JOURNAL OF ORGANIZATIONAL BEHAVIOR MANAGEMENT
2023, VOL. 43, NO. 2, 162–188
https://doi.org/10.1080/01608061.2022.2099504

Routledge
Taylor & Francis Group

On Terms within Organizational Behavior Management

Douglas A. Johnson [a] and Rachael Ferguson [b]

[a]Western Michigan University, Psychology, Kalamazoo, Michigan, USA; [b]Florida Institute of Technology, School of Behavior Analysis, Melbourne, Florida, USA

ABSTRACT

Understanding the distinction between organizational behavior management and similar performance improvement initiatives requires an understanding of the field's conceptual system. The components of the field's conceptual system are the individual concepts and principles that compose our terminology. To introduce novices to an understanding of the field, this paper seeks to review various basic terms and highlight how they may help us explain behavior within organizational contexts. Furthermore, the paper also features several considerations and nuances important to bear in mind when applying terminology to actual cases.

KEYWORDS

Organizational behavior management; terminology; radical behaviorism

What distinguishes organizational behavior management (OBM) from other applied science fields? This question has been the subject of many student inquiries, conference panels, academic mailing lists, and social media group discussions. Members of the OBM community claim expertise on applying science to solve concerns of people, but so can a variety of disciplines such as sociology, economics, and political science. OBM professionals can narrow the scope further, arguing that OBM applies a science of behavior to solve concerns specific to workplace settings, but that will not distinguish OBM from overlapping disciplines such as industrial-organizational psychology. As such, the subject matter does not make for a clear distinction. One could use credentials as a distinguishing mark (Luke et al., 2018; Weatherly, 2021). However, an expert without credentialing remains an expert and sometimes those credentialed are of questionable quality. Disciplines exist independent of credentialing agencies; credentials should not be confused for the field itself.

One could search for differences related to specific topics, types of interventions, and methodologies typically seen within the disciplines (Bucklin et al., 2000). However, whether a discipline addresses areas such as selection and placement or performance management is likely the product of normative trends from historical origins of that discipline (Brethower et al., 2022; Dickinson, 2000), rather than inherent distinctions. For example, performance appraisals, employee attitudes, equity issues, and decision making could all be

CONTACT Douglas A. Johnson behavioranalyst@gmail.com Psychology, Western Michigan University, Kalamazoo, Michigan 49008-5331, USA

addressed by an OBM practitioner or researcher, even though these topics have more typically been concerns of traditional industrial-organizational psychology. Similarly, methodological differences (e.g., between group vs. within-subject designs; correlational vs. experimental designs) are also likely the product of history – nothing precludes an OBM researcher from utilizing designs typically seen in other disciplines (Erath et al., 2021). Regarding independent variables, it is questionable whether a *behavioral* intervention (that is, specific to OBM or behavior analysis in general) exists because procedures are atheoretical in nature. One cannot tell from a feedback intervention whether a behavior analyst, cognitive scientist, or humanistic psychologist was the one who implemented it (although one might guess based on normative trends). Empirical data and applied techniques are routinely developed by all scientific approaches to human behavior.

The difference between fields largely lies within the explanations employed by those working in those paradigms. OBM is defined by conceptual systems explaining why techniques function as they do (i.e., behavior analysis). Without a unifying theoretical framework, a field can quickly devolve into a collection of tips and tricks indistinguishable from competing approaches (Baer et al., 1968). This is probably why it can be quite contentious when professionals propose new conceptual frameworks – to tamper with a conceptual framework is to mess with the very identity of a discipline. As such, it is critical to connect procedures to the principles of behavior to ensure an integrated expansion of OBM. To fail to do so risks losing the identity of the field itself. To that end, this paper will survey concepts and principles that provide the foundation of OBM, use examples within the framework of these concepts and principles to highlight their relevance within the workplace for readers acquainted with behavior analysis (but not yet specialists in OBM), highlight terminological considerations that might be neglected by even the most experienced OBM professionals, and to encourage a continuation and expansion of conceptual analyses within the field. This paper will presume an existing familiarity with definitions of basic behavioral terminology (e.g., behavior, stimuli, respondent conditioning, operant conditioning, reinforcement), define more advanced concepts and principles, and illustrate how both basic and advanced terminology relates to the research and practice of OBM. For any readers not familiar with basic terminology, we would refer them to several excellent introductory textbooks (Chance, 2014; Cooper et al., 2020; Madden et al., 2021; Martin & Pear, 2019; Michael, 2004; Miller, 2006).

The basic units of behavioral relations being applied to OBM

The core unit of analysis within OBM (and behavior analysis in general) is the contingency (behavior itself is not our subject matter, despite the semi-misleading names of our disciplines). Of course, to fully understand a

contingency, it is imperative that we understand the elements of a contingency, namely responses and stimuli, apply to workplace scenarios. Although behavior analysts often speak of targeting behavior, in practice it is more typical to target a response class. This involves a variety of responses that produce the same outcome, even if the particulars of the response may vary. For example, a consultant or researcher may target suggestive selling of appetizers to customers in a restaurant (Reetz et al., 2016). Although servers may emit a range of distinct behaviors, such as phrasing suggestions in various forms (e.g., "would you like to add fries or onion rings?," or "can I interest you in one of our appetizers?"), suggesting an appetizer early or late in customer interactions, stating suggestions quietly or loudly, speaking rapidly or slowly, or stating requests once or multiple times, these specific response variants fall into the same general response class (i.e., suggestive selling) that produces the same outcome (i.e., customers provide or withhold their assent to requests). Not only can the behaviors vary while serving the same function, the size of the behaviors that are being analyzed can vary as well. Such units of behavior vary dramatically, ranging from discrete isolated actions such as touching, grasping, or twisting (Twarek et al., 2010) to broader collections of actions such as stealing, rapport building, or marketing (Curry et al., 2019; Porto & Foxall, 2019; Rafacz et al., 2011). Over the years there has been a growing movement to analyze units of behavior that occur across individuals (by looking at series of interacting contingencies), particularly when analyzing cultural level phenomenon (Glenn et al., 2016).

Although debates have long occurred regarding whether it is best to conduct analyses using smaller moment-by-moment units (molecular) or using larger aggregated units (molar) of behavior (Baum, 2002; Shimp, 2014), it should be noted this is not necessarily a dichotomous choice. If we consider behavior along a continuum, nearly all instances can be broken down into finer grade collections or accumulated into an amalgamation of actions. The useful unit of analysis is the one that permits us to observe and manipulate predictable relations among events (Palmer & Donahoe, 1992; Skinner, 1935), regardless of a narrow or broad vantage point.

It is not uncommon for OBM professionals to focus exclusively on outcomes (thus inferring behavior from its product), such as checking to see if lights were left on or off (Clayton & Nesnidol, 2017). In fact, Gilbert (1996) argued that OBM professionals should not just target behavior, but rather the focus should be on worthy performance instead (in which value produced by outcomes exceeds the time and effort of the behavior). Indeed, it is rare for us to focus on behavior irrespective of surrounding contexts or needs of the organization. However, focusing exclusively on outcomes alone carries risks. For example, it may be tempting to focus on sales numbers alone (inferring the behaviors that produced the sales), but the risk is performers may have produced outcomes through undesirable means (e.g., false promises to

customers, distorting records, neglecting long-term investments in favor of short-term payoffs). Conversely, focusing exclusively on responding may produce behavior irrelevant to organizational goals. Thus, we generally recommend measuring both behavior and outcomes. Finally, it is important to distinguish between a state and behaviors that produce a state. For example, "being asleep on the job" is a state, not a behavior (Blampied & Bootzin, 2013), therefore "being asleep on the job" is not an appropriate target for behavior change. However, the state of interest may have many related behaviors that could be targeted for change (e.g., leaning back in chair, closing office blinds, shutting eyes). The distinction between states and behaviors that produce states is relevant for a variety of workplace examples (e.g., the state of being alert, the state of being safe).

Besides behavior (whether observed or inferred), the other important component of a contingency is a stimulus. There are several important nuances worth discussing when trying to understand stimuli in organizational settings. Although we may refer to an antecedent or a consequence as a stimulus, in practice we are often talking about stimulus classes. For example, we may tell employees that when they see customers enter the restaurant, they should smile and talk with these customers (Komaki et al., 1980). In this case, "customer" is not a particular antecedent (i.e., not just a single individual), but a stimulus class containing vast numbers of widely differing people, all who belong in the category of customer. A "quality product" might also be a stimulus class, although how wide or narrow this class is depends on a company's range of acceptable tolerances for quality. Positive feedback might be a stimulus class that could be used as consequences for performance. Some suggest it is important to ensure that feedback varies by design, for a lack of variation may render the consequences ineffective (D. A. Johnson et al., 2015). For example, saying "great job!" every time as a consequent stimulus is likely to appear rote and insincere, therefore the class membership of positive feedback should contain various supportive statements.

Another important nuance of stimuli relates to sources of change – changes in the environment can be internal or external to the person. Put differently, the stimulation that occurs within our bodies also count as stimuli, even if these cannot be perceived by anyone outside of the person experiencing the sensation. These include covert events such as pain, a racing heart, contraction of stomach muscles, and other physiological events. Covert verbal events (e.g., sound of one's private dialogue, physiological sensations) also serve as stimuli and are critical to understanding many complex forms of behavior. This understanding of the private world is particularly important when interacting with verbally sophisticated individuals, which is routine within organizational settings. A willingness to include covert events is a defining feature of modern behavior analysis (Skinner, 1945), a fact often missed by critics who erroneously suggest the field excludes thoughts and feelings. However, internal

events are still conceptualized as physical events; the field eschews mentalistic constructs and states (such as drives to succeed, expectancies, laziness, mental storage devices, schemas, etc.). Behavior analysis, and by extension OBM, is successful by exploring both simple and complex relationships between stimuli and responses without adding unnecessary and misleading elements.

Relations among basic units: respondent conditioning

One of the most basic types of relations between stimuli and responses are respondent relations. Respondent conditioning is sometimes overlooked in OBM and often neglected in textbooks, yet it can still play an important role in many organizational situations. Activation of the sympathetic division of the autonomic nervous system is an example; an environmental event causes multiple physiological changes including increased heart rate, directed blood flow to skeletal muscles, and other activities to increase arousal and energy generation (Poling & Braatz, 2001). This physiological syndrome can occur as an unconditioned response to life-threatening or intense stimuli or as a conditioned response due to other stimuli being regularly paired with such events. Such respondent conditioning underlies emotional reactions, anxiety, and affective behaviors of employees, which some cite as the greatest problems for managers (Scott & Podsakoff, 1985). In the realm of safety, another example of respondent conditioning is seen with habituation (in which chronic exposure to an unconditioned stimulus weakens typically elicited responses). Persistent alarms result in weakening startle responses and ultimately a failure to attend to dangerous threats (Lebbon & Sigurdsson, 2017).

The literature has long demonstrated attitudes can develop through respondent processes (Kuykendall & Keating, 1990; Staats & Staats, 1958). For example, punishment and negative evaluations often elicit negative emotional responses. If performance measurement or feedback sessions are only paired with punishment and negative evaluations, it is not surprising when employees develop negative attitudes toward any proposed measurement or feedback systems (Choi et al., 2018; Daniels & Bailey, 2014). Such attitude developments are not limited to interventions, but also impact how employees feel about certain people, tasks, items, practices, and policies (Scott & Podsakoff, 1985). Poling and Braatz (2001) give the example of an executive who chooses to only deliver good news to subordinates and delegates delivery of bad news to an underling. A probable outcome of this scenario is the executive is well-liked, whereas the underling will be discomforting to the employees. If implementation of a new technology or new set of social conduct standards threaten employees' status within an organization – if not their job entirely – then employees may show hostile attitudes and even try to sabotage new initiatives (Davidson & Walley, 1985). Even mention of an associated word or phrase (e.g., LMS system, diversity training) may elicit emotional reactions for those not

well-versed in the new organizational practices. Persistent negative emotional reactions have been linked to stress, turnover, and burnout, whereas positive emotional reactions have been linked to satisfaction, job security, and productivity (Filipkowski & Johnson, 2008; Lawson & O'Brien, 1994).

The important issue is to learn how to carefully use pairing and unpairing to create more favorable respondent relations. Undesirable respondent relations can be undone via exposure techniques (Paradise, 1984), whereas desirable respondent relations can be formed through programmed pairing. For example, many attempt to influence others via a luncheon technique, in which individuals attempt to pair themselves with free food (Cialdini, 2009). Examples may include salespeople trying get buy-in with potential clients over food or executives holding meetings during lunch, so that the favorable feelings that food elicits will transfer to the people who shrewdly bought such meals. Of course, this may not be successful if preexisting negative relationships already exist. For example, N. Brown and Redmon (1990) arranged for employees to have the option of a paid lunch with their supervisors (among a variety of options for winners of a lottery incentive system), but only 3 out of 60 employees ever selected the free lunch and managerial feedback session.

There are some important considerations when analyzing respondent relations within organizational settings. One is that most relevant examples of respondent employee behaviors may be covert in nature. As such, we must rely on self-reports of internal states, typically via survey methodology. For a variety of reasons employee descriptions of themselves may not be accurate (Filipkowski & Johnson, 2008), therefore it is important to consider various overt correlates. Finally, respondent conditioning cannot create new behaviors, but only extend preexisting behavior to new sources of control (Michael, 2004; Poling & Braatz, 2001). Most behaviors of interest in OBM are quite dissimilar to our inherited relations. As such, we now turn to operant relations, in which behavior is controlled, at least in part, by consequences.

Relations among basic units: operant conditioning

The ability of a performer to operate on their environment to produce an effect makes the person an active participant in their ever-changing world, with the person changing their environment and, in turn, that environmental change altering that person. This succession of experiences leads to an accumulation of behavioral relations in new environments, including the workplace. This notion may best be captured by the concept of a repertoire – the collected and enduring tendency to behave under specific circumstances (Palmer, 2009). It is a construct we use to describe the potential behavior of an individual, which arises from a history of being exposed to contingencies. Without an organism's behavior, there is no repertoire. Without the environment, there is also no repertoire. The concept lies in the interaction between the two. We do not

study responses, but rather response relations. The repertoire does not sit idly by in some other dimension within a warehouse of skills or a bag of tricks, waiting to be called forth into our world. Unfortunately, our native languages tend to lead to misinterpretation, especially with operant relations. It is important to avoid reification with the term repertoire – it is an abstraction to describe the effect of historical events, not a thing, place, or storage container. It is a strange convention to ask where a response is residing when it is not being emitted. With respondent relations, we do not ask where the blink resides when there is no irritant in the eye or where the knee jerk resides when the patellar tendon is not being tapped (Skinner, 1957). It is equally misleading to ask where the response resides when our analysis involves operant relations. Even though the repertoire is a construct, we need to not forget what type of construct it is. It is a term to summarize vast and complex environment-behavior relations that accumulate over the lifetime of the individual. It is not an internal construct that initiates action from a place separate from the physical world, a type of explanation behavior analysis has long opposed (Skinner, 1950). Instead, our discipline seeks to develop explanations that place both seen and unseen events at the same level of the natural and physical world. It is easy to forget as everyday verbal practices (e.g., grammar structures that place the initiation of action only within the individual, such as "I begin" or "we decided") seep into our more precise analyses and scientific explanations.

One outcome of viewing a repertoire in a non-mentalistic manner is we stop viewing behavior as an independent entity initiated by forces within. For example, after training it is tempting to view established knowledge, skill, or ability as a collection of things carried around with employees. However, trained behavior exists in relation to training environments and therefore is dependent on trained surroundings (or surroundings with sufficient common properties). New environments, such as daily workplace settings, will not evoke or maintain trained behavior if conditions or contingencies are too dissimilar, a finding well-known to those who have struggled with transfer of training or maintenance (Brethower & Smalley, 1998; Conard et al., 2016).

One implication of the perspective that behavior is a function of the environment is that much of our behavior is not the result of capricious free-will (Johnston, 2014). This assertion is controversial, especially with those who prefer to explain their successes and decisions in terms of self-determination, genetic makeup, or other innate factors. Thus, an OBM professional should be sensitive to how they communicate with others. Any professional who places a high degree of value on their "self-made" accomplishments may feel threatened or angered by assertions that the environmental history was the primary contributor to their success, rather than their traits or spontaneous choices (Crawley et al., 1982).

Types of consequences

Reinforcement

The supportive consequences mentioned above are considered a form of reinforcement. This principle is foundational to the field of OBM given the focus is primarily on increasing desired behavior (Austin et al., 1999). Experts have identified reinforcement as one of the most popular OBM interventions (Daniels & Bailey, 2014). This is perhaps one reason why reinforcement was determined the most common behavioral principle in a review of studies published in the *Journal of Organizational Behavior Management* (DiGennaro Reed et al., 2016). Common reinforcers include performance feedback, praise, monetary incentives, and symbolic tangibles such as plaques or trophies (Alvero et al., 2001; Daniels & Bailey, 2014). Consider the issue of compensation: workers can be paid on individual piecework and on group performance through gainsharing (Dixon et al., 2004). From a broader perspective, both systems might be reinforcing if they are performance-contingent and lead to increases in performance following their delivery. See, Bucklin et al. (2022) for details on implementing various incentive systems. With all potential reinforcers, it is critical to conduct preference assessments to increase the likelihood that consequences will function as intended (Wine et al., 2014).

Extinction

We would be remiss to discuss reinforcement without also exploring extinction within an OBM context. Extinction occurs across a variety of professions when reinforcement is infrequent. Consider workers trained to follow complex safety protocols. During training, they are presented with many different hazards. These practice sessions are further supplemented with multiple coaching opportunities, which involve a dense schedule of reinforcement. When on the job, however, hazards are rare. While the same level of complexity may be expected, the reinforcement schedule is often sparse or nonexistent. Without regular reinforcement, the safety behaviors would likely extinguish over time which could ultimately lead to an increase in injuries (Hyten & Ludwig, 2017).

Reinforcement is infrequent in other professions as well. During visual baggage screenings, transportation security administration (TSA) agents must emit frequent search behaviors over extended periods. Locating a "signal" or target item can be reinforcing. However, it is also rare. Research shows that search behavior decreases if signals are absent (Hogan et al., 2009), the tendency to search extinguishes due to lack of reinforcement.

While the previous examples demonstrate the negative effects, there are instances when extinction is beneficial for work-related behaviors. This is the case for *undesired behavior*. To revisit the prior example, imagine TSA agents being trained to detect target items. If detected items matched actual threats, managers would praise this response. However, if TSA agents flag items inappropriately and too frequently, such as when they encounter innocuous items, these incorrect responses would not be praised and would decrease or extinguish over time. Provided managers continued to reinforce correct responding, eventually stimulus control would be established such that agents would differentiate between innocuous items and potential threats. This would be particularly critical given that frequent false positives lead to unnecessary delays and decrease traveler satisfaction. Thus, extinguishing overresponding would be beneficial.

Punishment

While reinforcement is the most common technique applied in OBM, it is also critical to understand how the related term of punishment is relevant. Unlike reinforcement, punishment is uncommon in OBM (Daniels, 2016), however, it remains a popular technique among managers (Grote, 2006). Even in subfields of OBM such as behavior-based safety (which seeks to reduce accidents and injuries), the focus is on promoting safe behaviors rather than punishing unsafe behaviors or injuries (Sulzer-Azaroff et al., 1990). Some of this focus is related to the fact that OBM as a field generally attempts to improve, not worsen, the experience of people at the workplace (Abernathy, 2014; Bucklin et al., 2022). Furthermore, employees operating under aversive stimulation may very well exert various forms of undesirable countercontrol (Ludwig & Geller, 1999; Mawhinney & Fellows-Kubert, 1999). Finally, excessive use of aversive control can produce many negative side effects such as turnover, disengagement, absenteeism, and more (Camden & Ludwig, 2013; Cymbal et al., 2022; Moran et al., 2022). Still, there are instances when punishment occurs in organizational settings, especially when dealing with severe violations of workplace policies (Daniels & Bailey, 2014).

For instance, while punishers are typically not introduced by OBM specialists, there are natural punishers that can decrease desired behavior. Once again consider the TSA agents. A TSA agent who was overly cautious and had several false positives (innocuous items or people targeted as threats) would likely be verbally punished by impatient travelers. They may react negatively to being searched or complain about prospects of missing flights. The sight of a line increasing, coupled with travelers becoming anxious, may further punish searching behavior including the detection of potential targets.

Previously we mentioned that behavior is a function of the environment and trained behavior will fail to transfer or maintain within work environments if consequences fail to support it. Suppose a salesperson was trained to use high-pressure techniques to convince customers to purchase products. During training, supportive consequences such as praise were delivered by the trainer contingent on the trainee emitting high-pressure techniques when customers gave reasons for not purchasing. While the salesperson may excel during training, the tendency to emit high-pressure behaviors is a function of the environment. If the trainee progresses to the job and supportive consequences are no longer provided, or if aversive consequences begin to follow, the behavior will decrease (Daniels & Bailey, 2014; Hyten & Ludwig, 2017). Applying high-pressure techniques will likely evoke negative responses from actual customers. These act as natural punishers causing high-pressure techniques to decrease.

In addition to natural punishers, reprimands or progressive discipline are tactics that frustrated managers may use at the behest of their organization's legal department, in accordance with human resources policies, or simply in desperation when they lack expertise in other ways of changing human behavior (Grote, 2006). These tactics are not advised. Reprimands, penalties, and other punishers are forms of aversive control that can evoke a fear response. Furthermore, unless the reprimands, loss of privileges, fines, and more are consistently maintained, it is likely that a recovery from punishment will likely be seen (Daniels & Bailey, 2014).

Recovery from punishment

Behavior suppressed through punishment in the past will likely return to previous levels upon removal or termination of suppressive stimuli, which has implications for organizational settings. Consider a software engineer who must develop, input, and compile code – often a tedious task. Furthermore, the same computer on which coding is completed can become a temptation; an "entertainment vessel" that houses an abundance of competing reinforcers in the form of news, games, and social connection which may cause attention to work to stray.

Engaging in these competing activities at the office would likely lead to reprimands by supervisors, thus decreasing time off-task. However, while being punished may temporarily suppress off-task behavior, the undesired behavior would not be eliminated from the repertoire. Therefore, it would not be permanently suppressed from punishment alone and would likely return to preexisting levels once the punisher is no longer present (Daniels & Bailey, 2014).

Recovery from punishment is particularly relevant given the rising development of remote work positions and when in-person positions are temporarily shifted to remote (Howe et al., 2021; Jimenez-Gomez et al., 2021). These

changes in organizational structures can impact the dynamics related to supervisor presence. For example, workers such as software engineers may have previously been confined to cubicles near their supervisors, but now find themselves working from home. This both (a) increases available off-task alternatives, and (b) eliminates presence of agents (i.e., supervisor) who historically delivered punishment. In time, off-task behavior previously punished may increase. This phenomenon can be observed across a variety of occupations, particularly those in which supervisors are unable to be present. As more individuals work remotely, the relevance of recovery from punishment increases for organizational behavior. However, recovery from punishment can be avoided. Rather than focus on decreasing undesired behavior through reprimands or using aversive techniques, managers should increase desired behavior through reinforcement. Ferguson and Rivera (2021) provide a comprehensive discussion of OBM techniques to improve behavior of independent professions and autonomous workers.

Types of antecedents

Although the last several concepts illustrate the power of consequences to impact employee behavior, antecedents are an important part of workplace contingencies (Choi & Johnson, 2022). Some powerful antecedents derive their evocative functions from their historical correlations with consequences, exemplified by discriminative stimuli. Some discriminative stimuli are based on reinforcement contingencies, such as S^D or S^Δ. The process of establishing stimulus control through discrimination training has many potential organizational applications. For example, one aspect of ensuring quality control is to make sure employees respond differentially to high- and low-quality products or services. During training, employees may be presented with a sample to evaluate. In the presence of high-quality samples (S^D), employees labeling these samples as good may be praised (Sr). In the presence of low-quality samples (S^Δ), employees labeling such samples as good would not be praised (EXT). Of course, stimulus control should also be established for the behavior of labeling these samples as poor, as shown in Figure 1.

Other applications for establishing stimulus control, besides training, include the TSA job targeting items that rarely appear (bomb attempts are very infrequent), leading to extinction of vigilance behaviors. One method of fixing this is to contrive a more regular S^D condition than what normally occurs, such as having managers periodically send prohibited items through security as a test (Hogan et al., 2009). If screeners successfully flagged these items, reinforcing consequences such as praise or being told that they stopped a dangerous item could be provided, making it more likely that vigilance would persist over time. Not only could the public be safer through planned provision of discriminative stimuli, but employee safety could improve.

Discrimination Training for Quality Control

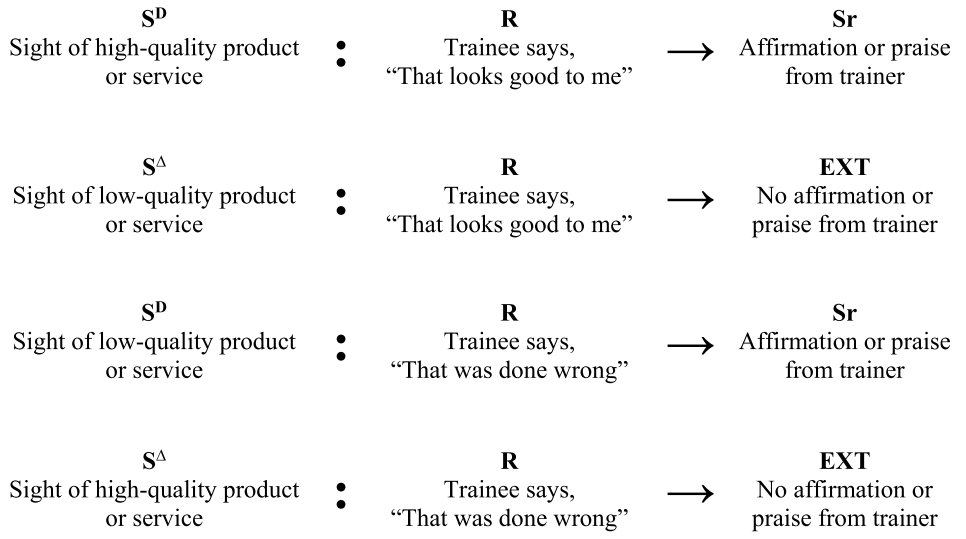

Figure 1. Discrimination training for quality control.

Just as discriminative stimuli evoke and abate behavior due to their correlation with the availability of reinforcement, discriminative stimuli also evoke and abate due to a correlation with the availability of punishment (Hantula et al., 1991). Just as an S^D refers to the availability of reinforcement for responding, an S^{Dp} refers to the availability of punishment for responding and therefore an S^{Dp} has an abative effect on behavior (Doughty et al., 2007; O'Donnell, 2001).

For example, many organizations, concerned about potential destructive effects of rumor or gossip on organizational culture (Houmanfar & Johnson, 2004), have policies forbidding these activities and managers are likely to provide reprimands when observing such behaviors. Similarly, people who are the subject of gossip are likely to provide disapproval upon observing these behaviors due to the typical negative content. Therefore, a stimulus of someone whispering "Susan is coming" or "the boss is close" would function as an S^{Dp}, in that continued gossiping will soon be met with social punishers from Susan or the boss, respectively. Likewise, hearing a manager's voice would likely function as an S^{Dp} for opening or scrolling through social media accounts given typical organizational policies regarding off-task activities during paid hours.

Logically, this implies the need for a parallel term for stimuli correlated with non-availability of punishment. An $S^{\Delta p}$ would have an evocative effect as behavior recovers in the absence of punishment contingencies. Returning to the previous examples, someone saying "alright, Susan is gone" or "the boss left"

would function as an $S^{\Delta p}$ and have a recovering effect on gossiping behavior. Likewise, the sound of the manager's voice growing distant would function as an $S^{\Delta p}$ for behaviors related to social media and an evocative effect is likely.

Motivating operations

While motivating operations (MOs) are incorporated into treatments within many specializations of applied behavior analysis, they are less common in OBM (Lotfizadeh et al., 2014). One reason could be OBM professionals experience success with consequences alone. However, including an analysis of the MO into the performance analysis could provide a comprehensive understanding of consequences and factors that influence their efficacy. This expansion of analysis could prove fruitful during planning through increasing the range of interventions considered. OBM experts rarely directly manipulate variables related to unconditioned motivating operations such as deprivation (although employees may be sleep, food, or water deprived for reasons unrelated to our manipulations; Olson et al., 2001), thus the focus of our discussion will be on conditioned motivating operations (CMOs).

There are different types of CMOs. Consider a reflexive CMO (CMO-R), in which a stimulus is correlated with some form of worsening and whose removal will function of as a form of reinforcement (Michael, 2004). This has commonly been demonstrated in the laboratory through avoidance. For example, a neutral stimulus such as a beep is first presented to an experimental organism. Over trials, this beep is reliably followed by shock. When consistently preceding the worsening situation, the beep acts as a type of "warning stimulus" that aversive event will soon follow. Therefore, that beep will be established as an CMO-R, in that it establishes its own removal as reinforcing. Subsequently, once sounded it immediately evokes behaviors that have, in the past, led to its removal.

CMO-Rs, such as this example, extend beyond the laboratory and become relevant in other settings including the workplace. For instance, observe the effects of CMOs on the behavior of doctors and nurses in hospitals. The sound of a patient's heart rate monitor is a reassuring repetitive beep signaling strong and steady heart rates. If the repetition suddenly becomes irregular and increases dramatically, then this may serve as a warning that patient is in trouble. The new signal of an abnormal pattern would be a CMO-R that precedes potential worsening states (e.g., stroke, arrhythmia). The new sound *immediately* evokes behaviors aimed at restoring a steady pulse and escaping the threatening abnormal sound (e.g., administering medication, electrical cardioversion).

While the previous example shows a beep functioning as a CMO-R, other forms of auditory stimuli exist (or more broadly, stimuli involving the other sense receptors). Feedback may function as a CMO-R. For instance, suppose

one of the nurses from the previous example failed to make rounds and check patients regularly. The director of nursing provided evaluative feedback and discussed dangers of failing to check patients consistently. The current performance does not meet hospital standards and must improve to ensure patient safety. Like the tones in previous examples, evaluative feedback functions as a warning stimulus that a worsening state such as termination or lawsuits may be forthcoming. Following the meeting the nurse increases her rate of checking patients to remove the threat and avoid possible termination associated with it.

In addition to CMO-Rs, there are other types of CMOs such as transitive CMOs (CMO-T). Michael (2004) defined a CMO-T as a stimulus (S1) that helps to establish the reinforcing effectiveness of a secondary stimulus (S2). In other words, the reinforcing effectiveness of S2 depends on the presence of the first stimulus (S1). S1 then evokes behaviors that produce S2 (Michael, 2004). To consider how this concept applies to workplace behavior, imagine Jasmine, a bank teller whose primary responsibility is to deposit and withdraw customer funds. Jasmine continuously encounters customers during her busy shift as there is a constant line. Recently, the bank started a new credit card, but few customers signed up. When encountering customers prior to beginning transactions, Jasmine must ask them to open a credit card account. Getting them to express interest allows her to open an electronic form on her computer to sign them up through a series of steps. At first Jasmine is simply told to encourage customers to enroll, but there is no contingency for doing so. Lines are long and Jasmine sees this task as unreasonable additional effort. Encountering electronic forms to sign customers up (which is the S2) have little value to her. In the presence of the customers making a deposit or withdrawal, Jasmine does not open forms and ask to sign them up.

Now suppose the branch manager sends an e-mail informing the tellers that they can earn a $20 bonus for each credit card account opened and this contingency lasts until the end of the month. Jasmine reads this S1 (announcement about the incentive). As usual, she looks up and sees a line of customers. Now, both the electronic form (S2) and completed electronic form (another S2) are more valuable, so that the presence of interested customers (S^D) immediately evokes behaviors related to electronic forms. The CMO-T in this example is the S1 or e-mail announcement about the incentive. Note this is instructional control (announcement about incentives), not consequence control (the incentive itself), because incentives have not been delivered yet and therefore cannot exert control over behavior (see, Figure 2 for relevant diagrams).

A goal coupled with an incentive might also function as a CMO-T (Olson & Winchester, 2008). Imagine an adjustment in the previous example, in that Jasmine was emailed a bar graph each day showing the percentage of customers who opened new accounts. Opening the e-mail, she would see her

Diagram of Teller's Behavior

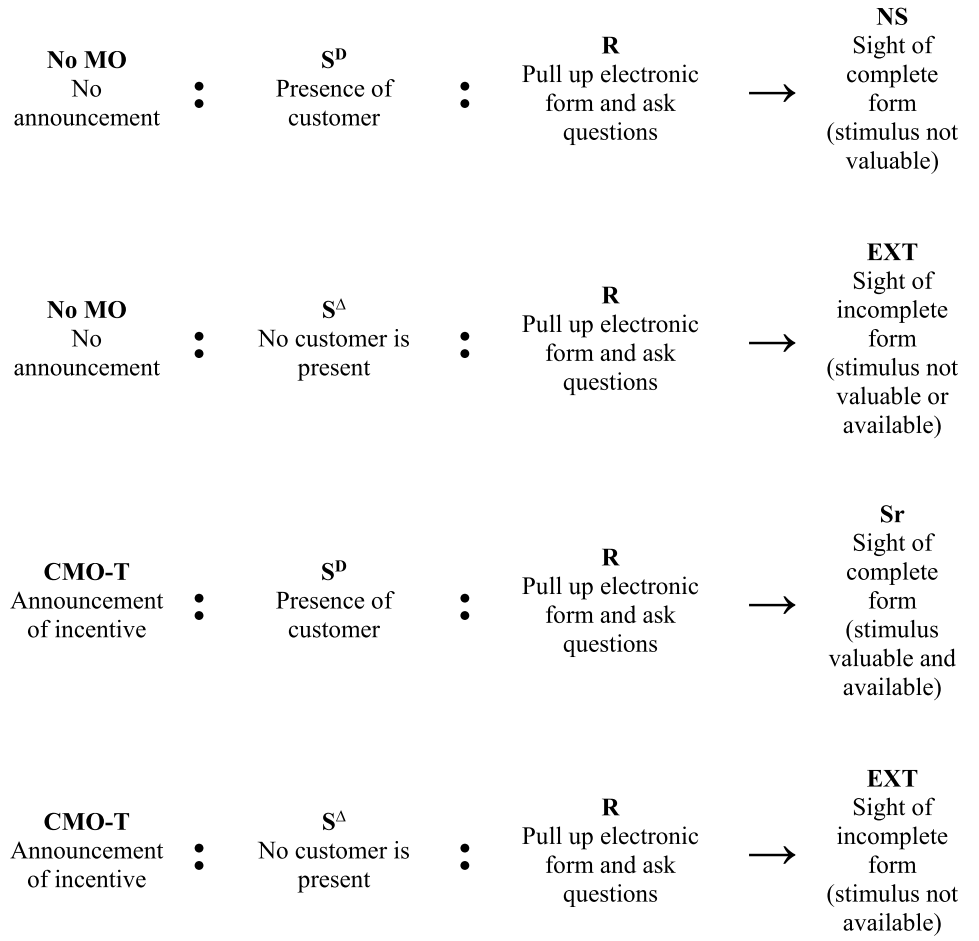

Figure 2. Diagram of Teller's behavior.

current percentage for the week. A performance increase on the graph (S2 in this case) may have little value in the absence of a goal or incentive. Now suppose the manager begins a bonus contingent on meeting a goal to secure credit card accounts for 40% of customers serviced that week. As before, each day he e-mails tellers their average percentage on a bar graph. However, this time he includes the goal drawn on the graph (S1). On Friday (i.e., end of the week), Jasmine reads her e-mail and learns she is currently at 37%–just shy of the 40% goal just above. The sight of this discrepancy between her current performance and the goal line (S1) will likely function as an MO (Olson & Winchester, 2008). It will immediately evoke behaviors that led to high performance in the past on the graph (S2) such as prompting customers to start credit cards and follow the process for opening accounts.

Complex verbal relations

Most of the terminology above was derived from experimental work in which events of interest are close in time to the behavior under study (e.g., a light is turned on and immediately evokes a response; food is presented less than a second later). How long delays can be before or after behavior to maintain efficacy of antecedents or consequences has never been precisely settled, although the general rule is these events lose control as temporal gaps increase (Green et al., 2004; Michael, 2004). Although time is a continuous variable, the delays in most organizational settings are so great that time might be considered dichotomous: "delayed" or "immediate" (Malott, Malott et al., 1993). That is, it is rarely a comparison of 5- versus 60-s delays, but rather delays involving days, weeks, or months between events and relevant performance. Unlike the verbal humans within the business organizations, non-verbal organisms require direct contingencies and could not be influenced by reinforcers or punishers delivered several days after performance (Michael, 2004). At first glance, the context in workplace settings does not seem to exert control through direct contingencies, but rather relies on verbal events to manage temporal gaps. Nearly all interventions in OBM involve verbally mediated contingencies with significant delays (Malott, Shimamune et al., 1993), therefore it is important to understand how verbal stimuli such as rules influence and govern behavior in workplace environments. This assertion raises a question: If much of workplace behavior is maintained through indirect acting effects, why devote so much of this paper summarizing direct acting behavioral terminology? One reason is that many instances of workplace behavior can still be explained via direct reinforcers and punishers supplied by others. Another reason is that seemingly indirect external contingencies are maintained via direct verbal contingencies, which are best understood in the conceptual framework built upon basic principles. The connection between verbal events and indirect contingencies has long been explored by OBM and behavior analysis in general.

B. F. Skinner, in one of his analyses of problem-solving, spoke about how we can construct stimuli to control our own behavior, such as marking the correct path to take on a map (Skinner, 1969). For example, imagine a truck driver wanted to learn locations for clean and safe travel plazas and truck stops (to avoid sketchy places while in search of food, fuel, and showers along their routes). He could memorize names, architecture, or locations of various buildings and cities across the country, experiencing reinforcement and extinction directly until he slowly learned which places paid off and which did not, eventually certain locales becoming S^Ds and others S^Δs for entering buildings. Alternatively, he could construct stimuli to control his behavior more efficiently, such as marking places on a map with a circled X to indicate clean and safe locations and an open circle to indicate sketchy locations. In this

scenario, the trucker constructed discriminative stimuli to manage his future behavior, with the circled X functioning as a personal S^D and open circle as a personal S^Δ. Of course, such constructed stimuli need not be limited to personal use – if these discriminative stimuli are explained to others, they can then help any knowledgeable member of that community. An easier and less contrived method to construct useful discriminative stimuli for the community as a whole is to take advantage of existing verbal forms (such as word of mouth or review websites/apps), with "go there for free showers with clean towels if you buy $50 in diesel" serving as an S^D and "don't bother going there" serving as an S^Δ. These verbal rules specify the behavior (go to that location) and the consequences (presence/absence of an attractive deal) without new individuals needing to directly experience the contingency through trial and error.

This specification of the contingency (i.e., rule) takes the form of an IF-THEN connective verbal frame (Agnew & Redmon, 1992), in which the IF element specifies the behavior and the THEN element specifies the consequence for that behavior. That is, the contingency follows the pattern of IF ___, THEN ___, such as "IF you go over to that food truck now, THEN you can get tasty food" or "Because the boss has arrived, IF I start working frantically, THEN I will receive positive comments from her." These discriminative rules can be stated by others or developed by oneself. One point of clarification: stated rules do not need to formally contain the words "IF" or "THEN" to exert discriminative control through an IF-THEN frame. For example, an employee may state to themselves, "the boss said he is going to stick around and observe my performance today, so I better be on my A game." Although the sentence does not formally contain the words "IF" or "THEN," functionally it has an equivalent effect as statements such as "IF I perform well during this observation, THEN I might get some positive feedback" or "IF I take another break right now, THEN I'll get yelled at," thus immediately evoking desired and abating undesired performance. When behavior falls under the control of such rules, we call it "rule-governed behavior." One advantage of rule-governed behavior is that a seemingly endless set of potential events can be integrated into a relational frame. This changes the effects of events, if rule following is reinforced (and rule breaking punished) sufficiently in our culture, then rule following becomes a generalized skill for most members of the culture (Baum, 1993; Malott, Malott et al., 1993; Skinner, 1969). Of course, the personal learning histories of employees will remain a powerful determinant on whether rules are likely to be followed or ignored at an individual level (Skinner, 1978). Some theoretical accounts, such as relational frame theory, arose to focus exclusively on how relations among stimuli, behavior, and verbal events, including those relations that are explicitly described by others and those that are derived by the individual without explication by others (O'Hora & Maglieri, 2006). There are many

areas of overlap between theoretical accounts such as relational frame theory and Skinner's attempt to delineate verbal behavior processes (such as general operant frames), but the distinctions remain controversial (Leigland, 1997; Palmer, 2008) and a full treatment of both accounts is well beyond the scope of this paper.

Rules, as verbal stimuli, are not limited to discriminative relations. Indeed, many rules involve consequences which are not immediately available after performance and many rules may not be related to availability of consequences. To illustrate, many scholars have pointed out that rules can function as motivating operations (Lipschultz et al., 2021; Squires & Wilder, 2010). Suppose an employee was told about a new measurement and incentive system, for which the rule "if you keep your desk clean and organized in a timely fashion every day, then at the end of the week you can enter a lottery for a chance to ignore the company's dress code for a day" could be derived (similar to Griffin et al., 2019). Even if this rule immediately evoked desk cleaning and organizing, the consequence of being entered into the lottery would not follow any instance of these behaviors. Rather, the rule established noncompliance with the rule as aversive (Malott, 1993). After the statement of the rule, some stimuli (previously neutral) became reinforcing, such as the sight of clean and organized desks, and other stimuli (also likely neutral prior to the rule) became punishing, such as the sight of untidy desks. Thus, the rule evokes behaviors that produce clean and organized desks and abates behaviors that produce untidy desks.

An additional nuance is that sometimes rules do not function as either discriminative stimuli or motivating operations. Both immediately evoke or abate behavior, but some rules do not have an immediate effect. In such cases, it may be better to conceptualize rules as contingency-specifying stimuli (Blakely & Schlinger, 1987; Schlinger & Blakely, 1987). Contingency-specifying stimuli operate by changing the function of other antecedents and consequences, including verbal events, because of descriptions of the relations among those events and behavior. To illustrate, assume a new employee was hired at a coal mine subject to ventilation inspections by the Mine Safety and Health Administration (Rhoton, 1980). During orientation a coworker takes him aside and says, "If you see a person wearing a beige hardhat, that's probably the MSHA inspector. It's critical that the line brattice is placed correctly and there's no loose coal dust in the area. If you see that guy, run and quickly make sure the brattice is where it is supposed to be or else we're all in trouble." Such a rule is unlikely to immediately evoke behavior (unlike the effects of S^Ds and MOs). In fact, these behaviors may not occur for several weeks or months. But the rule, as a contingency-specifying stimulus, changes the function of a beige hardhat. When it does finally appear, it will immediately evoke brattice checking. Behaviors not related to proper ventilation will likely be punished in the presence of a beige hardhat (S^{Dp}). In addition,

behaviors that reduce or eliminate the forthcoming threat will also be evoked (CMO-R), so that actions that remove coal dust will be reinforced by the sight of a dust-free area (Sr). Behaviors to check and possibly move the brattice will also be evoked and reinforced by the sight of a correctly placed brattice (Sr). The rule also establishes the sight of loose coal dust as aversive (Sp) when a beige hardhat is present. In sum, the contingency-specifying stimulus established several discriminative stimuli, motivating operations, reinforcers, and punishers exhibited at a later date. All these antecedents and consequences (e.g., beige hardhat, sight of loose dust) would remain as behaviorally neutral events, if not for the rule altering their function.

It is important to look at how verbal events might prompt future behavior as well as how they may serve as effective consequences. Skinner (1957, 1969) and others noted we have a long history in which the verbal community teaches us to engage in self-descriptive behavior (e.g., "What are you doing?" "Why are you doing that?" "How are you?" "Do you see what I see?" "What are your plans for later?"). Our awareness of self probably is due to a near-constant stream of verbal self-evaluation responses, including self-evaluations of our work performance (e.g., "My desk is now clean" "That's my sixth successful sale today"). These verbal responses also produce verbal stimuli as a response product (i.e., we hear the sound of our own voice as a stimulus, whether overt or covert). When combined with rules, these evaluative self-statement stimuli may function as direct reinforcers or punishers for our own behavior.

For example, suppose an intervention included a promise for a $25 gift certificate to the employee with the best customer service evaluations at the end of two weeks (similar to M. G. Brown et al., 1980). As such, employees may form a rule such as "if I perform customer service just like they trained me, then I might get a spare 25 bucks." Although this rule may prompt good customer service, employees do not need to wait two weeks for an evaluation – they can provide their own immediately after performance. An employee may say to themselves, "Okay, I did all four service things just the way they wanted me to – now they'll be happy with me and I might even get that gift certificate in a couple of weeks." The resulting verbal stimulus from such evaluative self-statements are likely to have reinforcing properties and occur immediately at the conclusion of performance. One implication of this is even rule-governed behavior is likely maintained through direct-acting contingencies, but the direct consequences are often verbal and self-supplied (Malott, 1993; Malott, Shimamune et al., 1993).

Of course, not all evaluative self-statement stimuli will be equal in reinforcing effectiveness (or be reinforcing at all). For example, by the end of M. G. Brown et al. (1980), none of the salespeople received a $25 gift certificate because no customers completed any of the 500 evaluation forms distributed. If this study had continued past the two weeks, it should not be surprising that the discovered inaccuracy of original rules would result in revised self-

statements such as "who cares if they liked my performance, those cheap liars won't stick to their word." Any stimulus resulting from such a covert description is unlikely to serve as a reinforcer for desired customer service. Self-evaluations that fit within a NOW-WILL verbal frame are likely to be powerful, such as "NOW that I've cleaned my desk, I WILL be entered into the raffle" or "NOW that I screwed up in front of the boss, I WILL get a poor performance review later this year." In comparison, a NOW-MAYBE verbal frame will probably exert weaker effects as consequences for behavior, such as "NOW that I made that sale, MAYBE I'll get a promotion eventually" or "NOW that I'm 5 minutes late, MAYBE I'll get written up." The various frames can alter the effectiveness of rules in controlling performance (R. A. R. A. Johnson et al., 2010). Approaches for classifying the effects of various derived verbal frames have been proposed and reviewed elsewhere (Maraccini et al., 2016). To briefly give some examples, it has been suggested (Ghezzi et al., 2020; O'Hora & Maglieri, 2006) that some rule-governed behavior should be classified as pliance if it is under the control of social approval (irrespective of actual contingencies), classified as tracking if it is under the control of a correspondence between instruction and actual contingencies, or classified as augmenting if the rule changes the function of other events (similar to the characteristics of contingency-specifying stimuli or motivating operations). Much of OBM involves developing rules to prompt desired behavior and ensure verbal events continue to support that desired behavior.

With any terminology, including those involved in complex verbal events, it is important to avoid nominal fallacies and not treat terms such as "rule-governed behavior" as magical phrases to preclude analysis. Invoking this phrase means potential functional relations must still be specified as part of the explanation to exceed nontechnical lay understanding of rules (Blakely & Schlinger, 1987; Schlinger & Blakely, 1987). Simply naming terms is not an analysis; we risk only being left with labeling a behavior and no more. A critical attribute of behavior *analysis* requires more investigation. Although it can be tempting to neglect terminological precision, Michael (2004) pointed out that clearly understanding the underlying mechanisms that drive our interventions is likely to have both theoretical and practical implications.

Conclusion

We hope this overview of terminology serves as an entry point for neophytes looking to connect behavioral concepts and principles to workplace practices as well as remind seasoned professionals about points sometimes forgotten. In conclusion, we return to the question that opened this paper: In short, what makes OBM different? At the core of this question is an attempt to define and differentiate the field from its competitors and complementary professions. By describing the terminology of the field, several themes are noted and worth

making explicit. OBM professionals investigate and intervene upon workplace phenomena using a paradigm founded upon a natural science and selectionist account. This account emphasizes empirical data based upon actual performance and eschews hypothetical constructs or explanatory variables that take place at levels or dimensions different than our observations (e.g., training outcomes explained by schemas, success of incentives explained by expectancies or drives, leadership decisions explained by neurotransmitters or brain structures). We reject mentalistic approaches rooted in non-behavioral phenomena, but that should not be taken as a rejection of biological, cognitive, or internal events (as illustrated by our consideration of physiological stimulation, feelings, perceptions, and private verbal behaviors). This framework lies at the heart of a radical behaviorism position (Skinner, 1945, 1950), from which behavioral technologies developed.

Our terms and assumptions define us more than our procedures. Practices have evolved over the decades (Brethower et al., 2022) and will continue to advance. The field of OBM originated with individual performers, but early on recognized a need to grow toward organization-wide improvements (Hall, 1980). The challenges encountered along the way have varied, but our explanatory framework consistently guided us. This is what distinguishes OBM from other approaches and may be best exemplified by our terminology. By marking the boundaries of the field, we believe a definition is finally warranted: Organizational behavior management is a scientific discipline that uses explanations derived from radical behaviorism to develop, coordinate, and implement performance improvement applications that range from individual performers in organizations to large-scale programs of change. This conceptualization can be witnessed across many contributions and analyses shown in this handbook series (D. A. Johnson & Johnson, 2022) and proven to be productive and pragmatic in understanding human behavior in the workplace.

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Douglas A. Johnson http://orcid.org/0000-0002-7802-3566

References

Abernathy, W. B. (2014). *The liberated workplace: Transitioning to Walden three*. Performance Management Publications.

Agnew, J. L., & Redmon, W. K. (1992). Contingency specifying stimuli: The role of "rules" in organizational behavior management. *Journal of Organizational Behavior Management*, *12* (2), 67–76. https://doi.org/10.1300/J075v12n02_04

Alvero, A. M., Bucklin, B. R., & Austin, J. (2001). An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985-1998). *Journal of Organizational Behavior Management*, *21*(1), 3–29. https://doi.org/10.1300/J075v21n01_02

Austin, J., Carr, J. E., & Agnew, J. L. (1999). The need for assessment of maintaining variables in OBM. *Journal of Organizational Behavior Management*, *19*(2), 59–87. https://doi.org/10.1300/J075v19n02_05

Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, *1*(1), 91–97. https://doi.org/10.1901/jaba.1968.1-91

Baum, W. M. (1993). For parsimony's sake. *Journal of Organizational Behavior Management*, *12*(2), 81–84. https://doi.org/10.1300/J075v12n02_06

Baum, W. M. (2002). From molecular to molar: A paradigm shift in behavior analysis. *Journal of Experimental Analysis of Behavior*, *78*(1), 95–116. https://doi.org/10.1901/jeab.2002.78-95

Blakely, E., & Schlinger, H. (1987). Rules: Function-altering contingency-specifying stimuli. *The Behavior Analyst*, *10*(2), 183–187. https://doi.org/10.1007/BF03392428

Blampied, N. M., & Bootzin, R. R. (2013). Sleep: A behavioral account. In G. J. Madden (Ed.), *APA handbook of behavior analysis: Vol. 2 translating principles into practice* (pp. 425–453). American Psychological Association. https://doi.org/10.1037/13938-017

Brethower, D., & Smalley, K. (1998). *Performance-based instruction: Linking training to business results*. Jossey-Bass/Pfeiffer.

Brethower, D. M., Dickinson, A. M., Johnson, D. A., & Johnson, C. M. (2022). A history of organizational behavior management. *Journal of Organizational Behavior Management*, *42* (1), 3–35. https://doi.org/10.1080/01608061.2021.1924340

Brown, M. G., Malott, R. W., Dillon, M. J., & Keeps, E. J. (1980). Improving customer service in a large department store through the use of training and feedback. *Journal of Organizational Behavior Management*, *2*(4), 251–265. https://doi.org/10.1300/J075v02n04_02

Brown, N., & Redmon, W. K. (1990). The effects of a group reinforcement contingency on staff use of unscheduled sick leave. *Journal of Organizational Behavior Management*, *10*(2), 3–17. https://doi.org/10.1300/J075v10n02_02

Bucklin, B. R., Alvero, A. M., Dickinson, A. M., Austin, J., & Jackson, A. K. (2000). Industrial-organizational psychology and organizational behavior management: An objective comparison. *Journal of Organizational Behavior Management*, *20*(2), 27–75. https://doi.org/10.1300/J075v20n02_03

Bucklin, B. R., Li, A., Rodriguez, M., Johnson, D. A., & Eagle, L. M. (2022). Pay-for-performance: Behavior-based recommendations from research and practice. *Journal of Organizational Behavior Management*, Advance online publication. . https://doi.org/10.1080/01608061.2022.2047868

Camden, M. C., & Ludwig, T. D. (2013). Absenteeism in health care: Using interlocking behavioral contingency feedback to increase attendance with certified nursing assistants. *Journal of Organizational Behavior Management*, *33*(3), 165–184. https://doi.org/10.1080/01608061.2013.814521

Chance, P. (2014). *Learning and behavior* (7th ed.). Cengage Learning.

Choi, E., Johnson, D. A., Moon, K., & Oah, S. (2018). Effects of positive and negative feedback sequence on work performance and emotional responses. *Journal of Organizational Behavior Management*, *38*(2–3), 97–115. https://doi.org/10.1080/01608061.2017.1423151

Choi, E., & Johnson, D. A. (2022). Common antecedent strategies within organizational behavior management: The use of goal setting, task clarification, and job aids. *Journal of Organizational Behavior Management*, *42*(1), 75–95. https://doi.org/10.1080/01608061.2021.1967834

Cialdini, R. B. (2009). *Influence: Science and practice* (5th ed.). Pearson.

Clayton, M., & Nesnidol, S. (2017). Reducing electricity use on campus: The use of prompts, feedback, and goal setting to decrease excessive classroom lighting. *Journal of Organizational Behavior Management*, *37*(2), 196–206. https://doi.org/10.1080/01608061.2017.1325823

Conard, A. L., Johnson, D. A., Morrison, J. D., & Ditzian, K. (2016). Tactics to ensure durability of behavior change following the removal of an intervention specialist: A review of temporal generality within organizational behavior management. *Journal of Organizational Behavior Management*, *36*(2–3), 210–253. https://doi.org/10.1080/01608061.2016.1201036

Cooper, J. O., Heron, T. E., & Heward, W. L. (2020). *Applied behavior analysis* (3rd ed.). Pearson.

Crawley, W. J., Adler, B. S., O'Brien, R. M., & Duffy, E. M. (1982). Making salesmen: Behavioral assessment and intervention. In R. M. O'Brien, A. M. Dickinson, & M. P. Rosow (Eds.), *Industrial behavior modification: A management handbook* (pp. 184–199). Pergamon Press.

Curry, S. M., Gravina, N. E., Sleiman, A. A., & Richard, E. (2019). The effects of engaging in rapport-building behaviors on productivity and discretionary effort. *Journal of Organizational Behavior Management*, *39*(3–4), 213–226. https://doi.org/10.1080/01608061.2019.1667940

Cymbal, D. J., Litvak, S., Wilder, D. A., & Burns, G. N. (2022). An examination of variables that predict turnover, staff, and caregiver satisfaction in behavior-analytic organizations. *Journal of Organizational Behavior Management*, *42*(1), 36–55. https://doi.org/10.1080/01608061.2021.1910099

Daniels, A. C., & Bailey, J. S. (2014). *Performance management: Changing behavior that drives organizational effectiveness*. Aubrey Daniels International, Inc.

Daniels, A. C. (2016). *Bringing out the best in people: How to apply the astonishing power of positive reinforcement*. McGraw-Hill Education.

Davidson, R. S., & Walley, P. B. (1985). Computer fear and addiction: Analysis, prevention, and possible modification. *Journal of Organizational Behavior Management*, *6*(3), 37–52. https://doi.org/10.1300/J075v06n03_03

Dickinson, A. M. (2000). The historical roots of organizational behavior management in the private sector. *Journal of Organizational Behavior Management*, *20*(3), 9–58. https://doi.org/10.1300/J075v20n03_02

DiGennaro Reed, F. D., Henley, A. J., Rueb, S., Crabbs, B., & Giacalone, L. (2016). Discussion of behavioral principles in journal of organizational behavior management: An update. *Journal of Organizational Behavior Management*, *36*(2–3), 202–209. https://doi.org/10.1080/01608061.2016.1200938

Dixon, M. R., Hayes, L. J., & Stack, J. (2004). Changing conceptions of employee compensation. *Journal of Organizational Behavior Management*, *23*(2–3), 95–116. https://doi.org/10.1300/J075v23n02_06

Doughty, A. H., Doughty, S. S., O'Donnell, J., Saunders, K. J., & Williams, D. C. (2007). Stimulus control of punishment effects: Determining the controlling variables. *Revista Mexicana de Análisis de la Conducta [Mexican Journal of Behavior Analysis]*, *33*(1), 57–66.

Erath, T. G., Pellegrino, A. J., DiGennaro Reed, F. D., Ruby, S. A., Blackman, A. L., & Novak, M. D. (2021). Experimental research methodologies in organizational behavior management. *Journal of Organizational Behavior Management*, *41*(2), 150–181. https://doi.org/10.1080/01608061.2020.1869137

Ferguson, R., & Rivera, L. (2021). Self-management in organizational behavior management. *Journal of Organizational Behavior Management*. 1–20. Advance online publication. https://doi.org/10.1080/01608061.2021.1996502

Filipkowski, M., & Johnson, C. M. (2008). Comparisons of performance and job insecurity in union and nonunion sites of a manufacturing company. *Journal of Organizational Behavior Management*, *28*(4), 218–237. https://doi.org/10.1080/01608060802454437

Ghezzi, E. L., Houmanfar, R. A., & Crosswell, L. (2020). The motivative augmental effects of verbal stimuli on cooperative and conformity responding under a financially competing contingency in an analog work task. *The Psychological Record*, *70*(3), 411–431. https://doi.org/10.1007/s40732-020-00400-7

Gilbert, T. F. (1996). *Human competence: Engineering worthy performance*. International Society for Performance Improvement.

Glenn, S. S., Malott, M. E., Andery, M. A. P. A., Benvenuti, M., Houmanfar, R. A., Sandaker, I., Todorov, J. C., Tourinho, E. Z., & Vasconcelos, L. A. (2016). Toward consistent terminology in a behaviorist approach to cultural analysis. *Behavior and Social Issues*, *25*(1), 11–27. https://doi.org/10.5210/bsi.v25i0.6634

Green, L., Myerson, J., Holt, D. D., Slevin, J. R., & Estle, S. J. (2004). Discounting of delayed food rewards in pigeons and rats: Is there a magnitude effect? *Journal of the Experimental Analysis of Behavior*, *81*(1), 39–50. https://doi.org/10.1901/jeab.2004.81-39

Griffin, M., Gravina, N. E., Matey, N., Pritchard, J., & Wine, B. (2019). Using scorecards and a lottery to improve the performance of behavior technicians in two autism treatment clinics. *Journal of Organizational Behavior Management*, *39*(3–4), 280–292. https://doi.org/10.1080/01608061.2019.1632241

Grote, D. (2006). *Discipline without punishment: The proven strategy that turns problem employees into superior performers*. American Management Association.

Hall, B. L. (1980). Editorial. *Journal of Organizational Behavior Management*, *2*(3), 145–150. https://doi.org/10.1300/J075v02n03_01

Hantula, D. A., Stillman, F. A., & Waranch, H. R. (1991). A comparison of strategies for facilitating smoking survey return in low-SES employees. *Journal of Organizational Behavior Management*, *11*(2), 47–59. https://doi.org/10.1300/J075v11n02_04

Hogan, L. C., Bell, M., & Olson, R. (2009). A preliminary investigation of the reinforcement function of signal detections in simulated baggage screening: Further support for the vigilance reinforcement hypothesis. *Journal of Organizational Behavior Management*, *29*(1), 6–18. https://doi.org/10.1080/01608060802660116

Houmanfar, R., & Johnson, R. (2004). Organizational implications of gossip and rumor. *Journal of Organizational Behavior Management*, *23*(2), 117–138. https://doi.org/10.1300/J075v23n02_07

Howe, D. C., Chauhan, R. S., Soderberg, A. T., & Buckley, R. M. (2021). Paradigm shifts caused by the COVID-19 pandemic. *Organizational Dynamics*, *50*(4), 1–9. https://doi.org/10.1016/j.orgdyn.2020.10080

Hyten, C., & Ludwig, T. D. (2017). Complacency in process safety: A behavior analysis toward prevention strategies. *Journal of Organizational Behavior Management*, *37*(3–4), 240–260. https://doi.org/10.1080/01608061.2017.1341860

Jimenez-Gomez, C., Sawhney, G., & Albert, K. M. (2021). Impact of COVID-19 on the applied behavior analysis workforce: Comparison across remote and nonremote workers. *Behavior Analysis in Practice*, *14*(4), 873–882.https://doi.org/10.1007/s40617-021-00625-0

Johnson, R. A., Houmanfar, R., & Smith, G. S. (2010). The effect of implicit and explicit rules on customer greeting and productivity in a retail organization. *Journal of Organizational Behavior Management*, *30*(1), 38–48. https://doi.org/10.1080/01608060903529731

Johnson, D. A., Rocheleau, J. M., & Tilka, R. E. (2015). Considerations in feedback delivery: The role of accuracy and type of evaluation. *Journal of Organizational Behavior Management*, *35*(3–4), 240–258. https://doi.org/10.1080/01608061.2015.1093055

Johnson, D. A., & Johnson, C. M. (2022). Foundations and advances: Revisiting the past and selecting for the future. *Journal of Organizational Behavior Management*, Advance online publication. 1–7. https://doi.org/10.1080/01608061.2022.2029797

Johnston, J. M. (2014). *Radical behaviorism for ABA practitioners*. Sloan Publishing, LLC.

Komaki, J., Blood, M. R., & Holder, D. (1980). Fostering friendliness in a fast food franchise. *Journal of Organizational Behavior Management*, *2*(3), 151–164. https://doi.org/10.1300/J075v02n03_02

Kuykendall, D., & Keating, J. P. (1990). Altering thoughts and judgements through repeated association. *British Journal of Social Psychology*, *29*(1), 79–86. https://doi.org/10.1111/j.2044-8309.1990.tb00888.x

Lawson, D. A., & O'Brien, R. (1994). Behavioral and self-report measures of staff burnout in developmental disabilities. *Journal of Organizational Behavior Management*, *14*(2), 37–54. https://doi.org/10.1300/J075v14n02_04

Lebbon, A. R., & Sigurdsson, S. O. (2017). Behavioral perspectives on variability in human behavior as part of process safety. *Journal of Organizational Behavior Management*, *37*(3–4), 261–282. https://doi.org/10.1080/01608061.2017.1340922

Leigland, S. (1997). Is a new definition of verbal behavior necessary in light of derived relational responding? *The Behavior Analyst*, *20*(1), 3–9. https://doi.org/10.1007/BF03392757

Lipschultz, J. L., Wilder, D. A., Sleiman, A., Cruz, N., Curry, S., & Gravina, N. E. (2021). The effects of feedback accuracy and trainer rules on performance during an analogue task. *Journal of Organizational Behavior Management*, *41*(3), 215–235. https://doi.org/10.1080/01608061.2021.1903646

Lotfizadeh, A. D., Edwards, T. L., & Poling, A. (2014). Motivating operations in the journal of organizational behavior management: Review and discussion of relevant articles. *Journal of Organizational Behavior Management*, *34*(2), 69–103. https://doi.org/10.1080/01608061.2014.914010

Ludwig, T. D., & Geller, E. S. (1999). Undesirable side-effects reflect countercontrol. *Journal of Organizational Behavior Management*, *19*(2), 25–34. https://doi.org/10.1300/J075v19n02_03

Luke, M. M., Carr, J. E., & Wilder, D. A. (2018). On the compatibility of organizational behavior management and BACB certification. *Journal of Organizational Behavior Management*, *38*(4), 288–305. https://doi.org/10.1080/01608061.2018.1514347

Madden, G. J., Reed, D. W., & DiGennaro Reed, F. D. (2021). *An Introduction to Behavior Analysis*. Wiley.

Malott, R. W., Malott, M. E., & Shimamune, S. (1993). Comments on rule-governed behavior. *Journal of Organizational Behavior Management*, *12*(2), 91–101. https://doi.org/10.1300/J075v12n02_08

Malott, R. W., Shimamune, S., & Malott, M. E. (1993). Rule-governed behavior and organizational behavior management. *Journal of Organizational Behavior Management*, *12*(2), 103–116. https://doi.org/10.1300/J075v12n02_09

Malott, R. W. (1993). A theory of rule-governed behavior and organizational behavior management. *Journal of Organizational Behavior Management*, *12*(2), 45–65. https://doi.org/10.1300/J075v12n02_03

Maraccini, A. M., Houmanfar, R. A., & Szarko, A. J. (2016). Motivation and complex verbal phenomena: Implications for organizational research and practice. *Journal of Organizational Behavior Management*, *36*(4), 282–300. https://doi.org/10.1080/01608061.2016.1211062

Martin, G. L., & Pear, J. J. (2019). *Behavior modification: What is it and how to do it* (11th ed.). Routledge.

Mawhinney, T. C., & Fellows-Kubert, C. (1999). Positive contingencies versus quotas: Telemarketers exert countercontrol. *Journal of Organizational Behavior Management*, *19* (2), 35–57. https://doi.org/10.1300/J075v19n02_04

Michael, J. L. (2004). *Concepts and principles of behavior analysis*. Association for Behavior Analysis International.

Miller, L. K. (2006). *Principles of everyday behavior analysis* (4th ed.).

Moran, D. J., Batten, S., Gamble, M. A., & Atkins, P. (2022). Acceptance and commitment training: Improving performance in organizations with applied contextual behavioral science. In R. Houmanfar, M. Fryling, & M. Alavosius (Eds.), *Applied behavior science in organizations: Consilience of historical and emerging trends in organizational behavior management* (pp. 177–196). Taylor & Francis.

O'Donnell, J. (2001). The discriminative stimulus for punishment or S^{Dp}. *The Behavior Analyst*, *24*(2), 261–262. https://doi.org/10.1007/BF03392036

O'Hora, D., & Maglieri, K. A. (2006). Goal statements and goal-directed behavior. *Journal of Organizational Behavior Management*, *26*(1), 131–170. https://doi.org/10.1300/J075v26n01_06

Olson, R., Laraway, S., & Austin, J. (2001). Unconditioned and conditioned establishing operations in organizational behavior management. *Journal of Organizational Behavior Management*, *21*(2), 7–35. https://doi.org/10.1300/J075v21n02_03

Olson, R., & Winchester, J. (2008). Behavioral self-monitoring of safety and productivity in the workplace: A methodological primer and quantitative literature review. *Journal of Organizational Behavior Management*, *28*(1), 9–75. https://doi.org/10.1080/01608060802006823

Palmer, D. C., & Donahoe, J. W. (1992). Essentialism and selectionism in cognitive science and behavior analysis. *American Psychologist*, *47*(11), 1344–1358. https://doi.org/10.1037//0003-066x.47.11.1344

Palmer, D. C. (2008). On Skinner's definition of verbal behavior. *International Journal of Psychology and Psychological Therapy*, *8*(3), 295–307.

Palmer, D. C. (2009). Response strength and the concept of the repertoire. *European Journal of Behavior Analysis*, *10*(1), 49–60. https://doi.org/10.1080/15021149.2009.11434308

Paradise, R. C. (1984). Introducing a phobia program into a community mental health center. *Journal of Organizational Behavior Management*, *6*(2), 15–21. https://doi.org/10.1300/J075v06n02_04

Poling, A., & Braatz, D. (2001). Principles of learning: Respondent and operant conditioning and human behavior. In C. M. Johnson, W. K. Redmon, & T. C. Mawhinney (Eds.), *Handbook of organizational performance: Behavior analysis and management* (pp. 23–49). Routledge.

Porto, R. B., & Foxall, G. R. (2019). The marketing firm as a metacontingency: Revealing the mutual relationships between marketing and finance. *Journal of Organizational Behavior Management*, *39*(3–4), 115–144. https://doi.org/10.1080/01608061.2019.1666774

Rafacz, S. D., Boyce, T. E., & Williams, W. L. (2011). Examining the effects of a low-cost prompt to reduce retail theft. *Journal of Organizational Behavior Management*, *31*(2), 150–160. https://doi.org/10.1080/01608061.2011.570087

Reetz, N. K., Whiting, S. W., & Dixon, M. R. (2016). The impact of a task clarification and feedback intervention on restaurant service quality. *Journal of Organizational Behavior Management*, *36*(4), 322–331. https://doi.org/10.1080/01608061.2016.1201035

Rhoton, W. W. (1980). A procedure to improve compliance with coal mine safety regulations. *Journal of Organizational Behavior Management*, *2*(4), 243–249. https://doi.org/10.1300/J075v02n04_01

Schlinger, H., & Blakely, E. (1987). Function-altering effects of contingency-specifying stimuli. *The Behavior Analyst*, *10*(1), 41–45. https://doi.org/10.1007/BF03392405

Scott, W. E., & Podsakoff, P. M. (1985). *Behavioral Principles in the Practice of Management*. Wiley.
Shimp, C. P. (2014). How molecular, molar, and unified analyses change the meaning of behavioral variability. *International Journal of Comparative Psychology*, *27*(2), 82–105.
Skinner, B. F. (1935). The generic nature of the concepts of stimulus and response. *The Journal of General Psychology*, *12*(1), 40–65. https://doi.org/10.1080/00221309.1935.9920087
Skinner, B. F. (1945). The operational analysis of psychological terms. *Psychological Review*, *52* (5), 270–277. https://doi.org/10.1037/h0062535
Skinner, B. F. (1950). Are theories of learning necessary? *Psychological Review*, *57*(4), 193–216. https://doi.org/10.1037/h0054367
Skinner, B. F. (1957). *Verbal behavior*. Prentice-Hall.
Skinner, B. F. (1969). *Contingencies of reinforcement: A theoretical analysis*. Prentice-Hall.
Skinner, B. F. (1978). *Reflections on behaviorism and society*. Prentice-Hall.
Squires, J., & Wilder, D. A. (2010). A preliminary investigation of the effect of rules on employee performance. *Journal of Organizational Behavior Management*, *30*(1), 57–69. https://doi.org/10.1037/h0042782
Staats, A. W., & Staats, C. K. (1958). Attitudes established by classical conditioning. *Journal of Abnormal and Social Psychology*, *57*(1), 37–40.
Sulzer-Azaroff, B., Loafman, B., Merante, R. J., & Hlavacek, A. C. (1990). Improving occupational safety in a large industrial plant: A systematic replication. *Journal of Organizational Behavior Management*, *11*(1), 99–120. https://doi.org/10.1300/J075v11n01_07
Twarek, M., Cihon, T., & Eshleman, J. (2010). The effects of fluent levels of big 6 + 6 skill elements on functional motor skills with children with autism. *Behavioral Interventions*, *25* (4), 275–293. https://doi.org/10.1002/bin.317
Weatherly, N. L. (2021). The ethics of organizational behavior management. *Journal of Organizational Behavior Management*, *41*(3), 197–214. https://doi.org/10.1080/01608061.2021.1890664
Wine, B., Reis, M., & Hantula, D. A. (2014). An evaluation of stimulus preference assessment methodology in organizational behavior management. *Journal of Organizational Behavior Management*, *34*(1), 7–15. https://doi.org/10.1080/01608061.2013.873379