

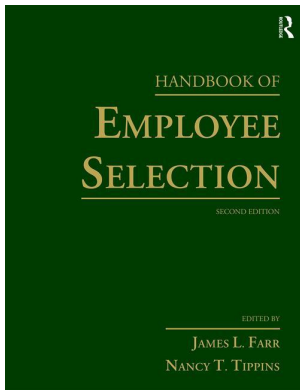
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## **Handbook of Employee Selection**

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## **Defining and Measuring Results of Workplace Behavior**

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## DEFINING AND MEASURING RESULTS OF WORKPLACE BEHAVIOR

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RYAN S. O'LEARY AND ELAINE D. PULAKOS

The previous chapters in this section focused on the measurement of task performance, constructive personal behavior (citizenship and adaptability), and counterproductive behavior and how these fit in the context of conducting selection research. Each of these represents a conceptually distinct content area within the performance domain, and all consist of reasonably well-defined constructs that have been reliably and validly measured in the past and successfully used as criteria in validation research, albeit some more so than others. Alternatively, this chapter focuses on measuring results—the actual end products, outcomes, or deliverables individuals or teams produce on a job. Unlike other criterion constructs, discussions of a “results” construct are relatively rare in the industrial and organizational (I-O) psychology literature. Likewise, results measures have not been as well defined and researched as other types of performance measures (e.g., task, citizenship, adaptive, etc.). Thus, we know less about their reliability, validity, accuracy, and fairness compared with other, more commonly used performance measures. We also know less about how to develop effective results measures that will possess adequate psychometric properties and validity.

Given that we already have several conceptually distinct, well-defined, and psychometrically sound performance measures that appear to comprehensively cover the criterion domain, one might reasonably question why we should bother adding results measures to the mix. The answer is that many organizations today are focusing on defining work in terms of the results employees and teams are expected to achieve, and likewise, they are evaluating and rewarding staff on the extent to which they have delivered tangible outcomes that are important to the organization's success. Additionally, as employees are becoming more empowered and jobs more autonomous, it is increasingly important to hold employees accountable for achieving measurable results. Thus, if a situation arises in which we must conduct validation research using criterion measures that are available, chances are that we will increasingly encounter measures of results. In addition, operational performance measures are sometimes used as predictors in making promotion decisions. Here, again, such predictors are increasingly likely to include measures of results.

Many of the performance measures used in validation research have focused on measuring work behavior, which is important to ensure job relevance. Behavioral measures have also been used extensively in the past as a basis for performance management. These measures focus on how employees get the job done; for example, how they contribute to a team, communicate, plan and organize work, and so forth. Irrespective of how productive employees may be, we are all familiar with the problems and disruptions they can cause if they are difficult to work with, unhelpful, or exhibit maladaptive behavior. Thus, evaluating workplace behavior is important. We are all also familiar with employees who are extremely helpful, communicate well, and are

nice to everyone, yet never seem to get anything done. This is why considering the results that an employee achieves is also an important part of overall performance measurement, and as mentioned, it is one that organizations are increasingly emphasizing.

Although a choice can be made to assess results or behavior, it may be important to include both types of measures when comprehensive performance measurement is the goal (Landy & Trumbo, 1980; Pulakos, 2008), as would be the case when the measures are used as criteria for validation research or as predictors in selection or promotion processes (e.g., the use of accomplishment records for leadership selection). Because earlier chapters have discussed behavioral performance measurement in detail, our focus here is on how to obtain useful and meaningful measures of individual and team results. However, because relatively little research has been directed to measuring results, there is not an extensive literature to draw on that speaks directly to the quality and utility of results measures or how they relate to other, more commonly used predictors and criteria. Accordingly, we draw on related research to propose methods for developing results measures that should maximize their reliability, validity, and fairness.

We begin by reviewing the debate that has surrounded measuring workplace behavior versus results and discuss why the measurement of results has become increasingly popular today. We then propose methods for developing results measures for individuals and teams and the associated challenges. We review the concept of cascading goals and provide guidelines for developing individual and team objectives, which are thought to be an important precursor to achieving organizationally relevant results. We then discuss evaluation methods that should facilitate accurate and fair measurement of the results employees achieve, using a combination of objective and subjective measures. Finally, we discuss individual difference constructs that are likely to predict performance results.

### MEASURING INDIVIDUAL WORKPLACE BEHAVIOR VERSUS RESULTS

There have been longstanding differences of opinion about what aspects of employee performance should be measured—behavior, results, or both (see Bernardin, Hagan, Kane, & Villanova, 1998; Feldman, 1992; Latham, 1986; Murphy & Cleveland, 1991; Olian & Rynes, 1991). The measurement of each offers unique advantages and corresponding disadvantages. In this section, we briefly discuss these as well as the reasons for the increasingly popular trend of measuring employee performance in terms of results.

Many I-O psychologists have argued against measuring results, advocating instead for a focus on behavior. They argue that there are too many measurement problems associated with results-based criteria that undermine their usefulness (Dunnette, 1966; Guion, 1965). First, there are some jobs for which results measures are nonexistent (e.g., artistic and creative jobs, many research and development jobs), making it impossible for job performance to be evaluated in these terms. Second, the assessment of results is problematic because it can be impacted by factors outside of an employee’s direct control or be the result of team efforts. Indeed, it is likely that many of the nontrivial results that an individual achieves are at least somewhat a function of factors outside of his or her complete control. Consequently, the measurement of important results may inherently suffer from some amount of criterion contamination (Borman, 1991). Finally, an exclusive focus on results can yield deficient performance measurement because consideration is not given to how employees achieve their results. Although workers can achieve impressive results, overall performance is not effective if employees have a “results-at-any-cost” mentality and achieve outcomes in ways that are detrimental to others or the organization (Cardy, 1998).

To address these issues, job performance has typically been evaluated by measuring work behaviors via the use of subjective rating scales. One important advantage of using subjective ratings is that all of a job’s performance requirements can be described on a set of rating scales, thereby mitigating the deficiency problems that often plague results-based measurement (Borman, 1987). Also, by focusing on behaviors that lead to effective performance, criterion contamination resulting from situational factors outside of the employee’s control can begin to be reduced.

Although there are clearly challenges inherent in measuring results, the evaluation of behavior is not without issues of its own. First and foremost, the common practice of using subjective ratings to assess behavioral performance (see Chapter 20, this volume) yields measures with notoriously attenuated variance. This is particularly true when these ratings are collected for operational purposes (e.g., pay, promotion), circumstances in which a large proportion of employees are rated at the highest levels of the rating scale (Pulakos, 2004). This lack of discrimination among employees renders the measures virtually useless for validation research or for use as selection measures (with the notable exception being the identification of a handful of nonperformers). Although for-research-only ratings collected in validation studies tend to be more variable, lack of discrimination is a chronic problem with subjective ratings, undermining their reliability, validity, and utility.

Second, advocates of results-based measurement assessment argue that a focus exclusively on behavior misses what is most important, namely whether or not an employee actually delivered important bottom-line results. Although an employee can engage in highly effective behaviors, they are of little value if they do not result in organization-relevant outcomes (Bernardin et al., 1998). To that end, it has been suggested that behaviors should be measured only if they can be linked to outcomes that drive organizational success. In addition, research has shown that employees perform more effectively when they have specific goals and expectations so that they know what they are accountable for delivering (e.g., Locke, Shaw, Saari, & Latham, 1981). Defining and measuring the results each employee is expected to achieve and aligning those to organizational performance helps everyone work toward a common set of important goals.

Despite the difficulties associated with measuring results (e.g., criterion contamination and deficiency), there has been an increasingly popular trend over the last decade for organizations to adopt a results focus in the measurement of job performance. This is largely because business leaders and organizational consultants have become convinced that an exclusive focus on behaviors is remiss in not sufficiently emphasizing the importance of delivering meaningful results that are critical to organizational success. This orientation has likely been driven by intensified pressure from stockholders and increasingly formidable national and international competition. It is noteworthy that two other chapters in this volume share the perspective that results criteria are important indices of selection-related value. Chapter 10, this volume, makes this point in discussing the business value of selection as it relates to system- and organizational-level outcomes, whereas Chapter 5, in this volume, discusses this in relation to multilevel issues.

Even public sector and not-for-profit organizations that have not traditionally driven toward results have adopted this focus to demonstrate their value. In the late 1990s, the Internal Revenue Service (IRS), the Federal Aviation Administration (FAA), and the Government Accountability Office (GAO) all initiated pay-for-performance systems, which focused on measuring and rewarding results. More recently, the U.S. Departments of Defense (DoD) and Homeland Security (DHS) have developed similar programs. This results focus has become so pervasive that the U.S. Office of Personnel Management (OPM) codified procedures that require federal government agencies to develop performance management systems for executives that link their performance to results-oriented goals and to explicitly evaluate results.

### MEASURING TEAM BEHAVIOR VERSUS RESULTS

Over the past two decades, organizations have steadily moved from individualized work in functional structures to team-based work systems (Kozlowski & Ilgen, 2006). In fact, team-based work is becoming a dominant organizational strategy for achieving important outcomes (Salas, Burke, & Fowlkes, 2006; Wildman, Bedwell, Salas, & Smith-Jentsch, 2011). The increase in the use of teams is often based on the assumption that they will lead to increases in productivity and efficiency because of characteristics that can be built into teams (e.g., skill diversity, ability for rapid response) that enable them to respond to emerging organizational challenges. As a result, team performance is becoming increasingly important to ensuring organizational success—even more so than individual performance. However, while a considerable amount of research has focused on building effective teams, far less work has been devoted to the measurement of team-based performance.

As with the measurement of individual performance, team-based performance can be measured through behaviors, results, or both (see Cannon-Bowers & Salas, 1997; McIntyre & Tedrow, 2004; Salas, Stagl, Burke, & Godwin, 2007). In team-based performance measurement, behavior is often defined in terms of process. Process measures assess the manner in which the work is completed or the mechanisms a team uses to accomplish its tasks, capturing behaviors such as communication, coordination, monitoring, conflict resolution, and back-up behavior (Marks, Mathieu, & Zaccaro, 2001; Salas, Sims, & Burke, 2005). Process measures are distinct from, although related to, results measures, which assess the quantity or quality of the outcomes of the work produced as a result of the team processes.

Many have advocated for a focus on process. Similar to the arguments made in relation to individual performance measures, experts have argued that team result measures are deficient. A team can produce a quality product but exhibit such poor teamwork and process that in the long run team performance may suffer, the team may burn itself out, or there will be a lack of willingness among team members to work together in the future (Hackman & Oldham, 1980; McIntyre & Tedrow, 2004). In fact, some have argued that one of the most important outcomes or results associated with team performance is team viability, the team's desire to remain together during and after a performance event (Hackman, 1987). Additionally, results measures are not diagnostic in that they do not identify the underlying causes of outcomes while process measures capture the behavioral mechanisms of performance (Cannon-Bowers & Salas, 1997).

As is the case when measuring individual performance, advocates of results-based measurement argue that a focus exclusively on process misses what is most important, namely whether or not the team actually delivered important results. A team can exhibit excellent teamwork skills and process but still deliver an inferior product or outcome. It is important to assess both process and results for comprehensive measurement of team performance (Wildman et al., 2011). Ultimately, the team's success must be based in part on the results of their performance because outcomes are what organizations must predict and manage. Most organizations define team effectiveness with results measures such as quality of output and quantity of work (Cannon-Bowers & Bowers, 2011).

With results-oriented performance measurement increasingly emerging as a significant trend in the measurement of individual and team-based performance, the remainder of this chapter is devoted to methods for defining and evaluating results in a manner that will yield the highest quality measures possible. One important caveat to point out is that results have been fairly narrowly defined in the past to include only those outcomes that could be evaluated using highly objective criteria, such as dollar volume of sales. More recent operationalization definitions of results continue to emphasize objective measurement, but there has also been recognition that it may not be possible to translate every important aspect of a result into a bottom-line, objective metric. This has opened the door for the use of some subjective (i.e., judgmental) measures along with objective measures in assessing the quality of results.

## DEFINING INDIVIDUAL PERFORMANCE OBJECTIVES

Measuring results relies on identifying performance objectives that state the outcomes an employee is expected to achieve in sufficient, measurable detail such that it is clear whether or not the objectives have been met. An important goal in many organizations today is ensuring that employees focus on achieving results that contribute to important organizational goals. For example, if improved teaming with strategic partners is a key organizational goal, the objectives set for employees should hold them accountable for seeking out and formalizing these relationships. The value of developing and linking goals at different levels has been written about extensively in the management by objectives (MBO) literature (Rodgers & Hunter, 1991). Linking organizational goals to individual goals not only helps focus employees' attention on the most important things to achieve but also shows how their achievements support the organization's mission. Additionally, by showing how work performed across the organization is related, it is more likely that everyone will be working in alignment to support the organization's strategic direction and critical priorities (Hillgren & Cheatham, 2000; Schneider, Shaw, & Beatty, 1991).

To ensure alignment of goals across levels, organizations frequently implement the concept of cascading goals, in which the organization's strategic goals are cascaded down from level to level until they ultimately reach individual employees. In such a system, each employee is accountable for accomplishing specific objectives that are related to higher-level goals, thus providing obvious and transparent connections between what an employee does on his or her job and the organization's key goals (Banks & May, 1999; Hillgren & Cheatham, 2000).

Figure 23.1 presents an example of linking four levels of organizational goals. Looking at the connecting symbols, not every goal applies to all levels. For example, only two of the five organizational goals apply to the Administrative Division. Likewise, only two of the Administrative Division's goals apply to the Accounting and Finance Department. Finally, in this example, the person's individual performance objectives support only one of the department's goals. It is extremely unlikely that an individual's performance objectives will relate to every goal at every level in the organization. What is shown in the example is much more typical, in which an individual's objectives will support only a subset of higher-level goals.

Although the value of developing and linking individual and organizational objectives makes a great deal of sense in theory, practical implementations of this strategy have revealed some significant challenges that make the process much easier said than done. First, it is absolutely critical for organizations to set goals and objectives in a thoughtful and realistic way to ensure that mistakes made in setting the highest-level goals do not cascade down throughout the entire organization. For this reason, goals set by the top leadership of the organization need the most critical scrutiny and opportunities for correction or revision, things that do not always occur to the degree they should.

Assuming the highest-level goals are well thought through and realistic, one of the challenges in cascading goals is that it is sometimes difficult to see direct relationships between high-level goals and what an individual does on the job. This is why organizational goals need to be translated or cascaded into increasingly refined goals at the division, department, and individual levels. The process of developing cascading goals usually requires several meetings in which organizational leaders first develop division goals that align with the organizational goals. Then, mid-level managers develop unit goals that align with division goals. Then, managers develop group goals that align with unit goals, and so on until the organizational goals are cascaded down to individual employees. The process of cascading goals thoughtfully and meaningfully is quite time-consuming and challenging.

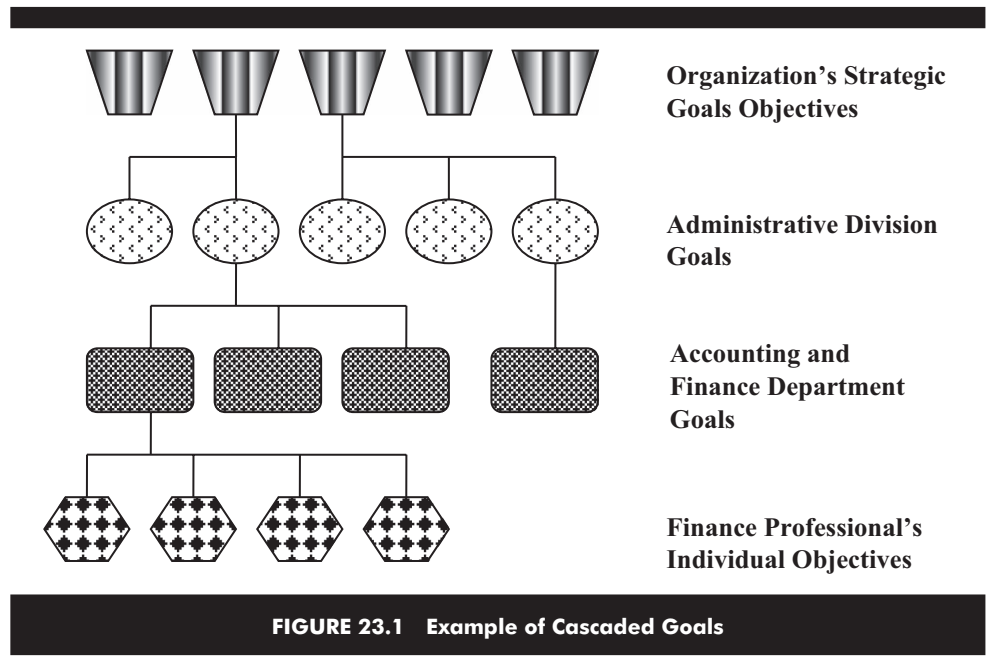


FIGURE 23.1 Example of Cascaded Goals

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On average, organizations spend fewer than 10 hours per year on performance management activities for each employee (Brentz, Milkovich, & Read, 1992). However, the process of cascading goals requires considerably more time. In fact, it is not uncommon for organizations that are initiating cascading goals to take until the end of the second quarter of the operating year to complete the process. This poses difficulties, because half of the rating period may have passed before individual goals and expectations are set for employees, leaving little time for goal attainment. However, as organizations gain more experience with cascading goals, efficiencies are realized. The bottom line is that the implementation of cascading goals requires time, effort, and considerable hand-holding, at least initially, to ensure that the process is done well.

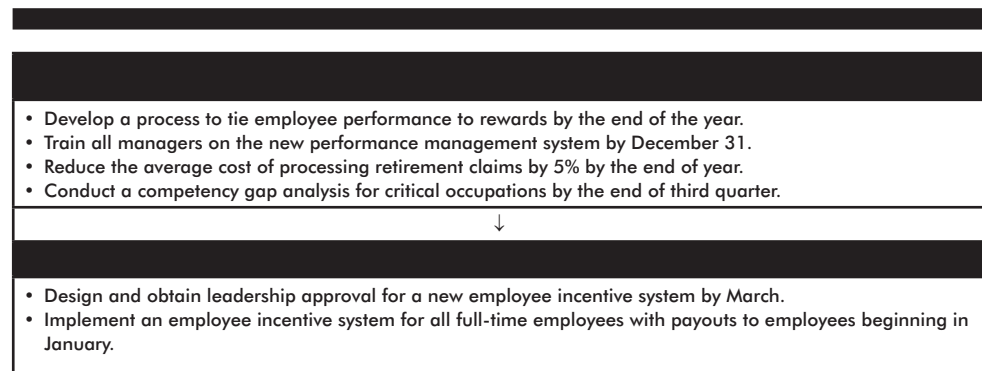
Once goals have been successfully cascaded down to the level just above the individual, there are two ways individual goals can be linked to these higher-level goals:

1. Start with performance objectives and work upward to link them to higher-level goals.
2. Start with higher-level goals that are relevant to an employee's job and work downward to develop individual performance objectives.

The decision to link upwards or downward is a personal preference. Some find it easier to start with something concrete from their job and work upward to a less-tangible concept. Others find it easier to start with a higher-level goal and develop something they can do on their job that relates to that goal. Figure 23.2 shows an example of how department goals could be cascaded down to individual objectives for a human resources (HR) professional. Note that the individual objectives are related to only one of the department goals. Objectives can be related to more than one goal at the next higher level, but as mentioned previously, it is unlikely that goals at one level will relate to all of the goals at the next level.

Several guidelines should be followed when developing individual performance objectives. Many of these are a direct outgrowth of the well-established principles found in the goal-setting literature (Locke & Latham, 1990). Following these guidelines will help to ensure that the objectives are clear, employees know what is expected, and they are motivated to achieve success.

- *Objectives must be specific.* Objectives must be clearly defined, identifying the end results employees are expected to achieve. Ambiguity is reduced by specifying the outcomes, products, or services in terms of quality, quantity, and timeliness expectations. Although research has continually found that well-defined objectives are associated with higher levels of performance, reviews of results-based performance measurement systems have shown that objectives are frequently not sufficiently defined or well written to clearly communicate the employee's expectations.
- *Objectives must be measurable.* To the extent possible, objectives should be defined in terms of measurable outcomes relating to quality, quantity, and timeliness standards so that both managers and employees know when and whether they have been achieved. However, to comprehensively measure what is most important, it may be necessary to go beyond objective measures and allow for some subjective



**FIGURE 23.2 Example of Individual Goals Cascaded From Departmental Goals**

judgment (e.g., quality is sometimes difficult to operationalize in terms of concrete metrics). Later in the chapter, we discuss evaluation of objectives in detail and provide examples of objective and subjective criteria that can be used to measure results.

- *Objectives must be difficult but achievable.* The goal-setting literature has consistently shown that difficult but attainable objectives lead to more effective performance than moderately difficult goals (Locke & Latham, 1990). Goals that are perceived as challenging, but realistic, have been found to have the strongest impact on motivating employees to perform. Related to this idea is that the objective must be sufficiently within an employee's control to achieve and not overly depend on outside factors.
- *Objectives must be job relevant.* Objectives should have a direct and obvious link to the employee's job and important organizational success factors. As discussed, the use of cascading goals and objectives helps ensure that individual and organizational goals are aligned. In the section "Challenges associated with developing individual objectives and mitigation strategies," we discuss how to use job analytic information as a basis for developing objectives, thus helping to ensure their content validity.
- *Ideally, no more than three to five objectives should be set.* Performance objectives should reflect significant products or outcomes that employees are expected to deliver. The recommendation to limit objectives to three to five is based on the fact that most employees will be unlikely to achieve more than this number of significant and important results in a year's time. Consequently, establishing more than this number of objectives could be overwhelming and only serve to demotivate employees. Although it is usually possible to set subgoals for major objectives, and employees should do this to guide their own performance, it is not recommended that the objectives recorded in an employee's performance plan contain this level of detail. Recording many narrowly defined subgoals in one's formal performance plan can make it impractically time-consuming to maintain. This is because changes to formal performance plans often require review and approval from others (e.g., supervisors, second-line managers, and HR). In most circumstances, it will not make sense to include very detailed subgoals that may change regularly as the work evolves and require ongoing formal revision of the plan.
- *Employees must be committed to the objectives.* A key aspect of commitment that we have already discussed is that employees must feel that they can reach their objectives, or they will be demotivated to try. The best way to facilitate employees accepting their objectives is to make them an active part of the objective-setting process and work with them to arrive at objectives that are challenging yet achievable. Once managers and employees have come to agreement on the employee's objectives in principle, asking employees to prepare the written description of their objectives helps enhance their ownership of them.
- *Managers must show their commitment to the objectives.* It is important for managers to show their support by providing guidance and resources as well as removing obstacles to goal achievement. The literature clearly shows that management commitment is critical to successful achievement of objectives (Rodgers, Hunter, & Rogers, 1993).

Realistically, meeting all of these requirements is difficult, if not impossible, to achieve. Moreover, for most of these requirements there will be some variability in the level to which each can be met in a given context. The more these requirements can be met, the more effective the objectives will be. There is often an overemphasis on ensuring performance objectives adhere to "SMART" criteria (specific, measurable, attainable, realistic, time-bound), often at the expense of being meaningful and driving performance increases. As a result, organizations often spend a significant amount of time and money on training employees and managers to develop SMART goals without realizing any improvement in performance. What is of fundamental importance is ensuring that employees and managers work together to set ongoing expectations as work evolves and to monitor progress towards those expectations.

### DEFINING TEAM-BASED PERFORMANCE OBJECTIVES

Extensive research has supported the tenets of goal-setting theory at the individual level. Only recently has this research addressed goal setting in teams. While the emerging research has found some differences between goal setting with individuals and teams, the cumulative literature suggests that there is a significant relationship between team-based goal setting and performance



(Kramer, Thayer, & Salas, 2013). Team-based goals provide direction, create motivation to enact strategies for goal attainment, and energize team members to work hard and persist, which in turn impacts performance.

Many of the underlying principles of goal-setting theory have been found to generalize to teams (see Kleingeld, Van Mierlo, & Arends, 2011; Kramer et al., 2013; Latham & Locke, 2007). For example, Wegge and Haslam (2005) found that specific and challenging team goals led to better performance than “do your best” goals. A meta-analysis by O’Leary-Kelly, Martocchio, and Frank (1994) found that specific and difficult goals led to a one standard deviation improvement in team performance when compared to “do your best” goals. Finally, DeShorn, Kozlowski, Schmidt, Milner, and Wiechmann (2004) found that team goals, goal commitment, and efficiency interact to determine the level of performance improvement expected from goal setting. The collective research findings suggest that many of the recommendations for developing performance objectives made above can be extrapolated from individuals to teams.

## **CHALLENGES ASSOCIATED WITH DEVELOPING INDIVIDUAL OBJECTIVES AND MITIGATION STRATEGIES**

Although it may be intuitively appealing to develop individual employee objectives that link to organizational goals, there are several challenges associated with developing fair and effective objectives that result in reliable and valid performance measurement. In this section, we discuss seven major challenges inherent in identifying and setting objectives, along with recommendations for mitigating these.

### **Challenge 1: Training Managers and Staff to Write Effective Objectives**

Managers and employees are not typically accustomed to developing objectives and therefore find it challenging to identify and clearly define them. One reason is that organizational members seem to naturally think in terms of the work behaviors that employees perform on the job rather than in tangible, well-defined outcomes. This may be because the materials they tend to review (e.g., job descriptions or vacancy announcements) typically contain work behaviors or job tasks. Identifying performance objectives requires going beyond tasks and defining the specific products, services, or outcomes that result from work activities. Training is necessary to help managers and employees understand what performance objectives are and how to write them in a clear and unambiguous manner.

However, even after attending training, the quality of the objectives produced by different managers and employees varies greatly. It is especially helpful in the initial implementation process for individuals who know how to write effective objectives (e.g., trained HR staff or higher-level managers) to review the objectives for each employee and provide feedback on their appropriateness, clarity, and fairness. One advantage of a higher-level review is that it enables the objectives developed for similarly situated employees to be assessed for comparability and revised, if necessary. The process of receiving feedback from higher-level reviews further trains managers and employees how to write more effective objectives.

### **Challenge 2: Ensuring Objectives Are Job Relevant**

In more routine, standard, and predictable jobs, it is often possible to predefine a set of objectives that apply uniformly to all employees at a given level using standard job analytic procedures. This not only saves time that would otherwise be spent by each manager and employee on developing individual objectives, but it also ensures that all employees in the same job are held accountable for delivering the same results. Standardized objectives are not only the most fair

TABLE 23.1  
*Transforming Work Tasks into Performance Objectives*

<i>Work Task</i>	<i>Transformed into Performance Objective</i>
Evaluate and monitor the quality of information provided to potential customers	Monitor calls to company call center and provide feedback to staff as necessary to ensure 95% accuracy of product information provided Monitor responses to e-mail inquiries to ensure that responses are made within 24 hours and that accuracy of information provided is at least 95%
Design, administer, analyze, and evaluate surveys	Develop items, select vendor, and administer survey by January; analyze data, conduct focus groups to further understand survey results, and write report with clear, actionable, and feasible recommendations that requires no grammatical editing and minimal substantive editing by July

for employees, but they also allow straightforward comparisons to be made among employees in terms of the results they delivered.

In more unique jobs and situations, it may be impossible to predefine objectives that apply across positions, jobs, or organizations. Although a group of employees may occupy a given job, the specific results each individual is expected to achieve may vary depending on the nature of his or her assignments. For example, some organizational consultants may have production or sales results, others in essentially the same job may be responsible for developing and implementing systems, others may have specific levels of customer satisfaction outcomes they are expected to meet, and still others may have employee development or team-leadership goals. To the extent that people holding similar jobs have different goals and objectives, evaluating and comparing their performance in a fair and standardized manner becomes increasingly challenging.

Under these circumstances, we recommend developing individual objectives that further define critical tasks from a comprehensive job analysis. This helps ensure that a common base of job-relevant information is used to develop objectives. Objectives derived in this manner will contain more specific information than the tasks or work behavior statements, such as what specific project, customer, product, etc. the employee is responsible for and what specific quality, quantity, and timeliness criteria will be measured. Two examples of how objectives can be developed by further specifying validated work behaviors appear in Table 23.1. The first task is to evaluate and monitor the quality of product information supplied to potential customers. A reasonable objective for this task would be to monitor the specific channels that are used to provide information to customers and evaluate the accuracy and timeliness of the information supplied according to measurable criteria. The second task is to design, administer, analyze, and interpret surveys. Specifying what type of survey a given employee is responsible for and the timeline required for its completion allows this work task to be transformed into an individual objective.

### **Challenge 3: Helping Managers Develop Comparable and Fair Objectives for Employees**

A problem that occurs when different managers set objectives for employees who occupy the same job is that natural inconsistencies among them can result in objectives that are too easy, unattainable, or unsystematic across employees (Jamieson, 1973; Strauss, 1972). This often results in employees in the same job being evaluated against objectives that vary significantly in their difficulty and complexity. For example, assume one employee's objective is to perform a simple information-cataloguing project, whereas another employee in the same job and level is given the objective of managing the design and implementation of a complex information

management system. If the value of these different objectives is not established and there is no mechanism in place to review objectives for fairness and consistency across employees, both of these employees could be considered performing equally well if they both achieved their stated objectives. Yet, the employee who managed the design and implementation of the information management system would have undertaken a much more difficult and complex assignment and contributed substantially more. Thus, evaluating employee results cannot merely take into account whether each individual simply met or did not meet the established objectives. This would not only undermine the accuracy of performance measurement but could also rightly be viewed as unfair, with a consequential negative impact on employee acceptance of the measurement process (e.g., Dipboye & de Pontbraind, 1981; Greenberg, 1986).

We recommend several strategies to mitigate this problem. First, the training provided to managers and employees needs to focus on teaching them how to develop objectives that are of similar difficulty and complexity for individuals in the same or similar jobs. This process is similar to frame-of-reference training, in which review and discussion of example objectives helps calibrate trainees to apply similar standards. As a supplement to training, especially in the early stages of implementation, having managers meet to review the objectives for staff in the same job helps ensure that similarly difficult and complex objectives are set for similarly situated employees. Such meetings also reinforce development of a common frames-of-reference among managers for setting objectives.

A third recommendation to facilitate the quality and consistency of individual objectives is to retain them in a searchable database organized by job and level. These can be used again verbatim or refined and edited over time to develop future objectives.

Finally, even if an objective appears appropriate for the job and level and is comparable to those for similarly situated others, a project, program, or goal will sometimes turn out to be much more or less difficult than anticipated. For this reason, we feel it is important to evaluate employees not only on the extent to which they achieved or exceeded their stated results but also on the difficulty and complexity of what they delivered relative to what would be expected for their job. Although this involves a subjective judgment, it provides a more fair and more accurate assessment of the employee's performance overall and a systematic basis for making meaningful comparisons among employees who may have achieved different types of results.

#### **Challenge 4: Ensuring Objectives Are Within an Employee's Control**

When one is developing individual objectives, care must be taken to ensure that they are largely within the employee's control and not overly dependent on things he or she cannot control. Differences in the results achieved may not be a function of differences in individual motivation, effort, or ability, but instead, differences in the opportunities available to different employees. For example, one employee may have more modern equipment than another and thus be able to produce a higher volume of product, irrespective of how hard either individual works. In a similar classic example, one employee may have a sales territory in Wyoming and another in New York City. On the basis of volume and proximity of potential customers, the individual in New York City should have more opportunity to make sales than the one in Wyoming. Clearly, circumstances beyond an employee's control can have a significant impact on the results achieved (Kane, 1986) and an employee's motivation.

#### **Challenge 5: Handling Objectives That Are Partially Attributable to Others**

A related challenge in setting objectives occurs when outcomes cannot easily be associated with a specific person's effort, because the work involves significant interdependencies or is team focused. For example, in the design and production of a new automobile, the quality of the product is dependent on the design engineering group and the production group (Cascio, 1998). When the work requires significant interdependencies, objectives should be set at the

level where the key work products are produced. If jobs are so intertwined, it may not be practical or even appropriate to set individual objectives. In such circumstances, individual objectives should be abandoned and replaced with objectives set at the higher group or team level (Lawler, 1994). Ployhart and Weekley (Chapter 5, this volume) similarly make the point that task and result interdependencies may make individual-level performance and results impossible to measure well, if at all, and only aggregated performance/results may be measurable in any reasonable way.

### Challenge 6: Setting Objectives in Fluid Situations

Setting specific objectives in advance may be extremely difficult for some jobs (Cascio, 1998; Levinson, 2005). Jobs that best lend themselves to setting objectives have relatively static performance requirements and definable productivity metrics, both of which are uncommon in many of today's jobs. As the economy continues to transform from a manufacturing focus to a knowledge and service focus, jobs are increasingly becoming more fluid and unpredictable, which makes setting objectives more difficult (Pulakos, Hanson, & O'Leary, 2007).

For jobs that are fluid and unpredictable, or in situations where unforeseen circumstances regularly interfere with attaining objectives, it may be necessary to alter or completely revise an employee's objectives during the rating period. Managers and employees need to be prepared to make changes to the objectives as the situation or priorities change. Obviously, to the extent that a situation is chronically volatile, requirements for constant changes to the formal performance plan may prove to be impractically time-consuming. An alternative strategy for jobs that are in flux is to set shorter-term objectives that are more predictable. Feedback can be given during the rating period as employees meet key milestones. In fact, given the fluid nature of many work environments and jobs, some experts have argued against setting longer-term objectives and instead recommend setting shorter-term goals as the work evolves.

### Challenge 7: Ensuring Objectives Focus on Important Aspects of Performance

Measuring important aspects of performance is necessary to obtain valid and useful measures. Consider the job of an electrician. Although the number of projects completed within budget may be a useful indicator of performance effectiveness, the ability to complete projects within budget is only one aspect of the job. There are other, more important contributors to overall performance that should be assessed, such as whether the work is competently performed according to code.

Ensuring that nontrivial aspects of performance are measured relies on two things. The first is that careful consideration be given to what types of performance measures are most critical to assessing effectiveness (e.g., quality, quantity, timeliness) and appropriately incorporating these factors into performance measurement. The second is understanding that although some people advocate using only quantifiable measures (e.g., average call time, sales volume) to evaluate objectives, results-based performance measurement does not require consideration of only bottom-line, objective measures. Instead, the results of some objectives may need to be judged subjectively (e.g., to evaluate the quality of work produced). Including evaluation of objective metrics and subjective factors, where appropriate, will help mitigate the problem of only focusing on those results that can be easily measured rather than on those that represent the most important aspects of performance.

## CHALLENGES ASSOCIATED WITH DEVELOPING TEAM-BASED OBJECTIVES

It may be tempting to think of team-based objective setting as simply an extension of individual objective setting. However, there are unique challenges associated with establishing team-based

objectives that are worth addressing. In this section, we discuss four unique challenges inherent in identifying and setting objectives for teams.

### **Challenge 1: Accounting for Interdependence**

One challenge is task interdependence, the extent to which team members must rely on one another in order to complete a task or produce an outcome. The results of team-based jobs are a function of the coordination and seamless performance of the group, not simply the sum of the individual team member contributions. Interdependence adds a layer of complexity that is not often found in individual-based work. Processes such as communication and coordination do not take place when individual tasks are required. Performance objectives need to accommodate the level of interdependence within a team. The more tasks are interdependent, the more important team goal commitment becomes for ensuring goal accomplishment (Aubé & Rousseau, 2005).

### **Challenge 2: Establishing Objectives at Multiple Levels**

Objectives in teams must be set at multiple levels (Salas et al., 2004; Wildman et al., 2011). Teams are composed of individuals working toward a common goal, and objectives need to be set and performance measured at the individual and team levels. Objectives set at the individual level focus on the specific products or outcomes the individual achieves in relation to the team’s results. Objectives set at the team level focus on the results achieved by the collective team.

Assigning objectives at the individual level encourages individual productivity and is consistent with traditional approaches to performance management, which hold individuals accountable for goals they are directly responsible for achieving. They are important because the use of team-based objectives alone may not accurately represent the contributions of all of the team members (Cannon-Bowers & Bowers, 2011). For example, a team may have one or two members with subpar performance who get acceptable ratings if individual objectives are not considered (McIntyre & Tedrow, 2004). However, it may be difficult to assign individuals to specific contributions related to team outputs, and individualized goals may remove the focus from the team or lead to counterproductive competition among team members.

Individual-level objectives are not sufficient. Team-level objectives are required to measure outcomes of team-based tasks and processes. In addition, to combine work efforts effectively, team members must have a shared understanding of what they are trying to achieve. What’s more, individuals may achieve their personal objectives in a manner that prevents team goal attainment. Finally, team objectives are more likely than individual objectives to align with organizational goals.

In team-based objective setting, a balanced approach is needed (Cannon-Bowers & Salas, 1997). Individuals should have objectives for their own performance as well as an objective(s) for the entire team (Kramer et al., 2013). These goals are often cascaded with individual goals contributing to team goals and team goals contributing to higher-level organizational goals. However, very limited research has specifically examined the setting of objectives at multiple levels.

### **Challenge 3: Avoiding Goal Conflict**

One major difficulty encountered when setting objectives at the individual and team levels is the potential for goal conflict (Latham & Locke, 2007). Individual objectives may be set to motivate members to achieve their own goals, but these may interfere with cooperation and team performance. Only when an individual’s objectives are compatible with the team’s objectives will performance be enhanced (Seijts & Latham, 2000). Additionally, at the individual level, when

individuals view goal attainment as competitive and perceive that others' attainment of their own goals may prevent them from personal goal achievement, they may obstruct others (e.g., withhold information) (Stanne, Johnson, & Johnson, 1999). Cooperation is only likely to occur if individuals see their goals and the goals of others and the team as correlated, such that attainment of one leads to the attainment of the other. When developing goals at multiple levels, it is important to understand and strive for goal interdependence. This is often done through the development of group-centric individual objectives set by the individual to maximize team performance (Kramer et al., 2013).

### Challenge 4: Accounting for the Uniqueness of the Team

In response to operational and organizational challenges, a wide variety of team types have emerged. Teams range from small to large, temporary to permanent, co-located to distributed to virtual, and self-managed to hierarchically led. Not surprisingly, research suggests that not all teams are equal. The processes used to develop objectives must understand and take into account differences in team purpose, composition, structure, and management structure before measurement approaches can be developed (Salas et al., 2004).

By way of example, establishing common goals within virtual teams (characterized by members working in different locations and communicating through a variety of methods) can be difficult. When compared to in-person teams, working in virtual teams can increase anonymity and social loafing, lead to feelings that individual work is not important or will be overlooked, and decreases in trust among team members (Kramer et al., 2013). This can lead to a lack of goal commitment and team cooperation (Hertel, Konradt, & Orlikowski, 2004). In these contexts, participative goal setting is beneficial as it allows for ownership of the objective and a shared understanding of each team member's responsibilities. Alternatively, for high-performing teams working in difficult, stressful, and complex environments (e.g., medical teams, flight crews) where hierarchical management structures dominate, difficult and specific goals may lead to more risk taking, which may be detrimental. In these contexts, a less concrete goal with "room for interpretation" may be beneficial (Kramer et al., 2013). Additionally, in such environments, team members are more likely to turn to their leader for guidance, so leader-set goals have more value.

### MEASURING RESULTS OF PERFORMANCE OBJECTIVES

Once objectives have been established, employee performance related to those objectives must be evaluated. Four types of measures are commonly used for this purpose: timeliness, quality, quantity, and financial metrics.

*Timeliness* refers to the timeframe in which the work was performed. Examples of timeliness metrics include responding to customer complaints within 24 hours and providing statistical reports on a quarterly basis that summarize progress toward affirmative action goals.

*Quality* refers to the effectiveness of the result. Examples of quality metrics include improving the layout for navigating a website to make it more user-friendly as indicated by a 10% improvement in user survey satisfaction results, independently creating a report containing relevant and concise information on program operations that required no revisions, and developing an online training program in which trainees successfully learned 85% of the materials. Although it is useful to develop quantifiable metrics of quality where it is possible to do so, quality assessments will sometimes require subjective judgments (e.g., how relevant and concise the information contained in a report actually was). Providing predefined rating criteria to guide subjective judgments helps ensure that employees are fairly evaluated against uniform standards.

*Quantity* refers to how much work is performed. Examples of quantity metrics include responding to 95% of requests, providing computer training to 90% of employees, and conducting two onsite reviews each month to assess compliance with regulations.

TABLE 23.2  
*Example Performance Objectives*

**Well-Defined Objectives**

- By June 30, develop a plan that allows for 90% of general inquires to company website to be responded to within 72 hours.
- By the end of the operating year, implement a self-service benefits system that reduces processing costs by 10%.
- By June 30, draft and submit to the Human Resources Vice President a plan and timeline that is accepted without revision for expanding telework options to at least 70% of full-time employees.
- Reduce average cost of processing travel reimbursements by 5% by end of year.

**Poorly Defined Performance Objectives**

- Provide effective customer service.
- Coordinate with the Legal Department to revise the company’s HR policy.
- Promote volunteering in the local community.
- Reduce operating costs of company fleet program.

Finally, *financial metrics* relate to the efficient use of funds, revenues, profits, or savings. Examples of financial metrics include budgeting operations to achieve a 10% cost savings compared to last year and convincing customers to increase expenditures for service by 15% more than last year.

Although there are four primary ways to measure results, the different types of measures can be used together, which usually improves the clarity of expectations. For example:

- Processed 99% of candidate job applications within one week of receiving them (quantity and timeliness)
- Developed an online training course that taught 90% of employees how to use automated transactional systems and reduced training costs by \$500 per employee (quantity, quality, and financial metrics)

Table 23.2 presents examples of well-defined objectives that specify timeliness, quality, quantity, and/or financial metrics and examples of poorly defined objectives that fail to specify measurable criteria. As it can be seen by reviewing the first set of objectives (i.e., well-defined) in the table, articulating expected results in terms of the four types of measures is likely to increase understanding and agreement about whether or not the objectives were achieved. Alternatively, the second set of objectives (poorly defined) is vague and nonspecific, which could easily lead to differing opinions about the extent to which they were met.

These four measures are rarely independent. For example, in order to meet timeliness metrics, it may be necessary to sacrifice quality. In cases where there may be tradeoffs, the organization and management must determine how to most appropriately balance the competing objectives. The optimal balance will depend on a number of factors, including organizational goals and changing operating environment.

**CHALLENGES ASSOCIATED WITH MEASURING RESULTS AND MITIGATION STRATEGIES**

Because our focus in this chapter is on measures that will be used as criteria in validation studies or as predictors for making selection decisions, reliability, validity, accuracy, and fairness of measurement are essential, as we have discussed. In the previous section, we described four types of measures that are most commonly used to evaluate results. Although we feel that these are useful and should be incorporated into measuring results, they have some inherent limitations that are important to address. To appreciate these limitations fully, it is important to

understand the two primary factors that have driven a results focus in organizations. That is, organizational leaders want to do the following:

- Drive achievement of important results from all employees or teams that contribute to the organization's success.
- Reward employees or teams on the basis of their performance, which requires accurate performance measurement. Architects of pay-for-performance systems felt this could be best achieved by defining results in terms of concrete, objective measures, thus mitigating the chronic inflation that characterizes subjective ratings.

With this as background, we now discuss three challenges inherent in measuring results and recommendations for addressing these goals.

### Challenge 1: Ensuring the Measures Selected Are the Important Ones

Managers must decide which measures are most important for assessing employee or team performance on each objective. They are encouraged to quantify these measures so there is no disagreement about the extent to which an objective has been met. On the surface, selecting the most appropriate measures may seem easy and straightforward, but consider the following questions:

- Did the employee who produced the most pieces also produce the highest quality pieces?
- Did the website redesign that was completed on time and within budget actually improve usability?
- Was the driver who made the most deliveries speeding and endangering others?

The reality is that even when measuring performance on objectives seems straightforward, it is important to consider the consequences of the measures selected because employees (and teams) will drive to those measures. For example, quantity measures are usually easier to define than quality measures. However, if only quantity metrics are used, employees will focus on production, possibly to the detriment of quality. It is also important not to fall prey to measuring peripheral aspects of an objective that may be easy to measure but are unimportant. For example, meeting a deadline is easy to measure, but improving customer service may be what is important. Researchers and practitioners have long argued against using convenience criteria because they are often unrelated to the most critical aspects of job performance (e.g., Smith, 1976).

Despite the limitations associated with use of subjective criteria, inclusion of some subjective judgment in the measurement of results increases the likelihood that the most important aspects of performance will be measured. However, we also recommend that uniform standards be provided to guide raters in making these judgments fairly and systematically across employees. Also, incorporating standardized criteria on which ratings are made provides a mechanism for making direct comparisons among employees who may have delivered different types of results. Shown in Table 23.3 are example criteria with a 5-point rating scale that could be used to evaluate the quality of different individually delivered results.

TABLE 23.3  
Performance Standards for Evaluating Quality of Results

Low		High		Exceptional
1	2	3	4	5
The product, service, or other deliverable had significant problems, did not meet minimum quality standards, and fell well short of expectations. There were many or very significant errors or mistakes and substantial revision or reworking was needed.		The product, service, or other deliverable possessed high quality and fully met expectations. There were only minor errors or mistakes that were easily corrected and inconsequential.		The product, service, or other deliverable possessed flawless and impeccable quality that met the highest possible standards and surpassed expectations. There were no errors or mistakes and no revision or reworking was needed.



## Challenge 2: Measuring a Reasonable and Sustainable Number of Criteria

Although many different types of measures can be used to evaluate results, there is the very practical issue of which and how many of these can be reliably and accurately measured without creating systems and processes that are so burdensome that they die under their own weight. Developing and collecting meaningful performance measures in organizations can have significant resource implications and, thus, careful consideration must be given to the number and types of metrics that will be collected. To implement and maintain an effective and sustainable results-based process over time, any measures that require implementation of special or additional processes or systems for collection should be judiciously selected.

## Challenge 3: Ensuring Useful and High-Quality Evaluation Information

One of the most challenging problems in measuring results occurs when employees individually or together have delivered a myriad of different results, and it is difficult to differentiate among them in terms of their overall contribution to the organization (Graves, 1986). For example, how should a cost-savings result be evaluated and rewarded as compared to a leadership result? Given that some results have more impact than others, it would not be fair or accurate to assume that all employees who achieved their objectives were performing with equal effectiveness. Related to this, some employees consistently deliver results above the expectations for their job level, whereas others consistently deliver below their level. Thus, although it is useful to know whether or not a set of objectives was met, this does not always provide useful information for discriminating between the most and least effective performers for validation research or operational selection/promotion decisions.

An effective strategy that has been used in public and private sector organizations to address these issues is, again, to introduce scaled criteria or standards that enable evaluation of the relative contribution and level of difficulty associated with different results. By using such standards as a part of the results evaluation process, managers are able to more accurately and reliably measure the contribution and value of the different results delivered. The use of individual performance objectives without scaled evaluation criteria to assess their relative contribution can result in a system that fails to differentiate among employees who are contributing more or less and for differentially rewarding them (Muczyk, 1979). Examples of standards to evaluate three different aspects of a result (e.g., extent to which objective was met, level of result achieved, and contribution of result) appear in Tables 23.4, 23.5, and 23.6, respectively. It is important to note that ratings on these criteria can easily be combined into a composite results measure, the psychometric properties of which can be readily assessed.

Not Met		Met	Exceeded	
1	2	3	4	5
Several of the quality, quantity, timeliness, or financial measures established for this objective were not met.		All of the quality, quantity, timeliness, and financial measures established for this objective were met.	The quality, quantity, timeliness, or financial measures established for this objective were significantly exceeded.	

**TABLE 23.5**  
*Level of Results Achieved*

<i>Did Not Meet</i>		<i>Met</i>	<i>Exceeded</i>	
1	2	3	4	5
The result achieved fell far below the difficulty and complexity of work expected for this job level.		At this level, work is moderately complex and difficult such that critical analysis, integration of multiple sources of information, and analyzing pros and cons of multiple solutions are required. Work is performed with minimal supervision and guidance. The result achieved was consistent with the difficulty and complexity of work expected for this job level.	The result achieved far exceeded the difficulty and complexity of work expected for this job level.	

**TABLE 23.6**  
*Contribution of Results*

<i>Low</i>		<i>Moderate</i>	<i>High</i>	
1	2	3	4	5
The efficiency or effectiveness of operations remained the same or were only minimally improved.		The efficiency or effectiveness of operations was improved, consistent with what was expected.	The efficiency and effectiveness of operations was improved tremendously, far surpassing expectations.	
The quality of products or services remained the same or was only minimally improved.		Product or service quality showed expected improvements.	The quality of products or services was improved tremendously.	

**INDIVIDUAL DIFFERENCE PREDICTORS OF RESULTS**

As Chapter 20, this volume, discusses, job performance criteria in selection research are often conceptually ambiguous, which makes specifying relationships between predictors and criterion measures difficult. In the case of results measures, the problem is compounded by the fact that the results achieved across different jobs may not reflect conceptually homogeneous content or constructs to the extent that other performance measures do. For example, considerable research evidence supports the existence of two major and conceptually distinct performance constructs, task and citizenship performance, each of which has been found to account for significance variance in overall job performance and to be associated with different antecedents (Borman, White, & Dorsey, 1995; Motowidlo & Van Scotter, 1994; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Because results measures reflect major outcomes or deliverables that relate to higher-level goals, they likely capture variance that is predominantly overlapping with task performance. However, depending on their nature, some results may be more reflective of citizenship performance, whereas others may be a combination of both.

Because research has not been conducted to understand the underlying dimensionality of results measures, coupled with conceptual ambiguity about what underlies achieving results, we can only speculate about what constructs may be most useful for predicting this aspect of job performance. Two constructs that have been shown to consistently predict performance across jobs also seem highly relevant for predicting results. First, cognitive ability has been found to be one of the strongest predictors of job performance in general (Hunter, 1980; Schmidt & Hunter, 1998). Additionally, the limited number of studies that used results as criteria suggest

that cognitive ability is likely to be a strong predictor of results, especially to the extent that the results measures share variance with task performance measures.

It also seems reasonable that conscientiousness, one of the Big Five personality constructs (Barrick & Mount, 1991; Chapter 13, this volume), would be associated with an overall predisposition to achieve results. The two major components of conscientiousness are achievement motivation and dependability. Achievement motivation, in particular, which refers to one's desire to achieve results and master tasks beyond others' expectations, may be particularly relevant to predicting results. Although the Big Five are rarely broken down into their component parts, Hough (1992) and Hough and Dilchert (Chapter 13, this volume) have argued for and shown potential advantages of examining lower-level personality constructs in the prediction of job performance. Because of the direct conceptual similarity between achievement motivation and achieving results, this may be a circumstance in which examining the validity of the component personality constructs may prove fruitful.

## CONCLUSIONS

The development of individual and team performance objectives, linked to key organizational goals and priorities, has been hypothesized to drive important results. Given the pervasive use of results measures in today's organizations, future research should investigate the relationships between these performance measures and more commonly used predictors and criteria. Many practitioners and organizational leaders certainly believe that unique variance is accounted for in measuring results versus other types of performance measures. Because this belief has led to implementation of complex and time-consuming results-based systems, it is important to know if the added effort associated with these systems is, in fact, producing different or better information than other, less demanding performance measurement approaches.

Research should also be conducted to evaluate the psychometric properties of results measures to assess whether or not they possess sufficient reliability, validity, and fairness to be used in validation research and for making selection decisions. Research is also needed to investigate the underlying dimensionality of results measures as well as predictors of them. Throughout this chapter, we drew from the literature to propose methods for identifying objectives and evaluating results that should maximize the likelihood of obtaining measures with adequate measurement properties, validity, and utility. However, data need to be collected using these methods to evaluate their efficacy.

Competent development of fair, job-relevant, and useful objectives is difficult, resource-intensive, and time-consuming, requiring considerable training and effort on the part of managers, employees, and HR staff. If organizational members are not committed to developing effective objectives, doing this consistently for all employees and devoting the time that is needed to yield high-quality measures, we recommend that results measures not be collected or included in performance measurement processes. This is because poorly developed objectives will neither motivate employees nor provide useful criterion measures for validation research or operational selection decisions. However, if organizational members are willing to devote the time, energy, and resources necessary to overcome the inherent challenges involved in developing objectives and monitoring their effectiveness and completion, results-based measures may hold considerable promise. Research and practice have certainly suggested that defining and measuring results can have a profoundly positive effect on individual and organizational performance (Locke & Latham, 1990; Rodgers & Hunter, 1991).

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