resource involved in coalition formation; and 2) the results address *why* individuals form coalitions – to adapt to environments of limited resources. Practical implications of these findings will be provided later.

The results failed to support Hypothesis 2. Individuals were not more likely to want to form coalitions with those possessing cheating information than with those possessing other types of information. Instead, individuals were more likely to want to form a coalition with Manager A, who possessed graphic design information, or Manager B, who

possessed customer relations information, than form a coalition with Manager C, who possessed cheating information. They were, however, more likely to form a coalition with Manager C than work alone. Several explanations may account for this finding.

Cosmides and Tooby (1992) provide empirical support for a psychological mechanism capable of detecting cheaters in social exchange situations. If humans possess the innate capability to detect cheaters, it is reasonable to assume that we have little need to seek information regarding cheaters from other, secondary sources. That is, since we can detect cheaters ourselves, we presumably will not need to seek this information from others.

Furthermore, the psychological mechanism capable of detecting cheaters can *only* be activated by particular contextual input, such as the nonreciprocation of others (Cosmides & Tooby, 1992). Similar to other psychological mechanisms, the ability to detect cheaters is context-dependent. The present study did not provide an adequate context for the activation of this psychological mechanism. The organizational scenarios succeeded in providing a context only for the activation of the psychological mechanism enabling coalition formation. A critical element of the Cosmides and Tooby (1992) study was the violation of social contracts, as evidenced by the nonreciprocation of

others. There was no indication of nonreciprocation in the scenario.

Another explanation that may account for the failure to support Hypothesis 2 concerns a methodological consideration. The content of Organizational Scenario B may have confounded the results. Participants may have viewed information regarding graphic design as more relevant to the task of designing a new company web page than cheating information. Therefore, participants expressed a greater likelihood of wanting to form a coalition with Manager A, who possessed graphic design information, than Manager C, who possessed cheating information. Indeed, the scenario states, "In fact, Manager A has improved the artistic quality of past projects." Similarly, participants may have viewed customer relations information as extremely relevant to the task of designing a new web page to attract new customers. The scenario states, "Manager B has an understanding of customer needs." Participants likely viewed this information as more task-relevant (and, therefore, more important) than cheating information. It is not surprising that participants expressed a greater likelihood of wanting to form a coalition with Manager B, who possessed customer relations information, than Manager C, who possessed cheating information. Participants only reported a greater likelihood of forming a coalition with Manager C in relation

to designing the web page alone. This interpretation provides indirect support for Hypothesis 1.

Again, the first hypothesis suggests that individuals will want to form coalitions with those possessing resources that may be viewed as critical to success. Tests of Hypothesis 2 revealed that participants reported a greater likelihood of wanting to form coalitions with those possessing resources that may have been viewed as more critical to success (graphic design and customer relations information), compared to those possessing resources that may have been viewed as less critical for success (cheating information). In short, individuals may to want to form coalitions with those possessing resources that are viewed as critical to successfully completing a particular task. These arrangements are expected to be the most fruitful.

To summarize, the results failed to support Hypothesis 2. Two explanations addressing theoretical concerns were provided, as well as a methodological consideration. As stated earlier, we possess many complex and specific psychological mechanisms that can be deployed individually and in complex combinations depending on circumstances (Buss, 1995). Attempting to demonstrate the interaction of two psychological mechanisms (one that enables coalition formation and another that is responsible for detecting cheaters) is a complex endeavor, strewn with theoretical and methodological pitfalls. The majority of prior research has

focused on the identification and explanation of a single

psychological mechanism, as well as the context in which

that mechanism may be activated. This research has

collectively provided a greater understanding of the human

mind. Evolutionary psychology is best characterized as a

series of tight theoretical articulations subsumed under the

rubric of evolutionary theory. The hallmark of evolutionary

psychology is parsimony. Therefore, future endeavors should

strive to maintain this standard and conduct research that

is theory-driven. To this end, the importance of

evolutionary psychology for other areas, such as

organizations, will be fully realized. The results of the

current study provide practical implications for

organizations.

Organizations present an environment of limited

resources. The hierarchical arrangement of positions in

organizations and the prevalence of social networks (e.g.,

the informal grapevine) implies that the more highly placed

or well-connected employees will have access to resources

denied to entry-level or isolated employees. This creates a

situation of inequality in resource distribution. Resources

are a determinant of organizational behavior. The present

study demonstrates that one outcome of resource inequality

is the formation of coalitions. When provided an opportunity

to work alone or form a coalition with another employee,

individuals were more likely to want to form a coalition

with one who possessed a great amount of resources than one possessing few resources. The context provided to participants was characterized by task and resource interdependence. It is reasonable to assume that few organizations are characterized by environments of resource abundance or little task interdependence. Therefore, coalition formation appears to be a staple of organizational life. Organizations must consider the political advantages and disadvantages of the formation of groups not formally sanctioned by the organization when providing access to limited resources.

There were several limitations to this study. The use of self-report measures has often been criticized. The present study is not exempt from this criticism. Of particular concern is the accuracy with which participants completed the surveys.

A statement was included among the directions for completing the surveys to enhance the involvement of the participants. Subjects were informed that they would be using the information provided in the scenarios during a simulated business exercise. It was expected that the statement would increase the participants' care and attention. Although the manipulation checks for each scenario demonstrated that participants received the information as intended, it is impossible to assess the

accuracy with which subjects responded to the coalition questions.

Another limitation concerns student-sampling procedures. Data was collected from several sections of undergraduate psychology courses. The majority of the students were Caucasian females 18 to 25 years of age. The relative homogeneity of this sample not only challenges the representativeness of the participants' responses, but also limits the generalizability of the findings.

A similar limitation is the scenario-based approach. Participants were asked to assume they were managers working in a particular organization. Obviously, this approach is less ecologically valid than collecting data from a sample of managers actually confronted with the situations described in each scenario. As stated earlier, this scenario-based approach was undertaken because it is more feasible than a field study.

Finally, organizations present a much more complex environment than is capable of being adequately described in a scenario. For example, the information to which people have access in organizational contexts is often ambiguous. Constraints on communication among organizational members can further restrict the availability of information (Miller & Komorita, 1986). Thus, employees are likely to form coalitions with those they can communicate with directly, rather than with others with whom they can communicate only

indirectly. The present study did not address these dynamic qualities of organizations.

Future research would benefit from a field design. This design would address limitations regarding the use of self-report measures, student sampling procedures, and scenario-based approaches. A field study of coalition formation would also address many dynamic qualities of organizations that are typically neglected in survey research.

In addition, research is needed to further demonstrate the utility of examining organizational behavior from an adaptive perspective. As stated earlier, the evolutionary perspective in applied psychology addresses "why" and "function" questions, while the traditional perspective is concerned with "what" and "how" questions (Colarelli, 1998). The organizational literature has provided a wealth of research demonstrating coalition formation. The present study not only demonstrates coalition formation, it offers a powerful explanatory framework for this phenomenon. Specifically, this research suggests that coalition formation serves an important adaptive function - resource accrual. Although this approach is rare among organizational scientists (Colarelli, 1998), the present study demonstrates that applied psychologists would benefit from an adaptive perspective.

For example, the valence-instrumentality-expectancy (VIE) theory of work motivation assumes that our behavior

results from choices among alternatives, and that "these choices (behaviors) are systematically related to psychological processes, particularly perception and the formation of beliefs."(Pinder, 1996, p.69) The expectancy component of VIE theory assumes that people believe that if they put forth effort, the effort will lead to performance. The instrumentality component suggests that this performance will lead to a particular outcome. Valence is the value people ascribe to outcomes. VIE theory presents a hedonistic view. That is, individuals are motivated to maximize pleasure and avoid pain. Therefore, VIE theory predicts that people will attempt to maximize their outcomes.

An adaptive perspective can focus on the evolutionary significance of this behavior. An understanding of *why* individuals seek to maximize their outcomes may facilitate practical applications of VIE theory. In addition to work motivation, an adaptive perspective may inform organizational development.

Organizations have historically overlooked employee resistance to large-scale change. Employees react negatively to disruptions in the workplace. Survivors of large-scale changes experience a lowered sense of morale and organizational commitment. Consequently, the overall productivity of the organization decreases.

Evolutionary psychology can address the inherent difficulties of adapting to a changing environment. This

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approach can also address the consequences of employees'
inability to adapt to organizational changes. An
understanding of *why* employees are resistant to large-scale
change may help organizations and employees adapt to changes
more successfully.

Finally, increased interest in team building suggests
the need to examine the adaptive functioning of team-
building strategies within organizations. In particular,
self-managed teams represent an innovative approach within
organizational development. These teams are autonomous and
adaptive to organizational change. An evolutionary
perspective can examine the adaptive nature of self-managed
teams.

To summarize, an evolutionary perspective holds an
important place in organizational theory (Colarelli, 1998).
The application of evolutionary psychology to organizational
contexts is a new area of research. It is hoped that the
present study will serve as an impetus for future
applications of an adaptive perspective to organizational
behavior.

The present study establishes the importance of
information as a resource contributing to coalition
formation. This research responds to Miller and Komorita
(1986), who state "very little is known about the effects of
information and communication restrictions on coalition
behavior."(p.126) They also state that few studies of

coalition formation "have systematically manipulated information and communication variables." (p.125) The majority of research regarding coalition formation within organizations includes resources such as votes or money. More research examining the impact of information on coalition formation is sorely needed.

This research provides an empirical test of an evolutionary perspective of coalition formation. This area is at an initial stage of development and, therefore, demands further testing. Future study would provide a greater understanding of the nature of the psychological mechanism contributing to coalition formation, as well as further articulating the forms of contextual input that activate the operation of this mechanism.

In conclusion, the present study contributes to the areas of evolutionary psychology, social psychology, and industrial/organizational (I/O) psychology. This research demonstrates the importance of evolutionary psychology for organizations in understanding organizational behavior. Evolutionary psychology provides an explanatory framework powerful enough to interpret behavior in a complex environment such as the organization. Applied psychologists would greatly benefit from invoking an adaptive perspective to understand the infinite number of diverse problems posed by organizations.

Organizational Behavior Survey

Directions:
On the following pages are two organizational scenarios. Please read each
scenario carefully and respond to the accompanying questions. In the last
phase of this study, you will be participating in a simulated business exercise.
You will be using the information provided in the following scenarios while
participating in this exercise. Keep in mind that there are no right or wrong
answers. Circle only one response for each question. It is important to try to
respond to every statement.

Organizational Scenario A

Assume you are a manager in Xanadu, Inc. Xanadu has recently experienced dramatic reductions in customers. The company web page has successfully attracted many new customers in the past. However, Xanadu's web page has not been updated for several years. Therefore, the president of Xanadu has asked four department managers to provide designs for a new company web page. The department or departments (if managers choose to work together) providing the best design will receive an increase in important resources (like more money and more staff positions). If managers work together and provide the best design, they will have to divide the resources among themselves. The department managers selected to participate in the design of a new company web page are A, B, C, and D. You are the manager of Department A.

As the manager of Department A, you lack technological information. You have only been an employee of Xanadu for three months, and you are not yet completely familiar with your position. The manager of Department B possesses a similar amount of technological information.

In contrast, the managers of departments C and D possess a tremendous amount of technological information. In fact, these managers have been employees of Xanadu for over three years, and are very familiar with their positions.

Please respond to questions 1-4 according to a 5-point scale:

1	2	3	4	5
No information	Little information	Moderate amount of information	Much information	Great amount of information

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1. How much technological information does the Department A Manager possess?

1   2   3   4   5

2. How much technological information does the Department B Manager possess?

1   2   3   4   5

3. How much technological information does the Department C Manager possess?

1   2   3   4   5

4. How much technological information does the Department D Manager possess?

1   2   3   4   5

5. The following questions list actions you could take as the manager of Department A to design the new company web page.

Please rate the following actions according to a 5-point scale:

1	2	3	4	5
Will not do	Not very likely	Somewhat likely	Very likely	Will do

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➤   **How likely are you to...**

a) work with the Department B manager to design the new web page?

1   2   3   4   5

b) design the new company web page by yourself?

1   2   3   4   5

c) work with the Department C manager to design the new web page?

1   2   3   4   5

d) work with the Department D manager to design the new web page?

1   2   3   4   5

Organizational Scenario B

Assume you are a manager in Utopia, Inc. Utopia has recently experienced dramatic reductions in customers. The company web page has successfully attracted many new customers in the past. However, Utopia's web page has not been updated for several years. Therefore, the president of Utopia has asked four department managers to provide designs for a new company web page. The department or departments (if managers choose to work together) providing the best design will receive an increase in important resources (like more money and more staff positions). If managers work together and provide the best design, they will have to divide the resources among themselves. The department managers selected to participate in the design of a new company web page are A, B, C, and D. You are the manager of Department D.

Manager A possesses information about graphic design. In fact, Manager A has improved the artistic quality of past projects. Manager B possesses customer relations information. Manager B has an understanding of customer needs. Manager C possesses information about which managers at Utopia are likely to use trickery (e.g. stealing other managers' ideas) to compete for scarce resources. You are Manager D. As Manager D, you possess information regarding only your department and general job duties.

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6. Which manager possesses information regarding graphic design?

<div align="center">A   B   C   D</div>

7. Which manager possesses information about the ways that other managers might cheat?

<div align="center">A   B   C   D</div>

8. Which manager possesses information regarding only their own job duties?

<div align="center">A   B   C   D</div>

9. Which manager possesses customer relations information?

<div align="center">A   B   C   D</div>

10. The following questions list actions you could take as the manager of Department D to design the new company web page.

Please rate the following actions according to a 5-point scale:

1	**2**	**3**	**4**	**5**
Will not do	Not very likely	Somewhat likely	Very likely	Will do

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➤ **How likely are you to...**

a) work with manager A, as opposed to B or C?   1   2   3   4   5

b) design the new company web page by yourself?   1   2   3   4   5

c) work with manager C, as opposed to A or B?   1   2   3   4   5

d) work with manager B, as opposed to A or C?   1   2   3   4   5

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