Relational Frame Theory and Industrial/Organizational Psychology

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SUMMARY. The current paper argues that a Relational Frame Theory account of complex human behavior including an analysis of relational frames, relational networks, rules and the concept of self can provide a potentially powerful new perspective on phenomena in the applied science of industrial/organizational (I/O) psychology. In this article, we first provide a brief description of I/O psychology itself. We then ex-
pand on the core features of RFT described earlier in this collection, including how it addresses rule-governance. Finally we illustrate, using relevant examples, the ways in which these concepts can be used to understand behavior in the I/O arena. doi:10.1300/J075v26n01_03 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2006 by The Haworth Press, Inc. All rights reserved.]

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Paid employment . . . warrants study by psychologists for its enormous social and personal importance, and also for the contribution that increased understanding of work processes can make to the development of psychology itself. Warr (2002, p. ix)

Industrial-Organisational (I/O) psychology is the branch of psychology that deals with human beings at work. It seeks both to improve the quality of the environment for employees as well as to increase the effectiveness and efficiency of employee behavior in that environment. Traditional I/O psychological concerns have included, for example, the identification and development of human potential through psychometric testing; the motivation of employees through the design of payment and reward systems; the ergonomic design of the working environment; the measurement of employee job satisfaction and attitudes towards work and the assessment of human performance both on and off the job via appraisal systems. I/O psychologists have also begun to address broader or higher level issues such as the design of effective management systems, the nature of ‘transformational’ leadership, processes of change and resistance to change within organizations and the evolution of organizational culture.

Organizational behavior management (OBM) has not had a large impact on traditional I/O psychology. This has led some leaders in the field (e.g., Wiegand & Geller, 2005) to suggest that mentalistic theories be embraced to bring OBM into the mainstream. The alternative that is being explored in this volume is to turn instead to modern behavior analysis itself (Hayes, 2005).
KEY AREAS WITHIN TRADITIONAL I/O PSYCHOLOGY

In order to examine the ways that OBM can deal more effectively with traditional I/O issues it seems worthwhile to note the range of phenomena that must be addressed.

Job Satisfaction, Attitudes, and Behavior

The three domains of job satisfaction, attitudes, and work behavior and their inter-relationship have been a major focus of traditional I/O psychological research. Job satisfaction may be examined at a very general level (i.e., the extent to which a person is satisfied with his or her job as a whole) or in terms of more specific aspects of the job, such as satisfaction with one’s pay, colleagues, supervisors, working conditions, job security, promotion prospects, etc. Research has concentrated on finding correlates of both general as well as specific measures of job satisfaction (e.g., Agho, Mueller & Price, 1993). Related to job satisfaction are attitudes towards employment. Warr (2002) defines attitudes as “evaluative tendencies (favorable or unfavorable) towards a person, group, thing, event or process” (p. 17). Attitudes measured may be specific (e.g., towards one’s boss) or general (e.g., towards environmental pollution) with the latter variety often referred to as ‘values.’ Research has found important correlational relationships between job satisfaction and attitudes and also amongst each of these phenomena and theoretically important employee behaviors including job performance, absenteeism, and turnover (e.g., Hardy, Woods, & Wall, 2003; Ostroff, 1992).

Teamwork

The term ‘Team’ is used to refer to a group of individuals organized around an interdependent set of tasks and who share responsibility for achieving particular results (Guzzo & Dickson, 1996). Teams are seen as an important component in the operation of various organizations (e.g., O’Reilly & Pfeffer, 2000). Psychologists have identified several potential benefits of team work including (i) a greater range of knowledge and expertise, (ii) encouragement of greater flexibility, (iii) encouragement of working for the greater good, (iv) improved task motivation by providing, for example, employees a stake in decision making, and (v) provision of social support.
McGrath (1984) proposed an Input-Process-Output model of the variables that are relevant in examining team effectiveness. ‘Input’ variables include job design, interdependence of team members, composition of the group (e.g., demographic diversity) and team context; ‘Process’ variables include such factors as cohesiveness (e.g., norms play an important role), communication, conflict, decision making and problem solving; and ‘Output’ variables include performance levels, team member attitudes and team member behavior.

Organizational Culture and Organizational Development

Organizational culture is a concept that has become increasingly important within I/O psychology. Research has found that positive work cultures that value trust and openness create pride and a desire to belong to the organization. Furthermore, cultures that support employees with regard to both health and personal development (Wiley & Brooks, 2000) are associated with greater job satisfaction among employees (Parker, Young, Baltes, Altmann, Huff, & LaCost, 1997) as well as better business performance (Brown & Leigh, 1996). The leadership of a company may deliberately attempt to develop and optimize organizational culture. With regard to the kind of organizational development that this necessitates, I/O psychologists make a useful distinction between episodic (infrequent, discontinuous) and continuous (ongoing, cumulative) change (e.g., Weick & Quinn, 1999). There is increasing research interest in how to achieve continuous change, including through quality management and organizational learning. Several influences are important with regard to change including context, leadership, management of change processes, and outcomes of change. Research has found that the impact of these four varies, although the relative impact of these variables differs in relation to whether the strategic choice is to engage in change that is episodic or continuous. One theoretical framework that has been developed to analyze processes of continuous change is the organizational learning framework of Argyris and Schon (1996). This framework suggests that the capacity to examine basic assumptions is the hallmark of adaptive learning, which is necessary for continuous and emergent change, in which outcomes cannot be predicted.

Leadership

Leadership has been defined traditionally as a goal-directed process, which occurs within a group context and which involves influencing
others. The concept of leadership is distinguished from that of management by defining it as open-ended and pro-active as opposed to the close-ended and reactive character of the latter. Research into leadership initially focused on personal traits, before moving on to study behaviors and then to examine ways in which leadership behavior can be affected by situational factors. In more recent approaches, a distinction has been drawn between ‘transformational leadership’ that corresponds to leadership as such, and ‘transactional leadership’ which corresponds to management (e.g., Bass, 1985, 1998). Models of transformational leadership emphasize the role of the leader as someone who ‘manages meaning’ and defines organizational reality by articulating an organization’s mission and the values that will support it.

**CONCEPTUAL APPROACHES**

*The Two Dominant Approaches: Psychometric and Social-Cognitive*

The two traditionally dominant meta-theoretical perspectives within the area of I/O psychology have been the psychometric and the cognitive perspectives. With regard to the former, the selection and assessment of employees, for example, has involved the measurement of such constructs as Intelligence Quotient (I.Q.; e.g., Eysenck, 1979) and general personality (e.g., the 16PF [Cattell, 1965] and the NEO [Costa & McCrae, 1992]). Psychometric tests are practically useful measures, the results of which allow for correlation with indices of job performance, job satisfaction, absenteeism, turnover, etc. However, a disadvantage of these assessment tools is that they reveal little if anything about the psychological processes that mediate the correlational relationships. For this purpose, I/O psychologists have turned to the cognitive psychological paradigm.

From the cognitive perspective, processes of cognition and affect are hypothesized to underlie states such as attitudes, self-esteem, and job-satisfaction, for example, which in turn are conceptualized as causing employee behavior in the workplace. Unfortunately, this links one dependent variable (e.g., cognition) to another (e.g., job satisfaction) to yet another (e.g., employee behavior). It is precisely this feature that creates difficulty in constructing an adequate science of organizational behavior.
There has been a plethora of cognitive and social-cognitive models of employee cognitions and emotions and their causal relationships with behavior. Generally these models work to some degree as summaries or post-hoc predictive models, as they should since past behavior (including private behavior) predicts future behavior. Nevertheless, they have limited direct use in terms of intervention to change employee behavior because the variables hypothesized to cause behavior are not directly manipulable.

Imagine, for example, that a particular cognitive schema is hypothesized to underlie absenteeism. The only obvious way in which to change the absenteeism based on such an analysis would be to change the schema. Cognitive theories do not specify, however, what specific environmental manipulations need to be performed to change the putatively causal variable, nor do they specify the conditions that maintain the dependent variable-dependent variable relationship. The only way in which to change, say, a cognitive schema is to manipulate contextual variables external to the schema itself. For example, the management might introduce an employee workshop (i.e., an external environmental manipulation) that is designed to change the way in which employees perceive the company. Because these are not specified in the cognitive theory, practitioners are left to a combination of commonsense and cognitive targets to guide intervention development. Furthermore, since the conditions that maintain the dependent variable-dependent variable relationship are not specified, even when the putative cognitive cause is changed successfully, and when positive outcomes then occur, often the cognitive variable does not mediate outcomes (e.g., Morganstern & Longabaugh, 2000). It is for these reasons that behavior analysis avoids mediating mental constructs in its analyses (Hayes & Brownstein, 1986).

**Traditional Behavior Analysis**

Behavioral approaches have also been employed in the I/O arena, but to a relatively limited extent when the full range of issues faced by I/O is considered. OBM has been defined as the application of behavior analysis to organizational settings (Bucklin, Alvero, Dickinson, Austin, & Jackson, 2000). In common with other practitioners of applied behavior analysis, OBM experts apply their knowledge and understanding of empirically based principles of behavior (e.g., reinforcement, punishment, stimulus control, discrimination, generalization) to their particular domain. The main focus of OBM is on the behavior of individuals and
groups in organizations. Interventions based on OBM include performance measurement and reporting, feedback, performance management training, incentive pay, and other performance improvement techniques. Analyses of work behavior in terms of the principles of behavior analysis are provided in many sources (e.g., Brown, 1982; Daniels, 1989; Mawhinney, 1984; O’Brien & Dickinson, 1982) and there is a substantial body of scientific evidence that demonstrates that systematic operant psychology-based interventions such as these can improve human learning and performance in the organizational setting.

Unfortunately, the targets of OBM interventions are quite limited. Direct contingency principles do not seem to provide an adequate set of principles with which to deal with the issues being addressed by I/O psychology more generally. When faced with these challenges, even a former editor of the Journal of Applied Behavior Analysis fell back on ancient concepts familiar to I/O psychology, such as achievement motivation (Wiegand & Geller, 2005), in order to address them.

It is particularly telling that in a set of several articles in this journal challenging Wiegand and Geller’s approach, not a single one appealed to Skinner’s Verbal Behavior (1957) as a source of inspiration for a more effective account of human language and cognition. Indeed, for almost two decades after the emergence of OBM in the 1970s, there was little change in the basic science of behavior analysis in a manner that effectively addressed Chomsky’s criticisms of the Skinnerian approach (Barnes-Holmes, Barnes-Holmes, Roche, Healy, Lyddy, Cullinan, & Hayes, 2001). That has changed. Following the openings provided by the study of rule-governed behavior (see Hayes, 1989 for a review) and equivalence relations (see Sidman, 1994 for a review), RFT (Hayes, Barnes-Holmes & Roche, 2001) has become a relatively comprehensive and empirically productive behavior analytic approach to cognition more generally. As a result, an essential and fundamental change in the basic science of behavior analysis is underway with clear applied implications.

**RELATIONAL FRAME THEORY**

The most common criticism of behavior analysis is that the basic principles identified primarily with nonhuman organisms, cannot alone account for the generativity or complexity of human language and cognition (Barnes-Holmes et al., 2001). Relational frame theorists appear to be largely in agreement with this view, although unlike in the case of
external critics the grounds for this claim are themselves behavior analytic (Barnes-Holmes, Dymond, Roche & Grey, 1999). In the following sections, we briefly outline the empirical roots of this agenda, consider some of the key concepts that have emerged and thereafter consider the applicability of these concepts to a behavioral interpretation of some of the core areas of research in I/O psychology.

*Derived Relational Responding*

Empirical behavioral research over the last thirty years or so has provided substantial evidence for derived relational responding (DRR). The early demonstrations involved a matching-to-sample (MTS) format in which a set of reinforced relations between sample and comparison stimuli led to a number of untrained relations among the stimuli. For example, if a subject was taught to choose an arbitrary stimulus B, when shown a second arbitrary stimulus A, and was also trained to choose a third stimulus, C, when shown B, he or she proceeded during unreinforced sessions to choose A given B and B given C (i.e., mutual entailment) and to choose C given A and A given C (i.e., combinatorial entailment).

The phenomenon of derived relational responding has been replicated and studied extensively. The stimuli A, B, and C, involved in the relational training can be presented in any perceptual modality, either previously experienced or completely novel, including, for example, pictures, pictograms, symbols, words, nonsense words, arbitrary sounds, smells, tastes, etc. In the above example, for instance, A might be a spoken nonsense word, ‘CUG,’ B might be the written word ‘CUG’ and C might be a cartoon alien. If even a young child (aged approximately 2 years) is taught to pick the written word ‘CUG’ after hearing the sound ‘CUG’ and to pick the cartoon when shown the written word then he or she may well derive further relations between these stimuli such that the sound and the written word ‘CUG’ are mutually related to each other and both are mutually related to the cartoon. The seminal experiments on DRR (Sidman, 1971) showed derived relations between written words, spoken words and pictures, thus providing evidence that derived relational responding might be used to model symbolic relations in natural language (see Sidman, 1994).

Research since then has strengthened the conclusion that DRR and language are closely linked. Although derived relational responding has been demonstrated in human infants, and in human subjects with severe learning disabilities having basic receptive language skills,
these abilities have not yet been unequivocally demonstrated in non-human populations nor in humans without at least some receptive language abilities (e.g., Barnes, McCullagh, & Keenan, 1990; Carr, Wilkinson, Blackman, & McIlvane, 2000; Devany, Hayes, & Nelson, 1986; Dugdale & Lowe, 1990; Hayes, 1989; Sidman, Rauzin, Lazar, Cunningham, Tailby, & Carrigan, 1982).

Once the young child has learned to respond in accordance with very simple derived relations between words, objects and pictures, the size and complexity of such relations may expand exponentially. For example, a child who already relates the spoken word ‘dog’ both to a picture of a dog and to the written word DOG might then be taught that the spoken and written word ‘hound’ is another name for a dog. The child might subsequently derive several further relations between the spoken and written words ‘hound,’ the picture of the dog and the written word ‘dog.’ In this way, although the child has been taught just one new word his relational network has expanded and he is able to respond in accordance with a multitude of new relations without being explicitly taught to do so.

From an RFT perspective, there are many other types or patterns of DRR than simple “same as” relations (referred to as a frame of coordination). Other forms of DRR include patterns of opposition, difference, comparison, hierarchy. Thus, as a child learns new words and new relations he or she is essentially learning to respond in accordance with increasingly complex networks of derived stimulus relations. Conceptualizing human language and cognition in terms of derived stimulus relations and networks appears to provide the basis for addressing the power, richness, and generativity of language that Chomsky and others have argued is beyond the conceptual or analytic tools of behavior analysis.

Explaining Derived Relational Responding

DRR is a result, not a process. In order to explain DRR, RFT appeals to an initial history of reinforced training with relevant exemplars (Hayes & Hayes, 1989). It is a well-established fact that organisms respond readily to the formal relations among stimuli. For example, even insects have demonstrated the discrimination of the “dimmest” of an array of illuminated stimuli (Reese, 1968). This type of relational responding appears to be controlled primarily by formal or non-arbitrary stimulus relations (i.e., one of the stimuli is actually the dimmest). In addition, however, humans readily demonstrate patterns of relational re-
sponding that are not controlled only by the formal properties of the related events, but by specific contextual cues.

Consider the following example of contextual control by the simple word “is.” During early natural language interactions, children are often presented with objects (e.g., a teddy) and are asked to repeat the object’s name (“teddy”). This interaction may be described as ‘see object X, hear name Y, repeat name Y.’ At the same time, children are also taught the reverse sequence of events in which they are asked to identify objects upon hearing the name. This interaction may be described as ‘hear name Y, pick object X.’ During early naming interactions, many specific examples of object-word and word-object relations are explicitly trained. According to RFT, when a child has been exposed to sufficient exemplars of responding to both types of relations, a repertoire of derived object-name and name-object relational responding is established (Barnes-Holmes, Barnes-Holmes, Roche, & Smeets, 2001a; 2001b).

If a child with this type of naming history is instructed: “This is grandma,” contextual cues (such as the word “is,” and the general social context) predict that if this person is “grandma” (object X-name Y), then “grandma” is this person (name Y-object X). Consequently, the child may now identify the appropriate person when asked “Where is grandma?” in the absence of explicit reinforcement. According to RFT, this type of relational response is derived in a given instance (because there is no history of explicit reinforcement for pointing to grandma), but it is not genuinely novel. Rather it is viewed as a type of operant behavior that has been brought under the control of contextual cues (e.g., the word “is”) through a process of differential reinforcement. In effect, operant contingencies select a particular pattern of relational responding in the presence of a specific contextual cue, as these contingencies are applied across numerous exemplars. As a result, the relational responding may generalize to other novel exemplars in the presence of the appropriate contextual cue, and thus, according to RFT, this performance constitutes an example of a generalized operant class (Barnes-Holmes & Barnes-Holmes, 2000).

If frames of coordination can be learned in this fashion, there seems to be nothing to prevent the same process from applying to more-than and less-than; different from; and opposite to; and any other type of relation. Consider a young child who is taught to select the larger of two cups of juice in response to the question “Which cup has more?” and the smaller of two boxes in response to “Which has less?” In this case, the appropriate response is determined in part by the non-arbitrary relationship of physical size between the related objects. However, with appro-
appropriate exemplar training this relational response may be brought under the control of contextual cues that are purely conventional rather than formal or non-arbitrary, including terms such as “more” and “less.” If a child is taught, for example, that “if A is more than B, then B is less than A” and “if C is more than D, then D is less than C” and so on across other exemplars, simply telling the child that “X is more than Y” may generate the derived relational response “Y is less than X.” In this case, the relational response comes under the control of the words “more” or “less,” rather than a formal stimulus dimension (Barnes & Roche, 1996; Barnes-Holmes & Barnes-Holmes, 2000). When this occurs, the relational response can now be arbitrarily applied to a range of other stimuli, even when their non-arbitrary properties (e.g., actual size) do not occasion the relational response.

The evidence for relational operants of this kind is growing. Up until recently the evidence was indirect, namely, demonstrations that DRR develops (Lipkens, Hayes, & Hayes, 1993), comes under antecedent contextual control (Dymond & Barnes, 1995; Steele & Hayes, 1991; Wulfert & Hayes, 1988) and comes under consequential control (Healy, Barnes-Holmes, & Smeets, 1998; 2000; Wilson & Hayes, 1996). Recently, however, this central claim of RFT has been tested directly in studies that have shown that reinforced multiple exemplar training can give rise to frames of opposition (Barnes-Holmes, Barnes-Holmes, & Smeets, 2004), comparison (Barnes-Holmes, Barnes-Holmes, Smeets, et al., 2004; Berens & Hayes, 2005), and even coordination (Luciano et al., 2005) in children who did not previously show the performances.

**Relational Frames**

The concept of a relational frame, like that of any operant, is both an outcome and process concept. A relational frame is a specific form of DRR that is not based solely on the form of the relata, and is due to a history of reinforcement for DRR in the presence of the contextual cues involved. Examples of specific relational operants are frames of coordination (including equivalence and similarity); comparison (including more-than and less-than); distinction; opposition; hierarchy; and deictic frames (Hayes et al., 2001). While the specific histories may involve subunits, it is only when DRR shares the three defining properties of mutual entailment, combinatorial entailment, and the transformation of stimulus function (reviewed in the previous articles in this volume; Hayes et al.) that a full instance of relational framing has been emitted. Deriving arbitrarily applicable relations among events is thought to be
controlled by a relational contextual cue (called C_{rel} for short; see Steele 
& Hayes, 1991, for an example) and the transformation of stimulus 
functions is thought to be controlled by a functional contextual cue 
(called C_{func}; see Barnes, Browne, Smeets, & Roche, 1995; Wulfert 
& Hayes, 1988, for examples).

The reason relational framing is argued to involve a new behavioral 
principle is that as an empirical matter, relational frames alter other behav-
ioral processes. For example, suppose a person learns that “A is 
more than B and B is more than C” and a reinforcing function is then at-
tached to B (e.g., by pairing it with access to reinforcers). It is likely 
thereafter that A will acquire an even greater reinforcing function and C 
a less reinforcing function in the absence of explicit training, because of 
its participation in more-than/less-than relations with B (Dymond & 
Barnes, 1995; Roche & Barnes, 1997; Roche, Barnes-Holmes, Smeets, 
Barnes-Holmes, & McGeady, 2000). This transformation of the stimu-
lus functions of A and C cannot be explained by processes of stimulus 
generalization because it is not based on formal properties of the related 
events. It cannot be explained by conditioned reinforcement because 
both A and C are paired with B, but the effects differ. Furthermore, if 
this effect depends on relational operants, it is based on a learned pro-
cess, unlike stimulus generalization and conditioned reinforcement in 
which only the instances, not the process itself, is learned.

This “new principle” does not explain relational framing—it is argued 
to be an empirical implication of this phenomenon. Although the jury is 
still out on this issue within the behavioral community, there is a rapidly 
growing body of empirical evidence on this point, and so far as we know 
there is no well-developed and coherent alternative that has been used to 
explain RFT data of this kind. Furthermore, as should be the case with 
any pragmatically useful behavioral theory, RFT researchers and ap-
plied practitioners have been able to manipulate the contextual vari-
ables argued to control such processes in order to achieve applied goals. 
Thus, while the basic researchers continue to struggle about the weight 
of the empirical evidence, applied behavior analysts are using these 
ideas now to make an applied difference in the analysis of complex 
forms of human behavior. It is to such topics that we now turn.

Rule-Governed Behavior

Consider the following example of a rule provided by others. A man-
ger instructs a group of employees as follows: “If you manage to sell 
100 or more units of the product this month you will receive a bonus of
In this case, the stated rule would appear to be simple because all of the important aspects of the contingency are stated, including: a temporal antecedent; the topography of the target response; the type of consequence; and when it will be delivered. Furthermore, the rule may well alter the function of selling 100 units (i.e., at least some employees will work harder that month to achieve the specified target). Nonetheless, although relatively simple, it is difficult to explain how the type of contingency specified here could generate the desired behavior through direct training alone, because delayed consequences such as these are relatively ineffective without verbal rules. Furthermore, the rule may be effective for an employee who hears the rule for the first time (i.e., without a direct history of reinforcement for following the rule).

It is these issues that led Skinner (1966) to suggest the concept of rule-governed behavior, but he was unable to provide a technical account of what it meant to “specify” a contingency (Hayes & Hayes, 1989). For RFT, an analysis of the rule in the previous example requires: (1) an identification of the relational frames involved and the contextual cues that occasioned the relations, and (2) an analysis of the functions of the events that are transformed through these relations and the cues that occasioned the transformations. In this example, the specific relational frames involved include: coordination relations between words and actual objects (e.g., “product” and actual products) and events (e.g., “selling” and the act of selling); and if-then relations that specify the contingent relations (i.e., if sell 100 + units then $1000). In terms of the transformations of function, the phrase “sell 100 or more” alters the behavioral functions of selling the product, and thereby provides the necessary motivative functions specified in the consequence. According to RFT, therefore, rules may be defined as examples of relational networks and transformations of function that are more or less complex (Barnes-Holmes, O’Hara, Roche, Hayes, Bissett, & Lyddy, 2001). As is shown by Haas and Hayes (this volume), the functional transformations that result can be quite counterintuitive, which is why an analysis of the underlying relational performances is not just possible but often necessary.

For the listener who follows a rule, the co-ordination between the original relational network that constituted the rule and the relations sustained among the events specified, provides an on-going source of behavioral regulation. In the example provided here, for instance, a salesperson might compare her selling behavior with that specified by the rule and decide that she is satisfactorily following the rule. In techni-
cal terms, she derives a relation between two derived relational networks—the network in which elements of her behavior (e.g., gaining between 25 and 30 sales per week) partake and the network in which elements of the behavior specified by the rule partake (e.g., that at least 100 sales are required to meet the monthly target). If these networks are co-ordinate then the relation ‘I am following the rule’ is derived. While the number of units that she has sold is under the figure of 100, a less than relation will be derived between her performance and the ultimate goal specified by the rule, which may maintain a high level of selling behavior throughout the month. When she eventually derives a relation of co-ordination between units of product sold and the sales figure specified by the rule then the further relation ‘I have successfully completed the task’ will likely be derived.

Although rule following may involve repeating the rule, from an RFT perspective this is not essential for the rule to be followed and indeed it is even possible (if perhaps not common) that the exact rule as stated may be “forgotten” except in the form of the changed stimulus functions left behind by the rule. Because the elements specified in a rule may be actualized by the non-arbitrary environment (e.g., the phone and/or the computer that are used by the salesperson to sell products), these events themselves may participate in a relational network that corresponds to the original relational network that constituted the rule. It is through these relations of coordination between relational networks that a listener is able to determine whether or not the rule is being followed. According to RFT, therefore, the term rule-governed behavior describes instances in which a frame of coordination between two relational networks serves as a source of control over behavior (Barnes-Holmes, Hayes, & Dymond, 2001).

**Types of Rules**

The behavioral literature on rule-following describes three functionally distinct forms of rule following: pliance, tracking, and augmenting (Hayes, Zettle, & Rosenfarb, 1989; Zettle & Hayes, 1982). Pliance is rule-governed behavior under the control of reinforcement delivered by others based on a frame of coordination between the rule and behavior. Suppose, for example, an employer tells an employee that she must wear safety equipment. If the employee now wears the equipment because of a history of socially-mediated consequences for rule-following per se (e.g., authority figures such as the employer have previously maintained rule-following by reinforcing adherence to rules and regula-
tions and punishing failures to adhere) such rule-following may be categorized as an instance of pliance.

Tracking is rule-governed behavior under the control of a history of coordination between the rule and the way the environment is arranged independently of the delivery of the rule. To continue the same example, if an employee wears safety equipment in order to avoid being injured, the behavior is tracking. Both tracks and plies describe contingencies, but in the case of pliance the contingencies are contacted because coordination between the rule and behavior alters the behavior of the verbal community. In the case of tracking the contingencies are contacted because of the non-arbitrary consequences of the behavior—the form, frequency, or situational sensitivity of the relevant behavior produces the consequences specified or implied in the rule (i.e., when the employee wears the safety equipment, he or she actually avoids being injured).

Augmenting is rule-governed behavior due to relational networks that alter the degree to which events function as consequences. There are two types of augmentals. Motivative augmenting is behavior due to relational networks that temporarily alter the degree to which previously established consequences function as reinforcers or punishers; formative augmenting is behavior due to relational networks that establish given consequences as reinforcers or punishers. A simple example of a motivative augmental is ‘the future of the company rests on getting this order out on time.’ If this rule increases the reinforcing value of meeting the specified deadline, it is a motivative augmental. An example of a formative augmental might be ‘these vouchers can be exchanged for food items in the cafeteria.’ If the vouchers now function as reinforcers, the statement was a formative augmental.

**Why Rules Are Followed**

Relational Frame Theory also provides a number of reasons why rules that are stated and understood may still not be followed (Barnes-Holmes et al., 2001). First, the absence of rule following may result from insufficient control by nonverbal contingencies. For example, the target behavior may not be in the behavioral repertoire of the listener, such as when a salesperson does not possess the appropriate interpersonal skills required to maintain a high level of sales.

Second, the level of rule following may depend in part on the credibility of the speaker. For example, a manager that employees trust may be more likely to produce effective rule following in his or her subordinates than one who does not inspire such trust. According to RFT, this
type of credibility may be acquired verbally as well as directly by experience. For example, a manager who is regarded by an employee as ‘genuinely concerned for people’s safety’ may be likely to produce appropriate rule-following with regard to health and safety related rules because ‘genuine concern’ participates in a frame of coordination with the provision of accurate and worthwhile rules.

Third, the level of rule-following may also depend on the speaker’s authority and ability to mediate reinforcement. For example, an employee is more likely to follow the rules of a manager who engages employees in participative discussion and provides feedback or reinforcement for rule-following. In contrast, a manager who frequently provides rules without subsequently checking whether or not they have been followed may be less likely to establish appropriate rule-following in employees.

Fourth, rule-following may also be determined by the plausibility of the rule itself (see Hovland, Lumsdaine, & Sheffield, 1949). The plausibility of a particular rule may be either undermined or enhanced by the derivation of relations of distinction or opposition between the relational network constituted in the rule and other relational networks bearing on the same relata. For example, an employee may be instructed to use a particular sales technique that researchers have shown to be more productive in the longer term. However, working according to such a rule may produce disruption and lower levels of efficiency in the short term. In other words, the employee may derive a frame of distinction between the new rule and his or her practical experience which may weaken rule-following. Naturally enough, this is particularly the case where the new rule does not in fact produce better work practices than had been in operation previously. In this case, the credibility of the management is more seriously undermined.

These various factors combine with different functional types of rule-following. For example, while tracks depend heavily on the credibility of the speaker and the plausibility of the rule, plys may depend more on the ability of the speaker to mediate reinforcement that will compete with other sources of reinforcement. These issues are discussed in more detail and are applied to a classic area of OBM research in O’Hora and Maglieri in the present volume.

**Problem Solving**

In traditional behavior analytic terms, “problem solving may be defined as any behavior which, through the manipulation of variables, makes the appearance of a solution more probable” (Skinner, 1953,
p. 247). RFT provides a behavioral approach to verbal problem solving defined as framing events relationally in order to produce effective rules for action under the antecedent and consequential control of an apparent absence of effective actions. Strategic verbal problem solving, from an RFT perspective, involves verbally transforming the functions of objects and events so that effective responses are made more likely. The process of non-arbitrary features of the world entering into relational frames for such purposes is termed pragmatic verbal analysis. For example, imagine an employee trying to work out how to stack differently sized objects in a room in order to accomplish the most efficient use of space. He might know from experience or might have been told that the biggest items should be stacked first and then progressively smaller items stacked on top of them. The employee will thus start off with a rule such as ‘The biggest items come first’ and will then begin to compare different items. When comparing and sorting items, those which are non-arbitrarily bigger than most other items will come to control early selection responses and will be stacked first; items bigger than some but not as big as other items will be chosen next; and then the smallest items will be chosen last. Thus, the employee is operating under the control of a rule which itself regulates which non-arbitrary dimension (in this case, size) will provide further regulation of his behavior. Thus, while the relational operants involved are arbitrarily applicable in other contexts, they are controlled by non-arbitrary features of the situation (i.e., physical properties and relations).

Self-Rules

Problem solving rules are probably most often self-rules—rules which we devise and give ourselves in order to regulate our behavior. Although the RFT interpretation of rules provided by oneself involves the same basic processes as rules provided by others, ultimately analyzing the latter also requires an understanding of the RFT concept of self. According to RFT, self-awareness involves an individual “not simply behaving with regard to his behavior, but also behaving verbally with regard to his behavior” (Hayes & Wilson, 1993, p. 297; see also Dymond & Barnes, 1994, 1995, 1996, 1997). For example, a pigeon can be taught, using a direct history of differential reinforcement, to select a specific key contingent upon that pigeon’s immediately preceding schedule performance, but the absence of DRR renders the self-discrimination non-verbal. Put simply, verbally discriminating one’s own
behavior involves relational framing, whereas simply behaving with regard to one's own behavior does not.

Relational Frame Theory argues that derived relational responding makes verbal self-knowledge important and useful (Hayes & Gifford, 1997; Hayes & Wilson, 1993). For example, humans can verbally construct a future and plan for it in great detail, thereby increasing the chances of survival. However, RFT also argues that derived relational responding makes verbal self-knowledge emotional and difficult (Hayes & Gifford, 1997; Hayes & Wilson, 1993). Consider, for example, an individual who is unexpectedly passed over for promotion. Because of the coordination relations between work and promotion, many of the functions of his daily work routine may be transformed by this failure. In this way, his promotion failure is not just experienced aversively at the time it occurs, but can be carried for days, weeks, or even months into the future. Verbally, therefore, such an individual may fail psychologically at work everyday for months after failing to be promoted. According to RFT, this effect would not occur without verbal relations or the transformations of function. This interpretation also provides an example of how language processes might have particularly negative effects on an employee's experience of his or her job.

The negative effects of failure to win promotion might be measured by traditional I/O psychology researchers as low levels of self-efficacy or self-esteem. From an RFT perspective self-efficacy involves a frame of coordination between the required performance and the participant's verbally constructed ability to reach that performance. Suppose a listener is presented with the rule 'If you put in a better performance than other people in the office you will earn a promotion.' The listener may well understand the rule, view the speaker as credible and value the specified consequences but nevertheless not follow the rule if it occurs in the presence of a verbal network specifying that it is not possible to outperform these co-workers.

Self-esteem involves the presence of positive descriptors in coordination with self-related terms (e.g., 'I' or 'me'). If one experiences a series of career or life failures, or is simply told to expect them, such as the individual who consistently fails to gain promotion or is told by parents that he or she is a failure, it is likely that the self-relational network will cohere with such events.

These kinds of behavioral interpretations differ only at the level of process from traditional accounts. What is exciting about an RFT perspective, however, is that it suggests a far broader range of interventions. Within a traditional account the goal involves an increase of
self-efficacy or self-esteem. That is, it is the form of the relational network that is targeted through the presentation of $C_{rel}$ cues. From an RFT perspective there is another alternative: target the transformation of stimulus functions itself. For example, it may be possible to change how self-efficacy and self-esteem self-rules function. This possibility and the data in support of it will be considered in later articles in the present issue (Bond, this volume; Hayes et al., this volume).

**The Verbal Construction of Self**

According to RFT, verbally-sophisticated individuals produce a myriad of simple and complex self-directed rules on an on-going basis. These may range from a very simple rule such as “I must make sure to get up early tomorrow to be on time for the company meeting” to complex rules about major life decisions or issues. The ‘getting up early’ rule is a strategic one in which the outcome is clearly and simply specified and the role of the self is somewhat limited. For example, almost anyone could instruct the listener about what to do in order to get up early tomorrow.

More extensive issues of self, however, may be involved in the overarching patterns of behavior in which the strategic rule participates. For example, the individual in question may have noticed a recent pattern of tardiness for work, for which she has no immediate explanation. Nevertheless, getting up late for work may conflict with the individual’s ambitions to excel in her chosen profession. Complex issues such as these involve the self in a number of ways. First, they are all part of the on-going process of self-knowledge that includes becoming verbally aware of the time she arrives at work, feelings of guilt about being late, or ambitions about succeeding. Second, getting up on time for work may also involve a type of self-knowledge that RFT calls the conceptualized self, which in this case may involve a class of self-directed rules, including “I should always behave like a professional.”

In contrast to strategic self-directed rules, valuative rules also play an important role in the emotional lives of human beings. Consider a woman who is questioning the future of her career working for a particular company. She may dwell upon how unsatisfying her job has become and think about quitting her job if things do not improve. The relational network in this rule contains various terms that do not possess precisely controlled behavioral functions. For example, what exactly does it mean for ‘things to improve’? Furthermore, the outcomes of the
rule-following itself cannot be known. For example, what exactly will be the outcomes of either staying in or leaving the company?

One generic strategy available to an individual in the context of self-directed rules that are primarily valuative is to engage in additional relational activities that bring him or her into contact psychologically and emotionally with a range of possible outcomes. For instance, a close friend might ask the woman to try to imagine what it might be like to quit her current job, to attend perhaps multiple interviews, to experience rejection, and perhaps even end up earning less than her current salary.

According to RFT, self-directed rules that involve valuative problem solving require a highly complex sense of self that can be understood in terms of what RFT calls the three selves. Relational Frame Theory defines these selves as: the conceptualized self (i.e., the self as the content or object of verbal relations); the knowing self (i.e., the self as the ongoing process of verbal relations); and the transcendent self (i.e., the self as the deictic context of verbal relations, see Barnes-Holmes et al., 2001; Hayes, 1984, 1995).

The conceptualized self and the knowing self are relational networks that are relevant with respect to one’s score on measures of personality (e.g., warmth, tough-mindedness) and self-ratings scales (e.g., self-esteem, self-efficacy). If our disillusioned woman chooses to stay with the company largely on the basis of self-as-content, little or no contact may be made verbally with important consequences of her actions. For example, she may decide to stay with the company based on the self-directed rule that she is the type of woman who is absolutely loyal to her employer. In this case, the verbal construction of self (as content) as “loyal” dominates her problem solving, rather than the verbally constructed future of an increasingly unsatisfactory working life.

A decision to act based solely on self-as-process may also be problematic. For example, the woman may decide to leave the company prematurely because she has accurately recognized that she has been unhappy for some time. However, such a decision, based as it is entirely on self-as-process, does not involve constructing relational networks in which self-as-content plays a role. Thus, the woman may leave the company for purely “emotional” reasons without asking herself if she wants to be the type of person who leaves a job, for example, ‘when the going gets tough’?

Alternatively, the woman may act on the basis of self-as-context, thereby providing a stable perspective from which a more balanced decision can be made. Self as context simply involves observing events from the perspective of “I/Here/Now.” This sense of self is argued in
RFT to be the side effect of deictic frames in human language such as I-You, Here-There, and Now-Then (for evidence on this point see McHugh et al., 2004). Perspective taking of this kind draws a frame of distinction between the process of observing from a perspective and the content of what is observed. Thoughts, feelings, and reactions are now looked at instead of looked from— they are “there and then” being observed from “here and now.” This pattern of deictic responding creates considerably greater response flexibility. For example, the woman may notice the rich interplay of her history, thoughts of loyalty, sense of unhappiness, values and so on without having to resolve “contradictions” or ignore competing elements. This means that the dynamic between her other two selves (i.e., two generic relational networks pertaining to self) can be discriminated, and thus perhaps form a useful basis for future action. It may permit more contingency shaping to occur because it tends to undermine excessive rule control. As in mediation, that repertoire can be brought to bear on any event, verbal or non-verbal, which given the known tendency for rule-governed behavior to engender inflexibility (Hayes, 1989), can support greater psychological flexibility (see Bond, this volume; Bond et al. this volume).

**RELATIONAL FRAME THEORY AND INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

Relational Frame Theory provides a conceptual framework and body of empirical evidence that can be used to tackle basic and applied analyses of human language and cognition. Much of this work has opened up domains and issues in psychology that have received scant attention within the behavioral tradition. As a result, it becomes possible to address the areas within I/O psychology that were outlined at the beginning of the current article.

In the following sections we will return to each of these areas and present a brief RFT interpretation. The purpose here is not to provide a series of definitive RFT statements on I/O psychology, but simply to demonstrate how the theory can be used to understand and possibly guide future I/O research from a modern behavioral perspective. In each case we will also attempt to describe methods and interventions that are currently not being utilized in I/O psychology, so as to show how RFT can be used not just as an interpretive tool but also as a method for the detection of manipulable variables of organizational importance.
Job Satisfaction, Attitudes, and Behavior

*Satisfaction and attitudes.* Satisfaction is a rating of one’s feelings of well-being in relation to one’s job, whereas attitudes are evaluative tendencies towards a person, group, thing, event, or process that might include one’s job, job-related events, one’s boss, the company, and so on. Job satisfaction and attitudes are related and thus statistically correlated but they have been analyzed as separate phenomena in the traditional I/O psychological literature.

From an RFT perspective, there may be no functional distinction. RFT defines an attitude as a network of derived and explicitly reinforced stimulus relations, according to which the functions of events are transformed, that contains comparative frames. For example, a negative attitude towards one’s job might be seen as responding in accordance with a frame of coordination between the job and descriptive terms that participate in comparative relations such as ‘boring’ or ‘stressful’ (see Grey & Barnes, 1996; Moxon, Keenan, & Hine, 1993; Schauss, Chase, & Hawkins, 1997; Watt, Keenan, Barnes, & Cairns, 1991). If the relational network also contains causal or if-then relations, such as “I am dissatisfied with my job because I am so bored,” it is easy to see how job satisfaction and job-related attitudes are often highly correlated.

It is not surprising from a traditional psychological perspective that people’s explicit verbal behavior (e.g., attitudes or ratings) about their job or other phenomena correlate to some extent with their behavior (e.g., negative attitudes towards a job may correlate positively with absenteeism and staff turnover). Unlike other perspectives, however, RFT specifies conditions under which attitudes or other cognitions may be more or less impactful on behavior (Bond et al., this volume). It is quite possible to reduce the functional behavioral impact even of very negative attitudes and beliefs.

In Bach and Hayes (2002), for example, which presents a relatively dramatic illustration of this, psychotic patients were taught to change the behavioral functions of cognitive symptoms (e.g., hallucinations) by responding differently to those symptoms. More specifically, the patients were taught to simply observe the symptoms instead of attempting to suppress or avoid them. Patients receiving this form of intervention showed significantly higher symptom reporting, significantly lower symptom believability and half the re-hospitalization rate of patients not receiving the intervention. This intervention thus successfully changed the behavioral functions of these patients’ cognitions.
by manipulating the functional context ($C_{\text{func}}$). In a similar way, negative beliefs or attitudes concerning, for example, an often tedious though otherwise valued and important job, need not transform the functions of the job and make it more likely that one will perform poorly or leave the job, if the functions of negative thoughts are themselves changed through an RFT-based manipulation of $C_{\text{func}}$.

From an RFT perspective, the correlation between verbal events and behavior which seems ubiquitous in the behavior of verbal human beings is explained, in part, by the socio-verbal contingencies that maintain the literal meaning of verbal events, that explain behavior in terms of putative causes, and that reinforce the say-do correspondence between vocalized relational networks and overt behavior. By manipulating $C_{\text{func}}$ aspects of the environment, the statistical correlation between attitudes and behavior can be considerably reduced (see Hayes, Luoma, Bond, Masuda & Lillis, 2006, for a review of this literature). Thus it is quite possible to improve behavior, even if attitudes remain formally “negative.”

**Teamwork**

When an individual claims to be part of a social group, three relational phenomena are likely involved. These are the conceptualized self, the conceptualized other, and the conceptualized group. In each case, these are relational networks that develop over time as a person frames relationally in response to particular experiences. A verbally sophisticated individual will typically demonstrate a well-developed conceptualized self. In the same way, we also develop a verbal construction of the stable content of others’ views, history, actions, preferences and so on. Analogous to these verbal conceptualizations of self and other, but occurring later in verbal development, humans also develop and begin to respond in accordance with conceptualized groups. Behavioral regularities, such as nationality, religious practices, and so on, help to define conceptualized groups. A team may be thought of as a specific conceptualized group that is defined on the basis of, for example, declared aims, and agreed rules according to which said aims may be achieved.

A number of important psychological phenomena relevant to groups have been studied within the traditional I/O literature. Norms are one such phenomenon. Norms may be viewed as implicit rules for action. Most often these rules are inferred across multiple exemplars of behavioral correction? Occasionally, however, an explicit verbalization of the
normative rule is presented by fellow group members (e.g., ‘In this team everyone works hard’).

A second psychologically important phenomenon is that a group provides feedback to individuals regarding the ‘correctness’ of their opinions, beliefs, and actions (Festinger, 1954). From this perspective, ‘being right’ is one of the more highly valued consequences for most people because being right in a verbal sense results in social approval and status from an early age (Harre, 1993). According to RFT, ‘being right’ can be viewed as a verbally contacted consequence for verbal behavior itself. It is the verbal discrimination by a speaker or listener that what has been said is congruent with some other aspect of what has been said (e.g., ‘I am a good worker because I am punctual for work’) and with a broader verbal network (e.g., ‘In general, good workers are punctual’). Making such a discrimination requires advanced verbal skills because it involves relating verbal relations to other verbal relations and entire relational networks to other relational networks. If the derived relations and stimulus functions of two networks are similar from the individual’s perspective then the two networks can be said to mean the same thing, and as such, verbal coherence has been achieved.

A third psychologically relevant feature of groups (and perhaps of teams in particular) is group cohesion. Several factors have been identified that appear to determine strong intra-group bonds, such as attraction (e.g., Hogg & Hains, 1996), similarity (Goethals & Darley, 1977), shared perceived threats (Lanzetta, 1955; Turner, Pratkanis, Probasco & Leve, 1992), or shared values and norms (Cota et al., 1995; Zacarro & McCoy, 1988). It is not clear, however, why such factors would increase cohesion. Behavioral researchers have conceptualized the cohesiveness of groups in terms of the reinforcing effects of membership and the punishing effects of group desertion (see Cota, Evans, Dion, Kilik, & Longman, 1995), but these ideas do not appear to consider the clearly verbal nature of the reinforcing effects of group membership.

From an RFT perspective, factors such as status, a sense of belonging, and self-esteem are inherently verbal, and it is here that the importance of the conceptualized self, other, and group interact. Consider, for example, the impact of group membership on an individual’s self-as-concept if the group is coordinated with concepts such as “power” and “prestige.” In this case, some of the positively evaluated functions of the group may transfer to the self-as-concept due to the hierarchical relations between an individual and the group in which they participate, and the individual will literally feel more powerful for being a member, and perhaps others outside the group will be seen as possibly weaker in
some way. Individuals may experience this relatively early in life, when gaining entry to a school gang or a university fraternity, and this may facilitate subsequent ambition to seek prestige through group membership. For example, such an individual may work obsessively for years, sacrificing family and friends, for example, in order to gain entry to a highly prestigious company or institution. Such ambition is verbal in the sense that it produces possibly many social punishers, such as divorce and estranged children, and the putative reinforcer may be years in the future and indeed may never be obtained. Similarly, the punishing effects of abandoning a group are never contacted by those who remain within the group. In short, it appears that both positive and negative consequences of being part of a team are often verbally constructed (e.g., “If I was a Harvard Professor I could be so much better than I am right now”) and it is these verbal constructions that play a major role in determining group cohesion.

Another variable that seems to be important for group cohesion is the discrimination of any shared features (e.g., values or beliefs) across group members that lead to a strengthening of the conceptualized group as a verbally constructed entity. In technical terms, such abstracted similarities can increase cohesion because they serve as contextual cues for frames of coordination and/or hierarchical class membership being applied to group members. This may be an important relational or verbal phenomenon that helps to explain why traditional I/O research has consistently found that diversity in teams frequently has negative effects on team effectiveness. In fact, of various demographic variables studied, including age, gender, ethnicity and job tenure, only functional diversity (i.e., differences between group members in terms of knowledge, skills and abilities) has been found to be positively related on a consistent basis with both performance and satisfaction (Williams & O’Reilly, 1998).

The barriers to group cohesion from an RFT perspective are functionally important frames of distinction between the group and the individual with regard to group norms, values, and purposes. Several RFT consistent actions should reduce the dominance and relevance of these relations. For example, self-as-context emphasizes frames of coordination between an individual and others. Seeing the world “from behind your eyes” I/here/now necessarily involves deictic frames that permit seeing the world from the “I/here/now” perspective of another. A defused and pragmatic use of language reduces the dominance of “being right” as the primary measure of verbal success—rather language is a shared tool that can get things done. Values clarification from an RFT
point of view allows individuals to “own” their values rather than viewing them as imposed by others (which reduces counterpliance against group values). Thus, RFT-based interventions should allow the construction of more effective teams—a possibility that is only now being examined (e.g., Hayes, Bissett et al., 2004).

In Hayes et al. (2004), a package of methods including defusion and values clarification was shown to be successful in reducing stigma and prejudice towards recipients of behavioral healthcare. Similar methods might be harnessed to construct and shape more effective teams, when the job is not to reduce stigma and prejudice but to create empathy with other team members and strengthen loyalty to the team. As discussed above, defusion, or $C_{\text{func}}$ manipulation, is important in that it allows one to see the world from the perspective of another, referred to as empathetic responding. Values clarification is important in that it helps one to verbalize one’s own values and decide how they fit in with those of the team. The effectiveness of both these interventions is predicted by an RFT approach to human behavior.

**Organizational Culture and Organizational Development**

Organizational culture is an important phenomenon that can directly affect both worker satisfaction as well as company performance. One very important influence on organizational culture is to be found in the explicit rules provided by management as to the conduct of affairs within the company. These explicit rules shape the behavior of people within the organization and give rise to implicit rules or norms. These implicit rules form a complex relational network, which itself may participate in a hierarchical relation with the descriptor “company ethos or philosophy,” for example.

There are various types of explicit rules. One very general type of rule is the mission statement (e.g., ‘We strive to provide the best service possible to the customer’). Explicit rules such as this shape behavior directly by instructing staff to take good care of customers and indirectly by providing an ethos of duty and hard work analyzable in terms of implicit rules or norms such as ‘Staff should be punctual,’ ‘Staff should work hard,’ and so on. Apart from the very general mission statement, there are more specific explicit rules dealing with various aspects of life in the organization such as rules for promotion, rules for joining unions, safety rules, etc. These rules will also act to determine the culture of the organization as well as providing the basis for further implicit ‘norm’-type rules. For example, with regard to safety a great number of
explicit rules will guide behavior and make the organization a safer place in which to work, and may contribute to an organizational ethos in which there is a feeling that management is concerned with the health and safety of its workers. In other words, implicit norms such as ‘Workers should be safe in whatever they do’ may arise. Workers in that kind of organizational ethos may feel more highly valued than workers in a company in which safety is not a core part of the culture. It seems likely that this sense of being more highly valued in a safety-conscious organization is largely verbal because it derives from formal rules (e.g., the company’s safety code) and probably involves “if-then” relational frames—“if management are concerned about safety then they must care about the well-being of their employees.”

One study has been conducted on organizational attitudes that was explicitly driven by RFT conceptions. In this study, Clayton (1995) identified beliefs commonly held by workers in a human service organization about their work environment. The executive director of the organization gave a persuasive speech that attempted to move these beliefs toward a more desirable end. The scripted speech used two methods. In one case, the desired attributes of the organization were instructed. In the second, the desired attributes were instructed but were linked to the undesirable attributes already held to be true by the workers. Desired attributes were randomly assigned to each condition and the speech was scripted accordingly. To give one small example, one goal was to have a work environment that was believed by workers to be creative and caring. ‘Creative’ was assigned to the negative attribute condition; ‘caring’ to the instruction only condition. Pre-testing had shown that the workers believed that the work environment was chaotic. Thus, the speech included the statements ‘This is a caring place—we care about our clients. And yes, it is a bit chaotic, but that gives us the freedom to be creative in meeting our clients’ needs.’ Testing showed that worker attitudes changed more when desired positive organization attributes were linked to existing negative beliefs. This effect is predicted from RFT concepts since it should be much easier to elaborate an existing verbal network than to establish a new network that may literally conflict with the existing one.

Leadership

Models of transformational leadership place emphasis on the role of the leader as someone who ‘manages meaning’ and defines organizational reality by articulating an organization’s mission and the values
that will support it. Thus, one way in which to understand the role of the leader is to see it as involving selling the mission of the organization to various parties including the workforce, management, and customers. For this job, the most important psychological tool is persuasion and/or rhetoric.

In trying to persuade employees to take a course of action the leadership of an organization might use motivative augmentals to increase the value of verbally constructed consequences. Such motivative augmentals aim to bring the listener into direct emotional (i.e., non-arbitrary) contact with verbally constructed consequences of their actions. For example, imagine a situation in a company in which industrial action is threatened. The company leadership might exhort the workforce as follows: ‘If you go on strike it will make the situation a lot worse for the company and for everyone who works here. The company will not be able to afford it and could go out of business resulting in massive job losses.’ Meanwhile the union might claim: ‘If you do not go on strike the injustices that have been endured by the workforce will continue and worsen and eventually many of us may lose our jobs.’ In both cases, ‘if-then’ relations are used to increase the value of verbally constructed consequences; in non-technical terms, to play on the worst fears of the workers.

Another technique that might be used by either management or union leadership involves the showcasing of the listener’s verbal incoherence. Good speakers/rhetoricians know that verbal incoherence functions as a punisher for most individuals. Put simply, nobody likes to feel foolish or confused. The rhetorician may thus find ways to actualize the frustrating functions of two incoherent verbal relations that are produced by the listener. For example, the management in the previous example might exhort the workforce thus: ‘People who care about the future of this company will not go on strike.’ Here the worker must respond to a verbal relation (the exhortation) that does not cohere with other relations in his or her verbal repertoire (e.g., ‘I care about this company and I am going on strike’). If verbal coherence is to be maintained then one of the two verbal relations must change (see Festinger, 1957). If effective, the rhetorical devices used by the leadership of the company in our example will be powerful enough that the verbal behavior of some employees will be transformed such that coherence is achieved. For others, however, previously established verbal relations such as ‘the company management is fundamentally untrustworthy and will say whatever is needed to stop a strike’ will reduce the impact of the exhortations of the management. Thus, in this latter case there is no relational incoherence
because the company management’s statements in the context of an impending strike are not to be believed.

One potentially effective means of countering widespread distrust of the leadership may be provided by a relatively simple form of rhetoric that involves the weakening of psychological functions maintained by verbal relations. It is necessary for rhetoricians to achieve this because, as Hovland et al. (1949) established, individuals are slow to respond positively to messages that compete with their beliefs and opinions. For illustrative purposes, let us consider the example of a newly appointed executive director who is taking over leadership of an organization from a previous director who was unpopular with and distrusted by the workforce. The new director has to make a speech to the employees but they are skeptical about her ability to improve things. In facing this challenge she has to contend with many problematic socially established verbal relations such as ‘the management is untrustworthy.’ Once such relational frames are established, it is difficult for the director to say anything without actualizing the functions of ‘untrustworthy’ for at least some members of the workforce. That is, her title as a manager and her actions as a director, at least initially, will acquire some of the functions of the previous unpopular director via a frame of coordination (because they are both labeled ‘director’). One rhetorical means by which the functions of the ‘you-cannot-be-believed’ relational network can be weakened, however, is to elaborate the existing relational network (as demonstrated in Clayton, 1995, for instance) and to use terms and phrases that coordinate with trustworthy individuals and that participate in frames of opposition with dishonest leadership. An example might include ‘I know that the previous director was not completely honest with you (thus elaborating the network), but I hope that we can all work together in an open and transparent way to move this company forward.’ A statement such as this serves to reinforce the prevailing view of the workforce, but elaborates the network in the direction of working together. The first part of the statement coordinates with the workforce’s existing relational network, and thus the latter part of the statement is less likely to actualize functions of dishonesty (because it would produce a possibly incoherent network).

The new director is unlikely to weaken the problematic ‘dishonesty functions’ by contradicting them directly. RFT provides a sound rationale for this. Any direct reference to dishonesty itself is bound only to actualize the relevant functions, even when the term is placed in a frame of opposition with the present leadership. In the same way, it is impossible to literally follow the rule ‘do not think of a pink elephant’ because
in order to do so one must first respond covertly to the visual perceptual features of a pink elephant. Thus, a poor way for the director to generate trust may be to start by using the phrase ‘trust me’ because the phrase may actually serve to strengthen the problematic functions of dishonesty attached to the leadership.

**CONCLUSIONS**

In the current article we have attempted to show how both the basic and applied sciences of behavior analysis are being transformed by the modern behavior analytic research agenda in human language and cognition. The traditional behavioral view of human behavior, in terms of direct operant and respondent contingency analyses, appear inadequate in a modern light, particularly when it comes to explaining complex human behavior such as is found in the context of I/O psychology. A more complete analysis and understanding of such behavior requires that we deal with the inherently relational nature of human language and cognition. RFT concepts, such as relational frames, relational networks, rules, problem-solving, and self provide a behaviorally coherent conceptual and empirical framework, for developing a modern behavior analysis of I/O psychology. On balance, we are only at the beginning of what needs to be done. Much of the basic studies in RFT are focused on very simple relational networks, and only the most recent studies have examined such high level processes as rule-governance, and the verbal self. Moreover, new research programs are needed that directly target RFT analyses of key psychological processes in the I/O environment. The conceptual tools are available and in other areas of application the empirical studies are rapidly being done. The same has begun to occur in organizational behavior, but it is not yet clear whether OBM will begin more comprehensively to apply these conceptual and empirical tools wholeheartedly.

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