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A Systematic Approach for Assessing the Currency ("Up-to-Dateness") of Job-Analytic Information

By Philip Bobko, PhD; Philip L. Roth, PhD; and Maury A. Buster, PhD

Job analytic information is central to a variety of human resource activities (e.g., selection system development, compensation system development, organizational design). It is also well understood that many jobs are changing due to forces such as technological advances, a desire for teamwork, and various organizational interventions. In addressing such changes when using job analytic information, human resource practitioners might be faced with questions about the currency, or "up-to-dateness," of their existing job analysis. Unfortunately, there is almost no guidance for researchers or professionals regarding what methods might be used to check job analyses for currency (i.e., if there are any changes to the job that might influence the job analysis, how does one systematically assess such changes). We review the scant literature in this area and offer a protocol that we developed and implemented within a litigious environment. The protocol is systematic and focused on job change. In order to be as efficient as possible (and sensitive to organizational resource expenditures), the protocol builds on prior job analytic information. Two examples of the protocol's implementation are provided. We also present a variety of lessons learned during the development and implementation of this relatively unique currency protocol, as well as a discussion of some possible variants of the method.

It is almost a given that some jobs have the potential to change rapidly over time. Some of these changes are the result of new or developing technology. That is, technology appears to be changing at ever-increasing rates as new materials are being used in production settings, information is being generated and managed in new ways via computerization, and so forth. Clearly, these changes in technology influence applied psychology and human resource management systems. Jobs also may be changing given an increased emphasis on teamwork in organizations, empowerment of employees, or other managerial interventions such as quality management systems. These changes and interventions may subsequently influence the nature of the knowledges, skills or abilities involved at work. In all of these instances, researchers and human resource practitioners are often faced with concerns about the currency (or "up-to-dateness") of their existing job analyses.
However, there is a marked contrast between what is written about the dynamic nature of organizations and the literature addressing changes in job analysis. That is, there is a substantial body of literature suggesting that some jobs might be changing in significant ways, but little guidance on how to cope with such changes when examining or using job analyses.

It is also clear that job analysis plays a pivotal role when designing organizational interventions, such as selection systems. In turn, test developers and users sometimes need to confirm that the underlying job analysis information is still current. For example, suppose a thorough job analysis took place several years ago, but a new selection system is being designed and there is an underlying concern that the job may have changed in some manner. The up-to-dateness (currency) of the job analysis information is important to organizations for at least two sets of reasons. First, organizations desire to maximize the effectiveness of their organizational interventions and processes. For example, valid selection systems that identify the best possible workers might incorporate an up-to-date understanding of the job, as such information could influence the content validity of the exam. A second, related reason that currency is important might occur if an organization incurs legal action against one or more of its human resources systems. For example, a job analysis is often used as a foundation for establishing the validity (and particularly content validity) of a personnel selection system. The nature of the job analysis could influence how convincingly the system is presented to regulatory agencies and defended in court. We therefore also examined legally oriented documents for delineation of job analysis currency methods.

The purpose of this article is to review existing procedures and/or writings and then to present the development and implementation of a systematic protocol for assessing the “up-to-dateness” (currency) of job analysis information collected at some prior point in time. The protocol also provides a systematic way of identifying related changes, if any occurred. As will be noted later, there are clear variations to the method that might be viable in certain situations, but it is believed that this protocol provides an important first step in initiating common, systematic procedures and methods for checking on currency.

Prior Literature and Professional Standards

Prior Literature. As noted, the literature on the currency of job analysis information is quite scant. Reviews of job analysis techniques typically do not even mention when, or how, to check for currency of job analytic information.

A few sources briefly mention job analysis currency issues. Brannick and Levine indicate it is important to check that job analyses are not “stale.” Morgeson and Campion indicate that accuracy of job analyses may be difficult to assess if jobs change over time. Sackett and Lacz note job analyses for “future” jobs and suggest asking subject matter experts (SMEs) to “think about what aspects of jobs are most likely to change and what skills or attributes are important to those aspects” (p. 33); the concept of a “recently changed” job is mentioned but not operationalized. Dunnette suggested that the federal government’s Dictionary of Occupational Titles
was limited because of difficulties in keeping the information current. Also, Cascio’s\textsuperscript{17} human resources management text mentions the notion of a “periodic audit” of tests/manuals.

There is also a limited literature on the shelf life of tests\textsuperscript{18,19} but these efforts do not directly address the currency of underlying job analyses (e.g., other factors such as lack of security might affect shelf life). Also, this literature does not address \textit{how} to check for job analysis currency.

Given the limited findings above, we also asked a variety of professionals in the field about methods for checking the currency of job analysis information. There was general consensus that checking for currency might be important in some situations, but a common theme in the professionals’ remarks was that no established procedures for doing so currently existed. Further, these individuals generally indicated that they simply asked some SMEs if anything had changed, either in the job or in relation to the underlying knowledges, skills or abilities (KSAs).

\textbf{Governmental Guidelines.} We searched the \textit{Uniform Guidelines on Employee Selection Procedures}\textsuperscript{20} (referred to as the \textit{Uniform Guidelines}) and found very little about job analysis currency. Section 5K of that document (review of validity studies) states, “...additional studies need not be performed until such time as the validity study is subject to review as provided in section 3B above. There are no absolutes in the area of determining the currency of a validity study. All circumstances concerning the study, including the validation strategy used, and the changes in the relevant labor market and the job should be considered in the determination of when a validity study is outdated.”

Note that section 3B of the \textit{Uniform Guidelines}\textsuperscript{21} concerns the search for alternatives. Included in that section is, “If a user has made a reasonable effort to become aware of such alternative procedures..., the use of the test or other selection procedure may continue \textit{until such time as it should reasonably be reviewed for currency} [italics added for emphasis].” Both of the above quotes are rather vague about when to check for currency, and they appear to offer little advice about \textit{how} to check for currency.

\textbf{Professional Standards.} Another reference source for professionals in the field has been the \textit{Society for Industrial and Organizational Psychology (SIOP) Principles, 3rd ed.}\textsuperscript{22} Discussion of currency and comparability of job analyses in those principles tends to apply to validity generalization issues. For example, the principles say, “When a systematic new job analysis is not completed, the researcher should compile reasonable evidence which establishes that the jobs in question are similar in terms of work behavior and/or required knowledge, skills, and abilities.” (p.5)

\textit{The SIOP Principles (3rd ed.)}\textsuperscript{23} also indicate, “There should be a periodic audit of the use of the selection procedures. Departures from established procedures often occur over time and new findings in psychological or psychometric theory may be relevant to one or more of the assessment procedures in use. A systematic plan for review should be followed to avoid reliance on misused or obsolete procedures”
(p. 33). Again, the idea of a periodic, systematic check is mentioned, but the “when” and “how” are not operationalized.

The SIOP Principles have been recently rewritten in a fourth edition. Again, there is little mention of job analysis currency issues. Our review of that document finds only one directly related statement: “The researcher should consider whether the work and the worker requirements are reasonably stable” (p. 21).

In sum, although some jobs may be changing quickly, and although job analyses are the foundation for many human resource systems, there is scant guidance on how academics and practitioners should check to see if their job analysis information is up to date.

**Proposed Systematic Protocol for Assessing Currency**

Below, we present a four-stage protocol for assessing the currency of job analytic information. An overview/outline of this protocol is presented in Table 1 and is described below in more detail. In describing the protocol, we assume that an organization desires to assess the currency of a job analysis (i.e., we focus this article on **how** to assess currency and not necessarily how often). We also assume that an organization has previously conducted a thorough job analysis and that systematic information was previously collected. We further assume that the job analysis procedures are sound; i.e., questions about accuracy, appropriateness of subject matter

<table>
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<th>Table 1: Outline of the Job Analysis Currency Protocol</th>
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<tbody>
<tr>
<td><strong>Stage I</strong></td>
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<tr>
<td>Conduct background work to obtain an understanding of the job and the prior job analysis results.</td>
</tr>
<tr>
<td><strong>Stage II</strong></td>
</tr>
<tr>
<td>Invite subject matter experts to a two-part meeting.</td>
</tr>
<tr>
<td><strong>Stage III</strong></td>
</tr>
<tr>
<td>Conduct an open, group-level, discussion of what tasks and/or KSAs might have changed during the intervening years. It is helpful to focus on reasons for any such changes, so as to maintain an emphasis on change (and not overemphasize minor, potentially idiosyncratic, edits).</td>
</tr>
<tr>
<td><strong>Stage IV</strong></td>
</tr>
<tr>
<td>Using the same scales and criteria for inclusion as in the previous job analysis questionnaire, ask SMEs to individually rate any tasks or KSAs that were suggested as possible changes. This includes tasks and KSAs that might be added or deleted.</td>
</tr>
</tbody>
</table>

When the stages are completed, add and subtract any tasks or KSAs from the job analysis lists (again, based on screens used in the prior job analysis). Also, one can include (or document elsewhere) any minor edits that arose in Stage III. The results of this currency analysis can be used by others (e.g., selection experts) to determine if products of the job analysis (e.g., selection exams) remain current.
experts, etc. have been resolved, as our focus is on currency. For example, in the protocol below, we assume that professionals working with the organization previously generated a list of important tasks (activities within work behaviors), as well as a list of knowledges, skills, and abilities (KSAs) that are important for successful job performance.

A few themes should be kept in mind. First, we note that changes to the task or KSA lists do not necessarily mean that the human resource system (e.g., selection or compensation system) that followed from the job analysis is necessarily less valid. This is a separate, follow-up consideration (although information obtained with this protocol clearly informs such a consideration). We point out how such issues might get resolved in one of our implementation examples below.

A second theme is that the protocol distinguishes between minor, editorial changes to the job analysis and potentially major changes to the job. Some changes to the job might be relatively minor; i.e., they might be straightforward changes that can be accommodated by a rewording of existing tasks and KSAs (e.g., an update in the type of software being used from a 1998 version to a 2005 version). On the other hand, the potential for major change is carefully scrutinized. For example, when a potentially major change is mentioned by subject matter experts (SMEs), the SMEs are explicitly asked what has changed about the job and why such a change leads to changes in tasks and/or KSAs. This scrutiny and explicit discussion with SMEs also allows the analyst to better capture the precise wording of changes to tasks and/or KSAs. As will be seen next, if major changes are indeed suggested, then SMEs are asked to rate the identified tasks and KSAs using the same scales and screening criteria that had been used in the prior analysis. This helps ensure comparability to previous efforts and allows the organization to build upon previous time and resource expenditures.

A third theme is that formal ratings are obtained solely on tasks and KSAs that can be related logically to organizational or environmental change. Thus, we rate these tasks and KSAs (see stage IV below), rather than re-rate all original tasks and KSAs. This theme follows from feasibility concerns, as well as an attempt to ensure that the currency protocol has a conceptual underpinning (i.e., any targeted task or KSA is logically linked to change).

This third theme was also supported by our concern about sampling error. In our experience, many organizations conduct job analyses where there are between 5 and 100 SMEs/raters per job (our experience is that, for any given job, the number is usually toward the lower end rather than the upper end of this range). Typically, mean ratings (e.g., of importance) are obtained and screens invoked (e.g., mean importance of a task must be greater than 2.5 on a 5-point scale). Such mean ratings are, of course, associated with sampling error.

As a numerical illustration, suppose importance is rated on a 5-point scale and items must meet a mean cutoff of 2.5 or greater in order to be used in subsequent stages of the job analysis. Assume that the standard deviation for each rating is approximately 1 (SD=1). If the number of SMEs is 25 (n=25), then the standard error of the mean importance rating is 1/(square root of 25) = 1/5 = .20. Taking 2 standard errors (SD=1.96) would imply a variation of approximately 2 x (.20) = .40 around the
mean estimated importance rating for each task/KSA. Thus, from sample to sample, a variety of tasks and KSAs might change status relative to a fixed cutpoint of 2.5—due simply to sampling variation and not because of some fundamental change to the job.

Thus, in checking a job analysis for currency, we focused on tasks and linked KSAs that could clearly and logically be supported as candidates for analysis. Re-rating the entire list of tasks and KSAs might also result in an overload of statistical “noise” for the organization—another feasibility issue. The organization could conduct a completely new job analysis each time. However, our protocol is trying to balance this possibility with feasibility and efficiency issues while maintaining a process that is logical and defensible.

The above focus on efficiency relates to a fourth theme in the development of a protocol. As noted, an organization could consider conducting a completely new systematic job analysis or re-rating all tasks/KSAs if currency were a concern. However, such an approach would likely involve significant time (e.g., of analysts and SMEs) and financial resources. Such efforts might be somewhat contained if off-the-shelf job analytic inventories (e.g., Position Analysis Questionnaires) were used and those in the organization were comfortable with such approaches. Our focus is on these, and other, situations where currency is an issue. For example, an organization might want to revisit a variety of job classifications in a brief period of time. Or, in some corporate environments, technology changes so quickly that associating a new job analysis with each change may be difficult to justify. Because of its focus on change, our protocol builds upon existing job analytic information and results, and it exploits the effort and work already accomplished.

**Stage I: Background Work**

As initial, background work, it is important that the analyst (or team of analysts, as the case may be) obtain a thorough understanding of what job analytic information had been previously obtained. This first stage might therefore include:

- Reading through the previous job analysis and supporting material.
- Conducting an interview with, or on-site observation of, one or two job incumbents if the analyst is not already familiar with the job (if feasible).
- Considering information on O*NET (e.g., if information about the job classification has recently been updated on O*NET, checking to see if there was a reason for the update).

**Stage II: Plan Meetings With Subject Matter Experts**

Stages III and IV below are a set of two meetings with subject matter experts (SMEs) that are focused on understanding the prior job analysis and obtaining information about any changes to the job since that prior time. Stage II involves preparation for these further stages by identifying a group of SMEs. Several possible factors in selecting SMEs are provided next. Some factors relate directly to defense against potential
litigation; others address variation in ratings due to inclusion of different types of individuals.

- The group of SMEs might generally contain a mix of incumbents and supervisors. (The literature is mixed as to whether incumbents or supervisors provide better job analytic information. Incumbents are generally most familiar with exactly what is done on the job day-to-day, although supervisors might have more experience and better understanding of how the job fits into the larger organizational context.)
- If there are other relevant factors along which SMEs vary, one might try to incorporate these aspects when feasible. For example, incumbents might come from both central headquarters and regional, geographically-based divisions. To reduce unwanted variation relative to the prior job analysis, such considerations could mirror choices in the earlier efforts.
- If possible, one might try to ensure that at least some of the SMEs have several years of experience in the job. For example, it might be helpful to include some SMEs who were job incumbents at the time of the prior job analysis in order to ensure an increased historical perspective and keep attention focused on change-related ideas rather than sampling error across different SMEs (see above).
- One might select SMEs to include different ethnic and gender groups, if feasible.

### Stage III: First Part of a Two-Part SME Meeting

The first part of the meeting is an open group discussion focused on the responses to a series of structured questions (see below). One purpose of this stage is to familiarize SMEs with the list of qualifying tasks and KSAs that were generated during the prior job analysis. (Qualifying tasks and KSAs typically meet “screens” on factors such as importance, being needed at entry, and so forth. For example, as noted earlier, the importance of task or KSA items might be rated on a 5-point scale, and items must meet a mean cutoff of 2.5 or greater in order to be used in subsequent stages of the job analysis.)

Another purpose of this stage is to have SMEs react to these lists in the context of changes to the job, including how such changes might potentially affect tasks and/or underlying KSAs. As noted later, in Stage IV the SMEs are asked to individually rate any tasks or KSAs identified/generated during Stage III.

To begin, SMEs are asked to review the lists of qualifying tasks and KSAs. (We found it helpful to tell SMEs to be free to make any notes they wished on these lists—both as a memory aid and as a way to increase their involvement and interest levels.) SMEs are also reminded that each item on the list had met a series of screens. As noted earlier, the importance of task or KSA items might be rated on a 5-point scale, and items must meet a mean cutoff of 2.5 or greater in order to be used in subsequent stages of the job analysis.)
particular, SMEs are reminded that the lists represent the important parts of the job (tasks), or personal characteristics (KSAs), so that group discussion might naturally focus on the important changes to the job rather than taking too much time reconsidering/discussing relatively less important or trivial facets.

In the current operationalization, SMEs are told, “Consider the job of (put job title here). We want you to think about this job (the one you do or supervise). If you supervise someone in this class, you should think about what that subordinate does. It is also important to think about this job in terms of the tasks that compose the job for a newly-appointed (put job title here). Similarly, think about the most important knowledge, skills, and abilities (KSAs) that newly-appointed incumbents need on the job. Is there anything in the past several (“several” was replaced by the actual number of years since the last job analysis) years that has occurred, at your organization or elsewhere, that would make these tasks and KSAs less appropriate and important today than they were several years ago? And, is there anything that has occurred that would make other, additional tasks and/or KSAs as appropriate as these? In other words, we want to check if there are any factors that warrant a change in the lists of most important tasks and KSAs.”

SMEs are also told, “We want to ask about things or events that might require tasks or KSAs to be (1) dropped, (2) added, or (3) reworded. There may be some reasons for changes in these jobs. On the other hand, the fundamental, underlying nature of the job may have remained consistent with the prior job analysis, and that is fine, too. Either way, we want to hear from you, given your expertise about this job.”

As already noted, it seemed helpful that the analyst keep the group focused on changes that might warrant updating of the prior job analysis. Some changes may influence the job analysis in significant ways, and yet other changes might not affect the way the job is done by entry-level incumbents. That is, there are no significant changes from the perspective of a newly appointed incumbent, and the job analysis continues to be up-to-date for the purpose of selection.

The analyst could ask, as cues, if there had been any significant changes in the technology associated with the job (materials, procedures, computer hardware or software, etc.) or changes in the organization of the division/department/organization, and so forth that would warrant a change to the prior job analysis. It could also be noted that individual positions within a job (so-called “vanguard positions”28) may change before an entire job classification changed. Therefore, the analyst might also prompt SMEs to consider any such evolving/changing positions. Analysts might also consider these positions in their SME sampling if such trends are known or suspected before the job currency meetings.

The analyst could keep in mind that there may or may not be changes significant enough to modify the job analysis. That is, SMEs might mention minor changes. If there is group consensus, these edits can be noted (e.g., as previously indicated, “we now use version 2005 rather than version 1998 of some software package”), and then edits could be made to the task and KSA lists or possibly catalogued for future use by test developers and other specialists.
If substantial change-oriented events or outcomes are mentioned by SMEs, the group discusses the issues (e.g., events, as well as specific KSAs or tasks) in an open manner by considering if the comments warrant a major change to the prior job analysis. To gain a better understanding of what might constitute a major change, it seems helpful to continually ask SMEs what events and/or logic cause them to suggest a possible change to one of the lists. If a potentially major change to a list is noted, then the new task or KSA is written down on a chalkboard or flipchart and openly edited by all SMEs. This process continues until there are no more additions or removals being suggested by anyone in the group.

**Stage IV: Second Part of a Two-Part SME Meeting**

As noted above, if a KSA or task needs minor adjustments to wording, edits are discussed until the group reaches consensus and the edits are catalogued. This naturally occurs during Stage III. If the change in wording might have relatively more major implications (a judgment call by the analyst), then Stage IV is implemented. The purpose of this stage is to obtain systematic, numerical ratings of any tasks and/or KSAs that might involve a major change to the job analysis by using the same type of job analysis questionnaire as used previously.

For example, if a new KSA is suggested, the analyst checks to see if aggregated SME ratings of that KSA meet the same criteria for inclusion as KSAs in the original job analysis (e.g., a mean importance rating greater than 2.5 on a five-point scale). Conversely, if a previous qualifying KSA is no longer deemed to be a significant aspect of the job, it is important to check if aggregated SME ratings (using the same rating scales and criteria as in the original job analysis) confirms that the KSA does not meet the screens anymore.

In our implementation (again, a selection context), this meant asking each SME to rate any possible tasks and KSAs that might have changed using prior scales of importance, needed-at-entry, etc. SMEs did not rate all tasks and KSAs from the original job analysis—only the ones that the group thought might have changed in character (see earlier discussion of this logic).

During Stage IV, SMEs are first asked to rate any tasks for potential addition or removal (using all previous scales). SMEs are then asked to rate any KSAs that might be candidates for addition or removal (again, using previous scales).

SMEs are also asked to link any new KSAs to prior tasks and any new tasks. For example, in the selection context as illustrated below, KSAs formed the basis for exam development, and it was therefore useful to see if any new KSAs linked to important tasks.

One final set of links led to some interesting issues during our implementations. Specifically, in some prior job analyses, there were several KSAs that met all inclusion screens except being linked to an important task. These KSAs were referred to as “almost qualifying” KSAs. For example, a few KSAs in a prior job analysis might have met screens for importance and for being needed at entry. However, these KSAs did not link to any of the previous qualifying tasks. If there were new tasks generated as a
result of our protocol, then all of the “almost qualifying” KSAs were linked to the new tasks to see if these KSAs now met all screens for inclusion.

Of course, the converse issue is also possible. That is, if a task is subsequently deleted from the list of important tasks because of our protocol, then linkages from the prior job analysis might have to be rechecked by the analyst, so as to ensure that any KSAs on the list still link to at least one of the tasks that did remain after the protocol was invoked. (Note: This facet of the protocol is conducted by the analyst, and SME time is not involved.)

Two Implementation Cases

Case 1

The job was a civil engineering-construction position in a state agency. Incumbents in this job begin by performing technical work in the area of monitoring the construction of roadways and bridges. Job activities include serving as assistant project engineer on major projects or as a project engineer on simple to moderately complex highway construction jobs. At some point in time, incumbents might be assigned as senior project engineers to complex roadway and bridge construction projects.

An extensive job analysis for this job had been conducted in late 1997 and 1998, including oversight by four industrial psychologists. Litigation delayed the administration of certain exams for several years, and the state decided to see if the job analysis had changed since then (and, hence, to see if the work sample exam developed at that time continued to reflect the important KSAs).

A panel of seven civil engineering SMEs was convened to proceed with the currency protocol. Discussion among the SMEs (see Stage III above) indicated several minor edits to the lists of tasks and KSAs that were subsequently documented. For example, in one task, “computes percent of grade” was suggested to be reworded as “computes grade” because all grade computations were understood to be percentages.

There were also a few potentially new KSAs and tasks that had evolved since 1998, and SME discussion of the KSAs and tasks could be grouped into two themes. First, this job involved substantial collection and reporting of engineering data. Prior to 1998, data were entered exclusively by hand into a variety of worksheets that were then handed to supervisors. However, by 2004, much of the data entry was conducted on peripheral computer devices (e.g., palm pilots) and uploaded electronically. Two tasks and two KSAs were generated (with SME input) that involved these activities and the underlying ability to use computers and learn locally based software. The possible changes/additions are provided in Table 2, along with Stage IV descriptive statistics for several of the screens used in deciding what tasks and KSAs should be added or deleted. A second theme involved the fact that federal and state engineers were required to collect more data on storm water flow than had previously been the case. This led to the addition of another possible task and KSA regarding water data (again, see Table 2).
A set of questionnaires was developed (Stage IV) using the potentially new tasks and KSAs. Prior job analysis rating scales were retrieved and used. As noted in the footnote to Table 2, one of those screens was a rating of the importance of the KSA for acceptable job performance (ranging from “0—not important” to “4—crucial”). SMEs were also asked if the KSA was needed at entry into the job (“0—no” and “1—yes”). Screening criteria included a mean of 2.0 or greater for importance and a proportion of 0.67 or greater for needed-at-entry.

After data collection and analysis, three new tasks were retained (see tasks marked with an asterisk in Table 2). Two of these tasks were related to computer use and data entry; one to the collection of storm water data. In addition, two new KSAs were evaluated, met all screens, and thus were added (one knowledge and one ability, both regarding computer use).

Table 2: Case Study 1—Civil Engineer, Construction: Descriptive Statistics for Tasks and KSAs That Were Suggested as Possible Additions.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Meanimport.</th>
<th>Need-at-entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 4.05*</td>
<td>Inspects highways, bridges, storm water control plans and devices, and/or state facilities in order to gather information, familiarize self with site area, identify problems, and/or ensure that departmental requirements are met.</td>
<td>3.83</td>
<td></td>
</tr>
<tr>
<td>Task 5.9*</td>
<td>Enters and edits data into computer or peripheral devices such as survey data, inspection data, funding requirements, and stage of project information in order to run calculations, generate reports, maintain documentation, and/or provide information as requested.</td>
<td>3.29</td>
<td></td>
</tr>
<tr>
<td>Task 5.15*</td>
<td>Enters storm water inspection data into computer and/or peripheral device to send information to Division Stormwater Coordinator.</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td>K-5.005*</td>
<td>Knowledge of computers and basic computer operating systems (e.g. Windows) as needed to use the computer for work activities.</td>
<td>2.71</td>
<td>1.00</td>
</tr>
<tr>
<td>K-5.047</td>
<td>Knowledge of storm water sampling methods to include monitoring rainfall, when and where to sample water, and procedures on submission of samples as needed to comply with the state environmental management regulations.</td>
<td>2.60</td>
<td>0.17</td>
</tr>
<tr>
<td>A-5.005*</td>
<td>Ability to learn to use computer software packages and state software (e.g. Site Manager, Microsoft Word, Excel, etc.) as needed to compose letters, calculate quantities, and give or receive needed information.</td>
<td>3.43</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Note: "Meanimport" refers to the mean importance rating provided by subject matter experts (SMEs). This scale ranged from 0 to 4, and a cutoff of 2.0 had been used previously. "Need-at-entry" ranged from 0.00 to 1.00 and is the proportion of SMEs who indicated that the knowledge, skill, or ability (KSA) was needed at entry into the job. This scale was used only for KSAs, and a cutoff of .67 had been used previously. The number of SMEs ranged from 4 to 7, as only SMEs who did the task (or used the KSA) were asked to rate the items. Also, tasks and KSAs that met the screens are noted by an asterisk (*).
As it turns out, the new tasks were also eventually linked to eight of the “almost qualifying” KSAs, so those eight KSAs were also added to the job analysis listings. A group of experts and analysts then reviewed all of this information and decided that many of the new KSAs were, in fact, being assessed in the current work sample exam. So, the job analysis had some changes, but the exam was deemed to remain content valid.

**Case 2**

This job was also a civil engineering position in the above agency, but it involved designing plans for the construction projects being implemented in the state (i.e., the second job was referred to as civil engineering - design). Incumbents in this job either produce detailed sheets of roadway plans or complete sets of finished roadway plans. Job activities include computation (e.g., quantities of earthwork, hydraulics, concrete, and steel, or right-of-way acreage). At entry into the job, a superior reviews work while in progress and at its conclusion.

Once again, an extensive job analysis had been conducted in late 1997 and 1998, and the state decided to see if the job analysis had changed since then (and, hence, to see if the work sample exam developed at that time continued to reflect the important KSAs).

A panel of nine civil engineering SMEs convened to proceed with the currency protocol. Discussion among the SMEs (see Stage III above) centered on three themes. First, it was noted that a recent review of the design job had split off more sophisticated duties into a second-tier version of the design job. Because the focus of our effort was on the first-tier job, SMEs felt that two tasks (involving observing, reviewing, and evaluating employees) were not appropriate anymore. Second, as with Case 1, SMEs felt that computer use had increased in importance over the intervening years. Third, SMEs felt that a previous KSA regarding knowledge of the metric system was no longer as important as once indicated.

Following the protocol, a currency job analysis questionnaire was generated using the same scales as in the prior analysis. In fact, the KSA regarding computer use did indeed meet the screens (e.g., importance, needed at entry, linked to a qualifying task) and was therefore added to the list of qualifying KSAs. The two tasks and the KSA that were identified as being less important were also rated. In fact, none of these items met the screens, so these two supervisory tasks and one KSA (regarding metric system) were removed from their respective lists.

As suggested above, one interesting additional issue arose in Case 2 because two tasks were removed from the list of qualifying tasks. In turn, KSAs were checked to see if they linked to at least one qualifying task. Specifically, there was concern that a prior KSA might have met the linkage screen in the earlier time period, but might have only been linked to one of the two tasks that were subsequently removed. The prior job analysis was checked for this possibility. Interestingly, one KSA was linked only to the two tasks that were removed (and logically so, as the KSA involved knowledge of management principles). Therefore, this prior KSA was also earmarked as having no links to any qualifying tasks and was removed from the list of qualifying KSAs.
Discussion and Lessons Learned

As noted earlier, the above job analysis currency protocol is relatively unique. Although there are often calls to check on the currency of exams and job analyses, we are not aware of any common, published protocol to do so. The above four stages (see also Table 1) are attempts to fill that job analytic gap. The stages are sensitive to organizational feasibility while attempting to systematically focus a currency analysis on real, time-related changes within the organization (rather than changes due to unreliability in the job analysis methodology).

Variations. We suggest that the protocol be considered flexibly—as a first step in helping practitioners as well as an initial step in conducting research about systematic methods to assess job analytic currency. For example, we earlier assumed that the prior job analysis was sound. If that is not the case (e.g., important ratings were missing from the prior job analysis), then a new job analysis may be warranted. Thus, one variant might be to again rate all prior existing tasks/KSAs, as well as any new ones generated at SME meetings.

There are also variants within the method suggested here. Some of these variants have been noted throughout the manuscript. For example, the analyst might cue SMEs that changes may initially be seen in positions within a classification (“vanguard” positions), rather than across an entire job classification. As another example and consistent with suggestions in the literature,29 SMEs might also be cued to look ahead in thinking about planned changes to the job, in addition to focusing on significant changes that occurred since the last job analysis.

Lessons. When implementing the protocol (i.e., meeting with SMEs about changes to the job; subsequent questionnaire ratings of any new or changed tasks and KSAs), there are a number of things that appear to be useful for practitioners and academics alike.

First, it is helpful to focus on any change in the job since the previous job analysis. It is natural for some people in work situations (and that includes SMEs and other job incumbents) to want to refine lists using their own perspectives. However, there is a layer of minutia (idiosyncratic at times) that one needs to get beyond in order to uncover common themes that could substantially change the nature of important tasks, KSAs, or portions of the entire job analysis. It is helpful to keep to the fundamental issue—important change relative to the job analytic efforts that had been previously conducted.

Second and relatedly, it is helpful to conduct the currency process by focusing on tasks and KSAs that had previously met screens, rather than using all tasks or KSAs that had originally been considered (see also above discussion about sampling error). Starting with such a longer list might encumber SMEs with too much information. It is, though, useful to have the more complete list of KSAs and tasks available to the analyst. We shared parts of the list with SMEs when warranted. For example, sometimes a SME would ask why a particular task or KSA was not on the list of important ones. It was
helpful to be able to tell this SME that such an item had indeed been previously considered (indicating that the job analysis they were reviewing had been thorough). We then followed up this comment by asking if the item in question should be reconsidered, and if there was any related change in the job.

Third, another way in which we tried to keep SMEs focused was by presenting them with an overview of the process and an explanation about the role of change before talking about job-specific tasks and KSAs. We found a strong urge by some SMEs to revise many relatively unimportant words within some descriptions of tasks and KSAs. To overcome this urge, we found ourselves often asking SMEs the question, “So what has changed?”

Fourth, as noted above, we encouraged SMEs to write on the lists of KSAs and tasks because this seemed to get them actively thinking about possible revisions. In this regard, we also ended up grouping and presenting the KSAs (by clusters) and tasks (by work behaviors) to help reduce cognitive load.

Fifth, when rating any potentially new tasks or KSAs, it should be emphasized that we found it helpful to use the same instructions, scales, and screens as in the prior job analysis (assuming all the scales were appropriate and clear). This avoided adding another source of variation in ratings into the process. The use of prior scales also allows one to build upon all the earlier work (thereby increasing efficiency of the currency effort). It is important to check on exactly what screens had been used, because we found that these screens might vary from job to job, even within the same organization.

Sixth, although this lesson is more general, it is useful to check or ask if the SMEs are really the appropriate SMEs (i.e., did they fit the assumed job title?). For example, in a previous project a sample of SMEs was asked for, and 10 percent of the chosen sample wrote back that they were not incumbents or supervisors of the job in question.

Overall, we confirmed the above lessons and simultaneously found that our currency protocol is manageable. Further, the procedure has been used in a litigious, consent decree situation without objection by plaintiffs. It is also notable that, across a variety of jobs and prior job analyses, we found SMEs to be quite responsive to the procedure. They often focused in on a few themes per job that made sense given changes in technology, organizational strategy, etc. These themes appeared to naturally lead to potential subtractions or additions of tasks and/or KSAs. Furthermore, we found that the host organization benefited from building upon prior work, rather than regenerating all job analytic information from scratch.

**Summary**

In sum, although job analysis is essential to the validity of many human resource systems, and it is generally acknowledged that change is a fundamental fact of organizational life, there is little guidance about how to check job analyses for currency. This lack of guidance occurs in both the academic literature and more legally oriented documents.
We have presented a protocol to begin to fill that void by checking for currency and systematically delineating changes, if any, to job analysis lists. The protocol attempts to invoke as many features of a systematic job analysis as possible, while focusing on major changes (if any) to the job analysis and being relatively efficient in terms of time and resources.

There is even less guidance on how often to check job analyses for currency. Perhaps this issue is hopelessly complex (and we note that our efforts were motivated by litigation potential), but we call for at least some preliminary efforts and investigations in this area, as well.

In any event, it is hoped that the above recency protocol will help move organizations forward and keep their systems maximally effective in light of the potential for fast-paced organizational changes. We look forward to the results that such investigations will bring to organizational knowledge and application.

Notes


21 Ibid.


23 Principles for the validation and use of personnel selection procedures (3rd ed).


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The Impact of Work Redesign and Psychological Empowerment on Organizational Commitment in a Changing Environment: An Example From Taiwan’s State-Owned Enterprises

By Huei-Fang Chen, PhD, and Yi-Ching Chen

In a changing environment, employee commitment to any organization is easily disrupted. The major purpose of this research was to establish a framework to explain how to use work redesign and psychological empowerment to strengthen employee commitment to an organization that is undergoing change. A questionnaire-based survey of 213 employees at three of Taiwan’s state-owned enterprises undergoing privatization or reorganization was conducted. Tests of hypotheses supported the significant influence work redesign had on the employees’ commitment to their organizations. Psychological empowerment played an intermediating role between work redesign and organizational commitment. The results also show that perceptions of work redesign by employees who have an external locus of control had a more significant positive impact on their organizational commitment. The academy and management contribution and implications of these findings are explained, and some suggestions for future research are offered.

Personnel management in both public and private organizations emphasizes human commitment to organizations. Highly committed employees identify with the organization’s goals and values, expend extra effort at work, and are proud of their membership in the organization.  

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change, such as during the privatization of state-owned enterprises, employees’ commitment to the organization is easily disrupted because privatization is often linked to downsizing. Niehoff and his colleagues noted that downsizing has been found to have a negative influence on surviving workers’ loyalty, which is an important element of organizational commitment. It is imperative for both public and private organizations to realize how to maintain employee commitment under changing situations.

In the early 1990s, Jack Welch, then the CEO of GE, commissioned the company to develop a program called the Change Acceleration Process (CAP). The well-known formula of $E = Q \times A$ is the heart of CAP. In the formula, the $E$ stands for the effectiveness of change. The $Q$ stands for the quality of the analysis, which is the economic or analytic reasoning leading to a proposed action plan or solution. Last, the $A$ signifies acceptance of the change, signifying attention to process, participation, and the people side of change.

Daft suggested that people’s participation and involvement in change programs are critical in order to eliminate employees’ resistance to change. Niehoff and his colleagues claimed that employee empowerment and job enrichment have positive influences on employee loyalty during downsizing. Mishra and Spreitzer also argued that empowerment and work redesign could prompt positive attitudes in employees experiencing a downsizing situation.

According to Hackman and Oldham’s job characteristics model, the five primary job characteristics of skill variety, task identity, task significance, autonomy, and feedback have impacts on employees’ productivity, motivation, and satisfaction. In the organizational change process, if work characteristics can be changed and redesigned to enhance employees’ perceptions of psychological empowerment—which in turn makes them feel the meaning, impact, self-determination, and self-efficacy of their work—employees’ loyalty and commitment to their organization can be maintained.

Recently, the privatization or reorganization of state-owned enterprises has been carried out in many countries. Most governments have worried that employee resistance to the change would hamper the effectiveness of reorganization. Providing a way to counter negative attitudes toward change among employees of state-owned enterprises is imperative for governments.

The major purpose of this article is to integrate related theories of work redesign, psychological empowerment, and organizational commitment to provide a research framework that can be used to explain how an organization can apply work redesign and psychological empowerment enhancements to strengthen employees’ commitment to their organizations while those organizations are undergoing change. In addition, the locus of control of employees involved is also explored to determine if the locus of control has a moderating effect on the relationship between work redesign, psychological empowerment, and organizational commitment.


**Literature Review**

**Work Redesign**

Based on Hackman and Oldham’s job characteristics model, work redesign is defined as changes in skill variety, task identity, task significance, autonomy, and feedback. Good work performance results from an employee’s inner motivation, which can be improved by increasing work responsibility, meaning, and feedback. In a changing environment, employees’ work content and mission will become different, and the organizational structure will change. In this situation, work redesign can make employees feel that the organization has provided the necessary resources to help them deal with the stress arising from the change.

Evangelista and Burke noted that corporate downsizings mean extended hours and a heavier workload for surviving employees. It is vital for managers to assess business unit obligations and internal tasks to effectively and fairly manage and balance workloads among the employees that remain after a downsizing. Engaging in work redesign is unavoidably necessary in such situations.

Field experiments have provided fairly clear and consistent evidence of the effects of work redesign. In particular, studies have shown that employees perceive the changes that have been made to their jobs and express higher levels of motivation, satisfaction, or both. In addition, Mishra and Spreitzer noted that job redesign change could enhance the intrinsic quality of the remaining employees’ work, which is likely to help those employees feel better able to cope with the downsizing and increase the likelihood of more active responses to the resulting changes.

**Psychological Empowerment**

Theorists and practitioners discuss the empowerment concept from two different perspectives. First, some consider empowerment as a set of activities and practices by managers that give power, control, and authority to subordinates. In an environment characterized by intense competition and new technology, many top managers believe that giving up centralized control will promote speed, flexibility, and decisiveness in employees’ actions. In this regard, empowerment means an organization ensures that (1) employees receive information about organization performance, (2) employees have the knowledge and skills to contribute to achieving the organization goals, (3) employees have the power to make substantive decisions, and (4) employees are rewarded based on the organizations’ performance. This concept of empowerment is rooted in practice and management.

The second interpretation of empowerment comes from the view point of the follower. It can be stated simply as “employees are empowered if they perceive themselves to be empowered.” In support of this, Conger and Kanungo defined empowerment as a process of enhancing the feelings of self-efficacy among organizational members. Thomas and Velthouse presented a cognitive model of empowerment within which empowerment is defined as increased intrinsic task
motivation and four cognitions are identified as the basis for worker empowerment: sense of impact, competence, meaningfulness, and choice.

Spreitzer\textsuperscript{18} modified the Thomas and Velthouse model and defined empowerment as reflecting a personal sense of control in the workplace, as manifested in four beliefs about the person-work environment relationship: meaning, competence, self-determination, and impact. According to Mishra and Spreitzer, \textit{meaning} reflects a sense of purpose or personal connection to the work, and \textit{competence} indicates that individuals believe they have the skills and abilities necessary to perform their work well. \textit{Self-determination} reflects a sense of freedom about how individuals do their own work, and \textit{impact} describes a belief that individuals can influence the system in which they are embedded.\textsuperscript{19}

Mishra and Spreitzer wrote that “people fear and tend to avoid … situations they believe exceed their skills whereas they get involved in activities and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating.” \textsuperscript{20} Without having some sense of control over a stressful situation, they argued, individuals will withdraw, going on to state that the four dimensions of empowerment could help people feel more in control and increase their propensity to respond to change more actively. Mishra and Spreitzer argued that work redesign has positive impacts on employees’ psychological empowerment in a changing environment.

During a change process such as privatization, employees of a state-owned enterprise may be asked to take on the responsibilities of their former coworkers, which would increase their perception of the variety of their work. Employees may consider the use or development of additional skills to do new jobs as resources that can help them cope with the stresses of change. The extra work assignments may also make employees feel that they are important in their unit, which creates meaning for their work. The increase in identity, autonomy, and feedback in work will bring employees confidence and make them feel that they are competent in achieving the work objectives and self-determined to choose their own ways of solving problems. Work redesigned to enhance employees’ skill variety, work significance, identity and autonomy can make employees believe that they have impact on the organizational change implementation process and have the power and resources to make contributions. Therefore, it is hypothesized that work redesign will enhance people’s perception of their psychological empowerment.

\textbf{H1:} Work redesign has a positive impact on employees’ psychological empowerment in a changing environment.

**Organizational Commitment**

\textit{Organizational commitment} is defined as the psychological attachment of workers to their organization.\textsuperscript{21} Commitment to an organization has been found to relate positively with a variety of desirable work outcomes, including job satisfaction, motivation and performance. Organizational commitment has also been found to be negatively correlated with absenteeism and turnover.\textsuperscript{22} The original definition of
organizational commitment, proposed by Mowday, Porter, and Steers,\textsuperscript{23} includes three components: acceptance of organizational goals and values, extra effort on behalf of the organization, and a desire to remain with the employer. Mowday and colleagues proposed a 15-item measure—the Organizational Commitment Questionnaire, or OCQ—that includes all three components. However, the OCQ is a one-dimensional measure.

O’Reilly and Chatmen\textsuperscript{24} attempted to clarify the organizational commitment construct as one focused on the basis of an employee’s psychological attachment to the organization. They distinguished three elements of commitment—compliance, identification, and internalization—and suggested that these three elements of commitment may represent separate dimensions of commitment.

For the purpose of our study, and integrating the work of Porter and the ideas of many other scholars,\textsuperscript{25} we defined organizational commitment as consisting of the three dimensions of values commitment, effort commitment, and continuance commitment. These reflect Mowday, Porter, and Steers’s three components.\textsuperscript{26}

Knudsen and her colleagues noted that downsizing may have effects on both work processes and the social environment in which work takes place, resulting in lower levels of commitment among workers who survive the downsizing. Survivors’ work experiences may change because the downsizing results in an altered task structure, with each worker being responsible for a larger amount of work or a greater number of tasks than in the past. Survivors may resist the increased organizational demands by withdrawing or lessening their commitment to their organization.\textsuperscript{27}

Brockner and colleagues\textsuperscript{28} found that the extent to which jobs had been enriched after downsizing was a significant predictor of survivors’ commitment to the organization. Niehoff and his colleagues\textsuperscript{29} suggested that the job characteristics of skill variety, task identity, task significance, autonomy, and feedback were significantly associated with loyalty, supporting the prior research that found that job enrichment is associated with organizational commitment.\textsuperscript{30}

Based on the same concept, a state-owned enterprise’s organization and structure may be changed when it is privatized. If work can be redesigned to increase skill variety, work integrity, and significance, with employees provided with opportunities to learn and grow, employee’s morale would be boosted accordingly. If work autonomy can be strengthened and if feedback from work results can be easily identified, employees will perceive that they play important roles in the unit and devote themselves to the organization. In this situation, employees will favorably identify organization values and stay in the unit. Thus, they will demonstrate high commitment to the organization.

Empirical studies have supported a positive relationship between empowerment and loyalty or commitment. Niehoff and colleagues,\textsuperscript{31} studying an insurance company, found positive relationships between employees’ organizational commitment and top-management actions such as allowing employees to influence decision making and supporting employees’ efforts. Fulford and Enz\textsuperscript{32} found that perceived empowerment had a significant and positive relationship with loyalty among service employees in
Empowerment has also been found to be positively associated with teachers’ commitment to schools.\textsuperscript{33}

Under privatization or reorganization, a state-owned enterprise’s employees will face uncertainty about the future. During this change process, people fear that their rights might be destroyed. Based on the literature, one way to convince employees that the change will be positive is to empower them. Let them share information, increase their influence and control in the work. Let them participate in decision making. Empowerment can encourage people to enhance their self-efficacy and also make them feel valued in the organization. These measures can strengthen employees’ identification with the organization and encourage them to exert effort on the job. Thus, they will be happy to stay in the unit and become committed to the organization.

According to the job characteristics model, enhancing skill variety, work significance, and work integrity will make employees perceive the meaning of their work. Autonomy makes people feel responsible for their work results. Feedback can help employees know what they have achieved. All of these job characteristics impact employees’ psychology and, in turn, influence employees’ work effectiveness, which includes intrinsic motivation, enhanced work quality, increased work satisfaction and reduction in turnover rate.

It is implied that during privatization or reorganization, a state-owned enterprise’s employees’ work redesign, psychological empowerment and organizational commitment present the same action sequence. When work redesign facilitates employees’ empowerment, empowerment in turn influences employees’ commitment to their organization. This means that with empowerment as a mediator, the impact of work redesign on organizational commitment will be materialized more profoundly. Therefore, we formulated the following hypotheses:

\textbf{H2}: Work redesign has a positive impact on employees’ organizational commitment in a changing environment.

\textbf{H3}: Psychological empowerment has a positive impact on employees’ organizational commitment in a changing environment.

\textbf{H4}: Psychological empowerment plays an intermediating role between work redesign and organizational commitment in a changing environment.

\textbf{Locus of Control}

\textit{Personality} has been defined as the unique combination of psychological characteristics that affect how a person reacts and interacts with others.\textsuperscript{34} Locus of control is one kind of personality trait that has proved to be powerful in explaining individual behavior in organizations. \textit{Locus of control} means the degree to which people believe they are masters of their own fate. Mitchell and colleagues\textsuperscript{35} wrote that individuals may have generalized expectations about whether environmental outcomes are controlled internally or externally. The individual with the internal expectation believes that he or she can control his or her own fate. The individual with the external
expectation feels that much of what happens to him or her is controlled by external forces.

According to Spector,\textsuperscript{36} 5\% to 25\% of the variance in individuals’ work behavior can be explained by their perceptions of locus of control. Spector found that internal locus of control people are more confident in their own abilities, more willing to search for information in a complicated environment, and exhibit higher work performance. Moreover, such people like to participate in management and hope to get more feedback about their work. On the other hand, according to Spector, external locus control people are inclined to follow the rules and more easily submit themselves to organizational direction and leadership.

Many researchers have found that locus of control can affect work attitudes. Internal locus of control employees exhibit higher work involvement and satisfaction than do external locus of control employees.\textsuperscript{37} When placed in the same organization, the two types of people will present different work behaviors. For example, when confronted with challenges, internal locus of control people will work harder to achieve success. However, external locus of control people will believe in destiny and not make extra efforts. The internal types express active and positive work attitudes, while the external types are more passive and negative.

By the same token, it has been suggested that people with external locus of control need more external forces to assist them in coping with environmental changes. When state-owned enterprises undergo privatization, employees’ work characteristics may be changed. People with an external locus of control can be helped to adjust to such changes by being trained in a variety of new skills, allowed to assume more important duties, and engaged in more complicated tasks. They may be well served by being provided with more autonomy and feedback on their jobs. All of these forces can help them know what to do in times of uncertainty and increase their confidence and capabilities, thus making them understand their responsibilities and objectives more clearly. These work redesigns, in turn, will enhance the organizational commitment of employees with an external locus of control.

Concerning the impact of employees’ psychological empowerment on organizational commitment, it has been argued that employees’ locus of control will exert moderating effects. Compared to people with an internal locus control, employees with an external locus of control lack confidence in their ability to master their destiny. If employees feel their work is full of meaning and impact, that they are able to determine methods for doing things, and that they are capable of doing things correctly, the impacts of psychological empowerment on organizational commitment will be much stronger. Since these perceptions will comparatively increase employees’ feelings of importance and status in their organization and will strengthen employees’ commitment to working hard, identification with their organization, and staying with their organization. Therefore, we developed the following hypotheses:

\textbf{H5:} An employee’s locus of control will exert a moderating effect on the relationships between (1) work redesign and organizational commitment and (2) psychological empowerment and organizational commitment, respectively, in a changing environment.
H5-1: Employees with an external locus of control will show stronger and more positive relationships between work redesign and organizational commitment in a changing environment.

H5-2: Employees with an external locus of control will show stronger and more positive relationships between psychological empowerment and organizational commitment in a changing environment.

Methods

Sample

Research subjects for this study were employees of three Taiwan state-owned enterprises that were undergoing privatization or reorganization during when they completed a questionnaire-based survey. The three companies are described below:

- **Chunghwa Telecom:** The company generated total revenues of US$5.8 billion and had a net income of US$1.6 billion in 2004. At the end of 2004, the company’s market share in Taiwan by number of customers and revenue was 38% and 35%, respectively. The major shareholders of the company included the Taiwan Ministry of Transportation and Communications (MOTC) (65%), American Depository Receipts (ADRs) (11.5%), and other nongovernmental enterprises (14%). Other shareholders (10%) were domestic individual investors. In August 2005, the MOTC sold a 14% stake in the company by offering ADRs following a sale of a 3% stake to domestic investors, bringing the government’s stake in Chunghwa to 48%. According to the Taiwanese law, the company had then completed its privatization.

- **Chunghwa Post Co. Ltd.:** This company was transformed from the MOTC’s former Directorate General of Posts into a state-run company at the beginning of 2003. It is wholly owned by the MOTC. According to Taiwan’s white paper on governmental postal service, one of the company’s future management policies is to commission the company to engage in downsizing and reducing redundancy. In 2004, the company’s revenue was around US$10 billion, with a net income of about US$400 million.

- **The Taiwan Cooperative Bank Co. Ltd. (TCB):** TCB was reorganized from the Taiwan Cooperative Association. It is now a comprehensive financial institution with the dual missions of providing professional and general banking services. The company’s revenue in 2004 was US$2 billion, with a net income of US$34 million. At the end of 2004, the company’s major shareholders included the Taiwan Ministry of Finance (60%), other financial institutions (10%), other companies (23%), and individual investors (7%). TCB’s shares have been publicly listed on the Taiwan Stock Exchange since November 2004. According
to the Taiwan’s law on the privatization of state-owned enterprises, when
government shareholding fell below 50% in April 2005, the bank had
completed its privatization.

Since items on the questionnaire used in the study may have been sensitive to
some people, all respondents from these three companies’ business units in Southern
Taiwan were volunteers. The survey was conducted in the first quarter of 2004. Two
hundred and eighty questionnaires were released, and 250 were completed. Due to
missing data (i.e., item nonresponse), the useable sample size was 213 for all analyses,
representing a response rate of 76%. Of 213 valid samples, 72% were from Chunghwa
Post Co., 15% were from Chunghwa Telecom, and 13% were from TCB.

Among all individuals returning analyzable questionnaires, 57% were male. Most
of the respondents (55%) had graduated from college. Of these employees, 37% had
worked for their current company for between 11 and 20 years, 31% had been with
their company for between 21 and 30 years, and 24% had been with their company for
between 5 an 10 years. Most of these people (84%) were in a nonexecutive position.
Eighty percent of them were posted at first-line counters, dealing directly with
customers.

Measures

The questionnaire was divided into four parts to measure major research variables. The
first part concerned work redesign. These items were modified from Hackman and
Oldham’s job characteristics model. Originally, there were three items for each of the
five dimensions in the model—skill variety, work identity, work significance, autonomy,
and feedback. The second part of the questionnaire addressed the four dimensions of
psychological empowerment revised from Spreitzer’s research. Each psychological
empowerment dimension was measured using three items. The third part of the
questionnaire addressed organizational commitment, which, under our definition,
encompasses the three constructs of values commitment, effort commitment, and
continuance commitment. Five items were designed to measure each of these
constructs respectively.

Some of the items from the first three parts of the questionnaire were deleted
from our analysis because they failed to converge during factor analysis. Thus, two
items each remained to explain skill variety, work significance, autonomy, and
feedback. Only one item is kept for work identity. One measure of self-efficacy and one
measure of impact were also deleted, resulting in two items for measuring these two
constructs. After analysis and deletion, each of organizational commitment’s three
constructs was measured using four items. The conceptual and operational definitions
of major variables are shown in Table 1.

Part four of the questionnaire contained items designed to determine
respondents’ locus of control. A 12-item Chinese version scale developed by Wu and
his colleagues was modified from the locus control scale of Rotter and used to
describe people’s predisposition toward locus of control. Each of the 12 items includes
<table>
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<tr>
<th>Variables</th>
<th>Conceptual definition</th>
<th>Operational definition</th>
<th>References</th>
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</thead>
<tbody>
<tr>
<td>1. Work Redesign (α = 0.89)</td>
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<tr>
<td>Skill variety increase (ξ1)</td>
<td>Increase in various skills applied in work (α = 0.86)</td>
<td>• Increase of applied techniques in use (λ = 0.76***) &lt;br&gt; • Increase of different techniques in use (λ = 1.00***)</td>
<td>Modified from Hackman &amp; Oldham’s modela</td>
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<tr>
<td>Work identity increase (ξ2)</td>
<td>Increase in work identity and accountability</td>
<td>• Increase in seeing whole work contribution (λ = 1.00***)</td>
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<tr>
<td>Work significance increase (ξ3)</td>
<td>Increase in importance to organization (α = 0.89)</td>
<td>• Increase in effect on organization (λ = 0.84***) &lt;br&gt; • Increase in significance to whole unit (λ = 0.95***)</td>
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<tr>
<td>Autonomy increase (ξ4)</td>
<td>Increase in work discretion (α = 0.88)</td>
<td>• Increase in individual work decisions (λ = 0.90***) &lt;br&gt; • Increase in use of personal judgment (λ = 0.88***)</td>
<td></td>
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<tr>
<td>Feedback increase (ξ5)</td>
<td>• Increase in learning work results (α = 0.86)</td>
<td>• Increase in knowing work performance (λ = 0.84***) &lt;br&gt; • Increase in knowing personal performance periodically (λ = 0.90***)</td>
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<tr>
<td>2. Psychological Empowerment (α = 0.87)</td>
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<tr>
<td>Meaning (ξ6)</td>
<td>Perceiving personal work full of meaning (α = 0.89)</td>
<td>• Perceiving personal work’s importance (λ = 0.76***) &lt;br&gt; • Perceiving significance of participating in activity (λ = 0.90***) &lt;br&gt; • Perceiving personal work is meaningful (λ = 0.91***)</td>
<td>Modified from Spreitzer’s concept of psychological empowermentb</td>
</tr>
<tr>
<td>Variables</td>
<td>Conceptual definition</td>
<td>Operational definition</td>
<td>References</td>
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<tr>
<td><strong>2. Psychological Empowerment ($\alpha = 0.87$) (continued)</strong></td>
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<tr>
<td>Self-efficacy</td>
<td>Perceiving fully exerting personal capability ($\alpha = 0.78$)</td>
<td>• Perceiving having enough skills in work ($\lambda = 0.88^{***}$)</td>
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<td></td>
<td></td>
<td>• Perceiving personal adeptness in work technique ($\lambda = 0.72^{***}$)</td>
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<tr>
<td>Self-determination ($\xi 8$)</td>
<td>Perceiving personal decision making power ($\alpha = 0.90$)</td>
<td>• Perceiving self free to execute work ($\lambda = 0.83^{***}$)</td>
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<td></td>
<td></td>
<td>• Perceiving self-determination in work process ($\lambda = 0.92^{***}$)</td>
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<td></td>
<td></td>
<td>• Perceiving self to have power to make decisions in work ($\lambda = 0.87^{***}$)</td>
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<tr>
<td>Impacts ($\xi 9$)</td>
<td>Perceiving personal impacts on work ($\alpha = 0.93$)</td>
<td>• Perceiving personal influence on unit’s work ($\lambda = 0.94^{***}$)</td>
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<td></td>
<td></td>
<td>• Perceiving personal control in unit’s work ($\lambda = 0.92^{***}$)</td>
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<tr>
<td><strong>3. Organizational Commitment ($\alpha = 0.86$)</strong></td>
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<tr>
<td>Effort commitment ($\xi 10$)</td>
<td>Personal willing to work hard for organization ($\alpha = 0.88$)</td>
<td>• Willing to pay extra effort for company ($\lambda = 0.84^{***}$)</td>
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<tr>
<td></td>
<td></td>
<td>• Work with full effort for the company ($\lambda = 0.82^{***}$)</td>
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<td></td>
<td></td>
<td>• Concerning company’s future development ($\lambda = 0.81^{***}$)</td>
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<tr>
<td></td>
<td></td>
<td>• Willing to spend time on the company ($\lambda = 0.79^{***}$)</td>
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</tbody>
</table>

Modified from Porter and other researchers’ concepts.
“a” and “b” choices. An example of one item is “(a) I have usually found that what is going to happen will happen, regardless of my action; (b) Instead of believing in destiny, I will do something to make things happen.” The survey subjects were asked to choose “a” or “b” according to their own perceptions. In the above case, choosing “a” will get no score, and choosing “b” will get a score of 1. The subject’s measure for locus of control was calculated by adding the 12 item scores. A higher score indicated that the subject was more inclined to have an internal locus of control. The internal consistency reliability Cronbach’s \( \alpha \) for the 12 items is 0.75.

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<th>Variables</th>
<th>Conceptual definition</th>
<th>Operational definition</th>
<th>References</th>
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<tbody>
<tr>
<td>3. Organizational Commitment (( \alpha = 0.86 )) (continued)</td>
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<tr>
<td>Continuance commitment (( \xi11 ))</td>
<td>Personal willingness to stay in the company (( \alpha = 0.85 ))</td>
<td>• Perceiving possibility of leaving company under change environment (( \lambda = 0.95^{<em><strong>} ))&lt;br&gt;• May go to other similar company (( \lambda = 0.91^{</strong></em>} ))&lt;br&gt;• Perceiving no good in the company (( \lambda = 0.65^{<em><strong>} ))&lt;br&gt;• No loyalty to the company (( \lambda = 0.58^{</strong></em>} ))</td>
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<tr>
<td>Values commitment (( \xi12 ))</td>
<td>Personal identification with company’s values (( \alpha = 0.80 ))</td>
<td>• Perceiving the company an ideal place to work (( \lambda = 0.82^{<em><strong>} ))&lt;br&gt;• Feeling proud of the company served (( \lambda = 0.76^{</strong></em>} ))&lt;br&gt;• Feeling lucky to be in the company (( \lambda = 0.85^{<em><strong>} ))&lt;br&gt;• Feeling the company served is quite good (( \lambda = 0.41^{</strong></em>} ))</td>
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</table>

Note. The symbols \( \xi1-\xi12 \) will signify the constructs in later analyses. Italicized operational definitions and \( \lambda \) values indicate the survey responses were reverse coded.

*See Note 43. \*See Note 44. \*\*See Note 45.

\( *p < 0.05. **p < 0.01. ***p < 0.001. \)
Analysis and Results

Measurement Model

The measurement model test involved estimating the internal consistency and the convergent validity and discriminant validity of the questionnaire items. The major variables’ measurements, except locus of control, are shown in Table 1.

The table shows that all reliability measures (Cronbach’s $\alpha$) are well above the recommended level of 0.70, thus indicating adequate internal consistency. Convergent validity is demonstrated when items load highly (loading > 0.50) on their associated factors. Table 1 shows that all of the measures except for the values commitment had significant loadings (A) and loaded much higher than the suggested threshold. Convergent validity also was adequate when the constructs had an average variance extracted (AVE) of at least 0.50. Table 2 shows that all AVE were well above or near the recommended value level of 0.50. Table 2 also lists the correlation matrix, which consists of correlations among constructs and the square root of AVE on the diagonal.

### Table 2: Correlation Coefficient of Major Constructs

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Average</th>
<th>SD</th>
<th>1</th>
<th>2</th>
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<th>4</th>
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<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>Work Redesign</td>
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<tr>
<td>1. Skill variety</td>
<td>3.22</td>
<td>1.05</td>
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<tr>
<td>2. Work identity</td>
<td>2.80</td>
<td>1.08</td>
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<td>3. Work significance</td>
<td>2.55</td>
<td>1.07</td>
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<td>4. Autonomy</td>
<td>2.60</td>
<td>1.06</td>
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<td>5. Feedback</td>
<td>3.00</td>
<td>1.10</td>
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<tr>
<td>Psychological Empowerment</td>
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<tr>
<td>6. Meaning</td>
<td>3.32</td>
<td>1.01</td>
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<td>7. Self-efficacy</td>
<td>3.42</td>
<td>0.93</td>
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<tr>
<td>8. Self-determination</td>
<td>2.72</td>
<td>0.99</td>
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<td>9. Impacts</td>
<td>2.38</td>
<td>1.05</td>
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<tr>
<td>Organizational Commitment</td>
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<tr>
<td>10. Effort commitment</td>
<td>4.09</td>
<td>0.90</td>
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<tr>
<td>11. Continuance commitment</td>
<td>3.67</td>
<td>0.96</td>
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<tr>
<td>12. Values commitment</td>
<td>3.25</td>
<td>0.86</td>
<td></td>
<td></td>
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</tbody>
</table>

Note. Diagonal elements are the square root of the average variance extracted (AVE).
Discriminant validity is used to assess the extent to which constructs differ. According to Anderson and Gerbing,\(^4\) discriminant validity can be assessed for two estimated constructs by constraining the estimated correlation parameter (\(\phi_{i,j}\)) between them to 1.0 and then performing a chi-square difference test on the values obtained for the constrained and unconstrained model. Bagozzi and his colleagues argued that “a significantly lower \(\chi^2\) value for the model in which the trait correlations are not constrained to unity would indicate that the traits are not perfectly correlated and that discriminant validity is achieved.”\(^4\) Following this argument, seven constrained models were compared to the unconstrained model (the first model in Table 3) to perform a chi-square difference test. The results showed that both the \(\chi^2\) value and the fit indices of each of the seven constrained models were not significantly superior to those from the unconstrained model. Therefore, the constructs of the research model exhibited adequate discriminant validity.

### Table 3: Discriminant Validity Test

<table>
<thead>
<tr>
<th>Models</th>
<th>(\chi^2)</th>
<th>df</th>
<th>NFI</th>
<th>CFI</th>
<th>RMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (\phi_{1,12} \neq 1)</td>
<td>1207.02</td>
<td>370</td>
<td>0.87</td>
<td>0.90</td>
<td>0.078</td>
</tr>
<tr>
<td>2. (\phi_{1,2} = \phi_{1,3} = \phi_{1,4} = \phi_{1,5} = 1)</td>
<td>1234.19</td>
<td>372</td>
<td>0.85</td>
<td>0.88</td>
<td>0.089</td>
</tr>
<tr>
<td>3. (\phi_{6,7} = \phi_{6,8} = \phi_{6,9} = 1)</td>
<td>1479.73</td>
<td>372</td>
<td>0.83</td>
<td>0.86</td>
<td>0.110</td>
</tr>
<tr>
<td>4. (\phi_{10,11} = \phi_{10,12} = 1)</td>
<td>1446.31</td>
<td>371</td>
<td>0.84</td>
<td>0.87</td>
<td>0.110</td>
</tr>
<tr>
<td>5. (\phi_{1,6} = 1)</td>
<td>1303.92</td>
<td>370</td>
<td>0.85</td>
<td>0.88</td>
<td>0.110</td>
</tr>
<tr>
<td>6. (\phi_{3,10} = 1)</td>
<td>1303.00</td>
<td>370</td>
<td>0.85</td>
<td>0.88</td>
<td>0.120</td>
</tr>
<tr>
<td>7. (\phi_{6,10} = 1)</td>
<td>1465.94</td>
<td>370</td>
<td>0.84</td>
<td>0.87</td>
<td>0.100</td>
</tr>
<tr>
<td>8. (\phi_{1,2} = \phi_{1,3} = 1)</td>
<td>1227.16</td>
<td>370</td>
<td>0.85</td>
<td>0.88</td>
<td>0.089</td>
</tr>
</tbody>
</table>

Note: 1. \(\phi_{i,j}\) stands for the correlation between construct \(\xi_i\) and construct \(\xi_j\) in Table 1.  
2. NFI stands for Normal Fit Index (near or above 0.90 indicating an acceptable model). 
3. CFI stands for Comparative Fit Index (near or above 0.90 indicating an acceptable model). 
4. RMR stands for Root Mean Square Residual (0.08 or lower indicating an acceptable model).

### Hypothesis Testing

Hierarchical regression analyses were subsequently conducted to test the hypotheses stated above. The relationship between work redesign and psychological empowerment, the result is shown in Table 4. The predicted effects for work redesign on psychological empowerment is significant (\(\beta = 0.651, p < 0.001\)). Three of the five dimensions of work redesign— increase in skill variety (\(\beta = 0.187, p < 0.001\)), work identity (\(\beta = 0.340, p < 0.001\)), and feedback (\(\beta = 0.199, p < 0.05\))—exerted significant effects on psychological empowerment. Therefore, H1 was supported.

Table 5 shows the relationship between work redesign and organizational commitment. The results indicate that work redesign had significant impacts on organizational commitment (\(\beta = 0.200, p < 0.05\)). Three of the five dimensions of work redesign...
revised had significant effects on organizational commitment. The regression coefficients are $\beta = 0.242$ ($p < 0.01$) for skill variety, $\beta = 0.269$ ($p < 0.05$) for autonomy, and $\beta = -0.171$ ($p < 0.05$) for work identity respectively. Therefore, H2 was supported.

Table 6 describes the relationship between psychological empowerment and organizational commitment. The evidence shows that psychological empowerment exerted significant impacts on organizational commitment ($\beta = 0.246$, $p < 0.001$). Three of the four dimensions of psychological empowerment had significant effects on organizational commitment. The regression coefficients are $\beta = 0.203$ ($p < 0.01$) for meaning, $\beta = -0.174$ ($p < 0.10$) for impacts, and $\beta = 0.330$ ($p < 0.001$) for self-efficacy respectively. Therefore, H3 was supported.

In addition, the results shown in Table 7 indicate that psychological empowerment played an intermediating role between work redesign and organizational commitment. Therefore, H4 was supported. Table 8 reveals that employees’ locus of control exerted a moderating effect on the relationship between work redesign and organizational commitment. A closer analysis of the moderating effect found that perceptions of work redesign among employees with an external locus of control had a more significant impact on organizational commitment than did perceptions of work redesign among employees with an internal locus of control. Figure 1 shows this difference. Therefore, H5-1 was supported.

However, locus of control had no moderating effects on the relationship between psychological empowerment and organizational commitment. Therefore, H5-2 was not supported.
Table 5: Hierarchical Regression Analyses: Predicting Organizational Commitment Due to Work Redesign

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 2-1 Standard β</th>
<th>Model 2-2 Standard β</th>
<th>Model 2-3 Standard β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.074</td>
<td>.054</td>
<td>.089</td>
</tr>
<tr>
<td>Education</td>
<td>-.129+</td>
<td>-.171*</td>
<td>-.166*</td>
</tr>
<tr>
<td>Seniority</td>
<td>.093</td>
<td>.112</td>
<td>.080</td>
</tr>
<tr>
<td>Work Significance</td>
<td></td>
<td>.036</td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td></td>
<td>-.073</td>
<td></td>
</tr>
<tr>
<td>Skill Variety</td>
<td></td>
<td>.242***</td>
<td></td>
</tr>
<tr>
<td>Autonomy</td>
<td>.269*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work identity</td>
<td>-.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work redesign</td>
<td></td>
<td>.200**</td>
<td></td>
</tr>
</tbody>
</table>

$R^2$  
Model 2-1: .037  
Model 2-2: .101**  
Model 2-3: .038  

$F$  
Model 2-1: 2.693*  
Model 2-2: 4.096***  
Model 2-3: 4.227**  

*p < 0.1. *p < 0.05. **p < 0.01. ***p < 0.001.

Table 6: Hierarchical Regression Analyses: Predicting Organizational Commitment by Psychological Empowerment

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Model 3-1 Standard β</th>
<th>Model 3-2 Standard β</th>
<th>Model 3-3 Standard β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.074</td>
<td>.052</td>
<td>.104</td>
</tr>
<tr>
<td>Education</td>
<td>-.129+</td>
<td>-.134*</td>
<td>-.170*</td>
</tr>
<tr>
<td>Seniority</td>
<td>.093</td>
<td>.043</td>
<td>.051</td>
</tr>
<tr>
<td>Self determinant</td>
<td></td>
<td>.010</td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td></td>
<td>.203**</td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>-.174+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-efficacy</td>
<td></td>
<td>.330***</td>
<td></td>
</tr>
<tr>
<td>Psychological empowerment</td>
<td></td>
<td></td>
<td>.246***</td>
</tr>
</tbody>
</table>

$R^2$  
Model 3-1: .037  
Model 3-2: .179***  
Model 3-3: .057*  

$F$  
Model 3-1: 2.693*  
Model 3-2: 8.071***  
Model 3-3: 5.400**  

*p < 0.1. *p < 0.05. **p < 0.01. ***p < 0.001.
**Discussion**

Most of our hypotheses were supported. However, some specific results require discussion. Concerning the impact of work redesign on organizational commitment, it is shown in Table 5 that the work identity dimension of work redesign had a negative
relationship with organizational commitment. There are two possible explanations for this. The first is that high work identity could make employees feel stress. They probably worry about not being able to accomplish their duties and will suffer negative consequences. Therefore, these employees express lower organizational commitment. The second reason is that the measurement of one item for work identity may produce an incomplete assessment of work identity.

Another result that bears further investigation is that the regression coefficient for the influence of psychological empowerment on organizational commitment was negative (see Table 6). This implies that employees surveyed felt that their impact on organizational performance was enormous, and that, as a result, they were afraid of making too much of a commitment to their organizations.

Last, the empirical evidence on the moderating effects of employees’ locus of control shows that employees’ locus of control exerted no significant influence on the relationship between psychological empowerment and organizational commitment. One possible reason behind this result may be that employees’ locus of control inclinations were absorbed from their psychological empowerment perceptions. Therefore, no moderating effects could be detected using our questionnaire. A further correlation analysis between employees’ locus of control and psychological empowerment revealed that there was no significant association between the two constructs. However, the meaning dimension of psychological empowerment had a significant correlation with locus of control \(r = 0.225, p = 0.001\). This result needs to be explored and explained further in the future.
Conclusion

We surveyed employees from three of Taiwan’s state-owned enterprises during a period when their work environments were changing to explore the impact of work redesign and psychological empowerment on the employees’ organizational commitment. We tested the moderating effects of locus of control on the relationship between these constructs. The major findings of this study indicate that appropriate work redesign and increased psychological empowerment can enhance employees’ organizational commitment when their organizations are undergoing change. This is in agreement with the findings of Evangelista & Burke and Griffin.50

Analyses of employees’ responses to our survey questionnaire show that employees’ psychological empowerment played an intermediating role between work redesign and organizational commitment. This means that work redesign can increase employees’ psychological empowerment and, in turn, enhance employees’ commitment to their organizations. This is different from what Niehoff and his colleagues51 found because their findings revealed that job enrichment exerts an intermediating effect between employee empowerment and loyalty. Our result is more similar to Hackman and Oldham’s job characteristics model, which implies that work characteristics can fulfill people’s psychological needs and, therefore, lead to work effectiveness.52 In our study, empowerment is a psychological status; work redesign can affect employees’ psychological perceptions and transform their inner sense of empowerment into work effectiveness reflected in enhanced organizational commitment.

Our study provides evidence that employees’ locus of control has a moderating effect on the relationship between work redesign and organizational commitment. It was found that perceptions of work redesign among employees with an external locus of control employees had more significant impacts on their organizational commitment than did perceptions of work redesign among employees with an internal locus of control. This finding has not been stated by other researches before.

The contributions of our research can be summarized as follows. On the academic side, this study integrates related theories of work redesign, psychological empowerment, and organizational commitment to provide a research framework to interpret how an organization can apply work redesign to increase employees’ psychological empowerment and strengthen employees’ commitment to their organizations in a changing environment. Moreover, this article highlights the importance of people’s locus of control as a moderating influence on the relationship between work redesign and organizational commitment under changing conditions. This has not been examined in other studies.

On the practical side, it is proposed that work redesign is important when an organization undergoes change. The skill variety, work identity, work significance, autonomy, and feedback of work are practical instruments to shape employees’ perceptions of their own psychological empowerment and prevent them from thinking negatively about the changing situation and, also, actively encourage them to enhance their efforts, to identify with organizational values, and to be willing to remain in their
organization. Furthermore, it is imperative to realize that the locus of control of employees can produce differences in their responses to the reorganization process or changing conditions. Management should prepare to evaluate and understand their employees’ characteristics that can affect the smoothness of the transition process.

To practitioners in both public and private organizations who often suffer from people management problems during an organizational change, our finding suggest that implementing a work redesign would be a preferable alternative in this situation. An appropriate work redesign can help employees understand and adapt to the changes in their jobs. According to our empirical evidence, it will raise employees’ psychological empowerment and, in turn, enhance their commitment to their organizations. There are five work redesign options for organizations undergoing changes:

- Organizations can provide training programs to increase employees’ skill variety.
- Management can vertically extend employees’ work responsibility to raise task identity.
- Organizations can apply management information systems to handle routine jobs and shift employees’ work to more high-end areas.
- Management can delegate power to employees to make them feel autonomous in their jobs.
- Superiors can frequently provide employees with feedbacks to motivate them in their work.

In addition, our results show that employees’ locus of control can moderate the relationship between work redesign and organizational commitment. It is imperative for managers to accurately predict their employees’ personality. Especially for those with an external locus of control, organizations should make more efforts to help the employees to deal with the process.

In spite of above-mentioned contributions, there are some limitations to our study results. First, the research subjects were employees of state-owned enterprises in the southern part of Taiwan. This restrains the generalizability of the results. Second, the study was conducted on a cross-section basis. There is no attitudinal change data to compare between the before and the after reorganization situation. Third, while this study focused on the three major constructs of work redesign, psychological empowerment, and organizational commitment, many other variables in a changing organizational environment are also worthy of consideration. These include people’s stress and psychological contract. Last, some construct scales created for the survey questionnaire were condensed during analysis for the sake of convergent validity. In particular, responses to only one item addressing work identity were analyzed. This needs further exploration to enhance the reliability of future findings.

Owing to the above limitations, there are some suggestions for future studies. First, it is advised that larger and more diverse samples of employees be included in the testing process to enhance the justification of this research framework. An extension to
other countries for empirical study is recommended. Second, a longitudinal study that yields before and after data on employees’ reactions to the privatization of state-owned enterprises is encouraged. This could be designed to more rigorously describe the effects of employees’ locus of control on their organizational commitment. Third, other change-related variables such as the employees’ stress, psychological contract can be considered in future studies. Last, there is room for measurement improvement concerning the variables used in this study. Researchers would be highly rewarded if they can continue in this direction.

**Notes**


9 Ibid.


20 Ibid.


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Developing Effective Internships Within Public Sector Organizations

By Stephen Cupps, PhD, and Kurt E. Olmosk, PhD

In this era of organizational downsizing, budget shortfalls, and personnel reshuffling, the timely addition of a capable and enthusiastic intern can be invaluable for a public agency. This article focuses on one set of critical concerns for an organization seeking to benefit from an effective intern relationship: What are the agency’s responsibilities if interns are going to be productive contributors to the work of the organization? What specific things should an agency do—and what potential pitfalls and snares should it vigorously avoid blundering into—to maximize the impact of an intern’s services to the organization? The authors’ observations on how best to answer these questions are offered here as lessons learned from nearly two decades of experience with some successful and some not-so-successful agency-intern collaborations.

Almost everyone agrees that, in theory at least, there should exist a symbiotic relationship between organizations and the interns they occasionally hire. With a perfect internship program, the organization receives an enthusiastic, reasonably experienced human resource, generally without much financial obligation or long-term commitment, and the intern receives valuable work experience, top-notch professional contacts, and, perhaps, an opportunity to secure longer-term employment with the sponsoring agency.

In practice, however, the agency-intern relationship is far from simple and is filled with potential pitfalls and frustrations that lead many public managers to avoid, rather than promote, these kinds of commitments. The lack of clarity surrounding expectations on the part of each party can often make both the intern and the organization uneasy about entering into an agreement of many months’ duration. Or, from the public manager’s standpoint, given the chronic strain of organizational pressures and demands, the idea of taking on and supervising an intern may seem like a colossal misuse of time and energy. In short, public managers are not automatically cheered by the prospect of securing an intern or, having got one, are not always certain how best to use the potential resource.

For the last 18 years, the authors of this article have been directors of a highly successful internship program sponsored and funded by the West Virginia Legislature. The Judith A. Herndon Legislative Fellows Program involves the placement of a small number of highly trained university students with both legislative agencies and committees, as well as with state and local governmental agencies in the state’s capital.
city of Charleston. As program directors, we have interviewed and spoken with numerous agency heads and supervisors about the agency’s role in establishing effective agency-internship collaboration. Organizations seeking to effectively use interns have many questions, including how and where to contact universities and other sources of interns; how to recruit, train, and evaluate interns; and what are the legal and financial obligations where interns are involved. A large and growing literature speaks to many of these issues.1

This article focuses on another set of critical concerns for organizations seeking to benefit from an effective intern relationship: What are the agency’s responsibilities if interns are going to be productive contributors to the work of the organization? After a brief description of the Herndon program and its objectives, the article summarizes some of the specific things agencies can do—and avoid doing—to maximize the productive impact of an intern’s services to the organization.

The Herndon Legislative Fellows Program

The Herndon internship program is an internship sponsored by the West Virginia Legislature. The internship was begun as a pilot project by the Joint Committee on Government and Finance in May 1980, and it was established as a permanent legislative program by House Concurrent Resolution No. 35 in April 1981. The primary goal of the program is to offer 10 carefully selected undergraduate students from institutions of higher learning in West Virginia the opportunity to participate in the operation of the state’s legislature and administrative agencies.

The four-month Herndon internship consists of two segments. For the first two months of the internship—coinciding with the 60-day regular annual session of the West Virginia Legislature—students serve as chief legislative aides to individual state senators and delegates, with five students being assigned to the Senate and five to the House of Delegates. Although the duties of individual fellows vary, all the students are introduced to and develop a basic understanding of the politics of legislation, the operations of legislative committees, constitutional restraints on the legislature, legislative rules, parliamentary procedures, constituent services, and executive-legislative liaison and relationships.

The interns are called upon to perform all of the functions typically associated with chief legislative aides—from the mundane acts of photocopying, filing, and answering telephones to the more substantive tasks of drafting bills, doing constituent service, writing speeches, meeting with lobbyists, presenting and defending bills before committees and subcommittees, and building coalitions for and negotiating on behalf of their mentors’ legislative proposals. As one of the interns accurately put it, “We do everything but vote.”

Following the 60-day legislative session, each fellow is assigned for two months to a nonlegislative administrative position within the executive branch. The second-half assignments are selected and designed primarily with each student’s long-term career ambitions in mind. Students considering law school or legal careers might be placed in the Attorney General’s office or on the staff of a state supreme court justice. On the
other hand, a journalism major might work for one of the local television stations or newspapers in the capital city, and students with an interest in criminal justice might be assigned to the state’s Division of Corrections or one of the regional jails.

The training and skills of the students selected for the Herndon internship program—highly computer literate, skilled in legal and other types of research and presentations, experienced in collaboration—coupled with their native enthusiasm, make them prime recruits for agencies willing to spend the time and energy necessary to cultivate their potential contributions. As one city manager noted in another study, “Wherever they work, interns help to infuse a tremendous amount of energy into our regular staff. As a former intern myself, I saw not only an obligation to extend internship opportunities but to recruit some of the top people in the state to our city government.”

**Agency Responsibilities for Ensuring the Effectiveness of an Internship**

We interviewed many agency sponsors and supervisors to determine the agency’s responsibilities for maximizing interns’ contributions to agency goals and objectives. These issues have also been explored separately by Stone, Somerick, and Furness. While there is no simple set of rules to follow to guarantee the successful integration of interns into agency life, the comments received from agency supervisors and the interns themselves suggest some general principles of which agency managers should be aware.

**Appreciate the Huge Variety and Complexity of Tasks Interns Can Perform for an Agency**

All too often, agency personnel have an overly narrow, confining view of an intern’s capabilities. “Every agency has significant, mission-critical jobs that capable interns can handle—or at least participate in,” one state agency executive related. “Unfortunately, agency personnel often fail to consider involving interns at this level of significance.” With just a little imagination, interns can be put to work on many things the agency or supervisor has not had the opportunity to investigate, including

- Researching, comparing, and organizing what other states, courts, or legislatures have done with respect to the issue or problem being examined.
- Creating and distributing surveys and compiling, tabulating, and analyzing the data received.
- Preparing necessary groundwork and supportive background details for initiatives the agency may be seeking to develop.
- Brainstorming, together with other staff, about how the intern might use his analytical skills to investigate new or different ways of cataloging and presenting agency data gathering requirements, or establishing more effective means of obtaining client/customer feedback and program evaluation information.
Advice from Susan Tull, assistant director of the Haas School of Business at the University of California at Berkeley is worth noting in this regard: “Don’t use interns as gofers. They have something to contribute. They bring some value to the organization.” As an outsider, the intern is not blinded by the “We’ve always done it this way” syndrome, and for every unrealistic suggestion that may be offered, the intern is equally likely to generate the germ of an idea or approach that could be turned into an innovative program initiative. Consider just a handful of tasks the most recent group of Herndon interns were called upon to perform during their 4 months of service:

- Developing from start to finish a performance audit for the Performance Evaluation and Research Division of the West Virginia Legislative Auditor’s Office and presenting the findings and agency recommendations to the appropriate oversight committee of the legislature.
- Conducting legal research comparing different state code provisions concerning child abuse and neglect and drafting an outline of necessary provisions for a proposed bill the intern’s host agency sought to have introduced during the legislative session. The intern then arranged meetings between different government agencies, selected interest group representatives, and agency personnel to develop strategy for pushing the proposed legislation.
- Dealing with every imaginable issue of constituent service in the absence of the intern’s legislator. This involved cataloging the nature and significance of the constituent’s request, handling irate and belligerent demands from angry citizens, acting as ombudsman with different state agencies to redress constituent problems, and interpreting and explaining the legislator’s position—and likely “wiggle room”—on issues with constituents, lobbyists, and representatives of the governor’s office during receptions, prayer breakfasts, and cloakroom discussions.
- Conducting tours of media facilities, writing scripts for the legislator’s weekly television program, dealing with the media, organizing and monitoring the legislator’s schedule, and answering mail.

These are not the typical duties of a mere gofer, but highly complex and politically sensitive tasks that can greatly extend the reach and impact of the legislator or agency supervisor willing and able to use the potential human resource presented to him. “I may not get the credit for making the final decision,” one intern observed, “but I am the one who builds the case. It also drives home the point that a manager is only as good as the people surrounding him.”

Turn Interns Into Useful Contributors

There is much that an agency can do to improve the chances of creating a successful experience for both the agency and the intern. It is often helpful for the intern’s supervisor to think in terms of a phase-in period for the intern. At the start of any agency-intern collaboration, the intern is generally in a very vulnerable position.
Desiring to do well, the intern still cannot yet comprehend what is expected of him or her, what the options are for selecting one's own projects, and how the various assigned duties are to be carried out. Therefore, supervisors should try to answer basic questions and resolve uncertainties as quickly as possible. Discuss responsibilities and expectations with the new employee, as well as the variety of things you see the intern accomplishing. Equally important, the supervisor should outline in broad terms what the difference between a successful and an unsuccessful experience is and what the two experiences will look like from the agency's standpoint and feel like from the intern's perspective.

The first few days of the internship are important, as they set the tone for the internship and ingrain understandings about the intern's role and involvement in the life and practices of the agency. The intern should be introduced to all the people he or she will be working with, to other key people in the organization, and anyone else the intern might be able to use as a resource or information source. Talk openly and frankly about the agency's culture, its traditions, and any norms—positive and negative—to which most organization members subscribe.

Some early, uncomplicated tasks will help the intern get involved with agency issues, observe the workflow, and get to know everyone in their professional capacities. Participating in meetings and group discussions will facilitate this process and also help legitimize the intern in the eyes of other organization members.

Avoid loading too much on the new employee in the first few days, which might put the intern on edge, making him or her feel nervous or overwhelmed. Try to help the intern relax and maintain a learning mentality. One professional staff person explained it this way: “I try to tell the interns that this is for them not a life-or-death professional situation. They can crash and burn on occasion, learn from their mistakes—or successes—and go on. They are outsiders who don’t have to worry about long-term stature within the agency.” Cultivating this mind-set will help free the intern from being hesitant, reactive, and overly fearful of making mistakes. Urge the newcomer to be proactive and experimental in approach and aggressive in asking questions, approaching people, and identifying specific issues or situations that interest him or her.

On one occasion, one of the Herndon interns was assigned to a busy legislator who was not around for the first day’s introductions and expectation-sharing discussions and interaction. When the same pattern emerged at the start of the intern’s second day, rather than twiddling her thumbs or passing time surfing the Internet, the intern attacked her legislator’s impossibly messy and overcrowded desk, organizing correspondence, sorting items and issues by category, roughly sketching out priorities, and outlining and implementing a suggested filing system for handling the flow of paper in the future. When the legislator returned to the office and overcame the initial shock of what the intern had done—and the boldness of the initiative undertaken—he enthusiastically praised the intern and began a warm, mutually fulfilling relationship that allowed the intern to exercise significant amounts of discretion and decision making regarding office affairs that were directly related to legislative demands.

As a general rule of thumb, supervisors should keep in mind that, in most cases,
the greatest missed opportunities will result from the intern being asked to do too little rather than too much. On the other hand, as one analyst cautioned, “Interns shouldn’t be seen, however, as virtual replacements for needed regular workers. Such an attitude puts too heavy a burden on interns to carry the load and makes scarcer the number of regular employees from whom interns can learn.”

After a suitable phase-in period, supervisors can begin to add responsibilities and a wider range of activities to the intern’s workload. Inevitably, it will be necessary to give the intern a challenge—one large project or a series of tasks and smaller projects—that test his or her abilities and help the supervisor evaluate the intern’s capacity to contribute in certain areas. Provide opportunities to do research without a lot of close supervision and check on the intern’s critical writing skills and abilities to present information in both written and verbal formats in a small group setting. See whether the intern is comfortable with and capable in creating spreadsheets and using quantitative procedures and computer applications.

Expose the intern to different kinds of issues that illustrate the variety of things the agency does, noting which of these the intern has the interest and aptitude to get involved with. As interest is expressed in certain issues or tasks, fill the newcomer in on necessary background information, how the agency came to get involved, and how everyone’s contributions are melded together to get a finished product. As one staff attorney explained, “You greatly elevate an intern’s capacity to contribute if you bring them in early on a project, let them see the background information, how the ideas and issues developed, who the cast of characters is, and where their points of view lie.”

Impress upon the intern the importance of confidentiality. This is of immediate importance to the agency and is a critical career imperative in the professional development of the new employee. In both legislative and administrative arenas, staffers need to be able to discuss sensitive issues and concerns openly and passionately, without fear that their words or positions are going to appear later in the media or in the hands of their opponents. Keeping confidences will help build trust, which is a difficult and fragile commodity to develop and one that is easily destroyed with careless words or disclosure. Staying involved in agency deliberations and being included in policy development processes is important for the intern, but as one legislator concluded, “If you get an intern who talks too much, then you just have to exclude him.”

Pitfalls to Avoid

While it is appropriate for agency managers and supervisors to concentrate on their positive, affirmative responsibilities in establishing worthwhile internship experiences for both the agency and the intern, there are also a few potential hazards to avoid. For example, interns are often easy prey for unloading grunt work that no one else wants to do. Resist this temptation. Even if the office culture dictates that everyone shares in the mundane tasks of making copies, sorting and filing papers, running errands, and fixing coffee, be careful not to allow the intern to be seen as the primary person to perform these tasks. Interns are intelligent people who know when they are being ill-
treated. If they are given only menial jobs, the interns’ resulting quality of work and motivation may suffer. This does not mean that interns should receive special treatment, only that thankless tasks should not be their only tasks.

Beware also the normal tendency of busy managers and professionals to pass the intern off for extended periods to others, especially secretarial staff. As one committee staff professional warned, “Avoid the tendency to have the intern working with the secretaries. Not only do they not get to interact with the professional staff, but, inevitably, their duties and assignments gravitate toward the secretarial.” Finally, both for the intern’s sake—and the organization’s as well—supervisors cannot allow intern to not take the internship seriously. Interns cannot be permitted to disappear without notice for long periods, chat endlessly on the telephone when there appears to be nothing to do, or read newspapers and magazines that are not work-related while in the office.

Part of the agency’s obligation in an effective internship is to provide continuous feedback. Rather than allowing problems to linger, inform the intern tactfully when work or behavior is in need of improvement. Do not assume that the intern will “figure it out” or eventually settle into a more productive routine. Do not accept mediocre performance and indifferent attitudes. Provide guidance about organizational expectations and professional work habits and behavior. Providing this oversight and feedback will require a little extra work from the manager, but it will pay lasting dividends to the agency in terms of productivity and to the intern in terms of professional growth.

**Figure 1: Guidelines for Maximizing the Agency-Intern Collaboration**

1. Don’t underestimate the range and complexity of tasks that interns can perform.

2. Identify issues and projects that, although important to the agency’s longer term objectives, have been deferred because of staff shortages or more pressing organizational or political imperatives.

3. Look for significant portions of the task that the intern could perform if you think the entire project is beyond the intern’s present capabilities.

4. Ask interns for their perspectives and suggestions on agency projects or procedures, especially with respect to areas of potential simplification.

5. Take sufficient time at the start of the intern-agency relationship to outline and clarify agency expectations of the intern. Identify the range and variety of the things you see the intern getting involved with, and ask the intern to point out broad areas or agency activities with which he or she would most like to get involved.

6. Do all that you can early on to involve the intern in the life and practices of the agency.

7. Urge the intern to adopt a proactive, inquisitive, and fully involved mentality and approach to the job.

8. Avoid giving the intern a steady diet of routine, mundane housekeeping-type duties, and try not to pass the intern off to other managers or the secretarial staff for extended periods.

9. Reinforce the importance of confidentiality.

10. At the end of the internship, conduct an exit interview with the intern.
Conclusion

An effective internship can provide significant benefits to both the intern and the sponsoring agency. The intern, as participant observer, gets to see firsthand the agency’s organization, processes, people, and culture. The agency, in turn, is provided with a short-term additional skilled staff person, new perspectives, enthusiasm, someone who can bring unfinished projects to successful fruition, and, perhaps, a recruit for a long-term position.

This article highlights some of the specific actions agencies and supervisors can take to maximize an intern’s contributions to their host organization. Broadening the range and significance of the tasks given to interns will motivate and challenge them while also serving agency needs. Linking the intern quickly to important agency employees and decision makers and involving the new hire in the full range of agency activities, meetings, and strategy sessions is crucial. Supervisors’ being available to answer questions and provide feedback on performance is important, as is addressing sensitive issues of confidentiality, professional work habits, and organizational culture and expectations. Attention to these types of details will discourage the organization from viewing an intern as just another pair of hands and make it more likely that the agency will gain maximum value from the new employee.

Notes


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How Does the SCHIP Exclusion Affect Health Insurance Coverage for Children of Low Income State Workers?

By Patricia Ketsche, PhD; Joan T. A. Gabel, JD; and Nancy R. Mansfield, JD

A provision of the law that created the State Children’s Health Insurance Program (SCHIP) to provide low cost coverage for moderate income children whose parents do not have employment-based coverage excludes children whose families are eligible for participation in a state employee health benefit plan from enrollment in the state’s SCHIP program. This exclusion applies even when a child is not covered and would otherwise be eligible for SCHIP based on his or her family’s income. This article presents an analysis of the implication of this policy on coverage among state employee dependents and the potential effect on these children. We found no evidence that low income children of state workers were disproportionately lacking coverage from 2002 to 2004, but rapidly increasing premiums in state benefit plans may portend problems for these children.

The State Children’s Health Insurance Program (SCHIP) was created in 1997 to expand health insurance to uninsured low income children. Almost four million children were covered through this program during the last month of 2003, and almost six million were at some point during the 2003 fiscal year. Most of those children lived in low to moderate income families, although income eligibility limits vary from state to state.

In SCHIP’s enabling legislation, Section 2210 of Subtitle J of the Balanced Budget Act of 1997 contains a provision that specifically excludes children whose families are eligible for participation in a state employee benefits plan from SCHIP eligibility. This exclusion applies regardless of whether a child’s parent or guardian actually participates in the state employee health benefits program for which that adult is eligible, and even if a child would otherwise be eligible for SCHIP based on his or her family’s income and the relevant look-back period for health insurance coverage. Thus, children of state employees are singled out as being ineligible for publicly supported health coverage that children of other types of public and private employees can receive, despite the fact that at least some state workers have incomes that would make their children eligible for SCHIP.
This article presents an analysis the status of health insurance coverage among children of state employees, the implication of the SCHIP exclusionary rule for these children from 2002 to 2004, and the potential for the exclusion to have an increasing effect on these children. We begin by analyzing the legislative history of the exclusionary rule in order to determine if there was a legal issue that would create coverage for the affected children. A summary of the existing literature surrounding public employee compensation and benefits is followed by descriptive statistics of coverage among dependents of state workers to assess the extent to which the exclusionary rule limited coverage among these children and a multivariate analysis of the determinants of coverage for these children. Finally, we discuss the trends in state health benefit plans that could contribute to a change in coverage among dependents of state employees in the future.

**Legal Analysis**

The Balanced Budget Act of 1997 created Title XXI of the Social Security Act, which is now known as SCHIP (42 U.S.C. §§1397aa-1397jj). The program is designed to provide “child health assistance to uninsured children in low income families in an effective and efficient manner” (42 U.S.C. 1397 aa(a)). Based on this description, it seems problematic for children of state-benefit-eligible employees to have been excluded from SCHIP. However, from a legal perspective, there are several reasons why such children do not receive legislative protection.

First, the legislation provides that the child health assistance should coordinate “with other sources of health benefit coverage for children” (42 U.S.C. 1397 aa(a)). No state has opted to make SCHIP coverage an entitlement, despite having the ability to do so. In fact, most state SCHIP programs do not even mandate maximum coverage. By giving the power to create safeguards to the states, the federal government revealed the lack of control it wished to have over the program. Notions of federalism that would normally dictate federal preemption do not apply to SCHIP because the program expressly divides power between the federal and state governments, with state governments retaining administrative control.

Second, notions of equal protection or other constitutional protections are equally inapplicable. Low income is not a protected class, so when the government creates programs that take wealth into account when granting benefits, it need only show that a rational relationship exists between income-related eligibility rules and desired outcomes in order to defend program rules (29 U.S.C. 1144). This is a low burden, and one that is unlikely to be raised by arguing that it is irrational to exclude children with access to alternative health coverage from a federally funded health program, particularly since the legislation that created SCHIP contains the express intent for it to be coordinated with other sources of coverage.

Last, related legislation, specifically, the Employee Retirement Income Security Act (ERISA) creates no further rights. On the contrary, section 2109 of SCHIP details Congress’ intent not to affect or modify the impact of section 514 of ERISA, which states that ERISA preempts any and all state claims related to an employee benefit plan.
except state laws that regulate insurance. As a result, despite the clear intent of SCHIP to provide health coverage, a legal analysis reveals no extra protection specifically for the children of state-benefit-eligible employees.

**Background on Public Sector Workers and Employee Benefits**

Public sector employers, particularly states, have traditionally designed benefit packages to attract a stable workforce. In a study of wages for public sector workers, Borjas evaluated relative wages in the public sector and private sector both before and after controlling for age, education, race, and state of residence between 1960 and 2000. The author found that throughout the time period studied, unadjusted male wages were slightly higher in the public sector than in the private sector, but adjusted wages for men in the public sector were between five and 10 percent lower than in the private sector. Although publicly employed women historically enjoyed higher unadjusted wages and adjusted wages than their private sector counterparts, the public sector wage advantage had all but disappeared by the year 2000. Furthermore, Borjas pointed out, wage trends showed that relative to the private sector, wages within the public sector were increasingly more compressed. These results suggest that if the trends continue, it may become increasingly difficult for public sector employers to attract workers, particularly the most highly skilled workers.

While Borjas evaluated wages, the researcher did not consider the monetary value of employee benefits that make up a significant portion of the total compensation package. In a study of the relative value placed on employee benefits by public sector employees, Bergmann, Bergmann, and Grahn found that public sector employees perceived their benefits as more important than did private sector employees who were polled as control groups. The employee benefit about which public sector employees were most knowledgeable was the health insurance benefit.

The same cost pressures that led to the wage compression for public sector employees identified by Borjas will have an effect on the generosity of benefits for public sector employees. The important role employee benefits, particularly health insurance benefits, have played in attracting and retaining an adequate workforce for states stands in contrast to the increasing budgetary pressures facing state governments. Data compiled by the National Conference of State Legislatures indicate that the average total premiums for family coverage increased by 97 percent across all states between 1999 and 2005. During this same period, the employee contribution to the premium for family coverage increased by an average of 66 percent across all states. There were 17 states in which contributions for family coverage increased by more than 100 percent between 1999 and 2005. Furthermore, if the seven states that continue to offer family coverage to workers while requiring no employee contribution are excluded from the sample, the average worker contribution for family coverage increased by more than 93 percent during the six-year period.

The rapid growth in contributions required for state workers to insure their dependents will likely increase the effect of the SCHIP provision that excludes state
workers’ dependents from eligibility in future years. Furthermore, the wide range in required contributions for family coverage, which in 2005 ranged from nothing to more than $400 per month, points to a likely disparate impact of the SCHIP exclusionary rule. Therefore, this article presents a descriptive analysis of the implication of the policy for dependents of state workers from 2002 to 2004 and provides a baseline for continuing to monitor coverage of those children in the future.

Coverage Status of State Workers’ Dependent Children

We used data from the Current Population Survey’s (CPS) Annual Social and Economic Supplement to evaluate the extent to which public sector employees, both federal and state, have children who are enrolled in publicly funded health benefit programs. The Census data was also used to determine whether the SCHIP provision that excludes dependents of state workers from eligibility for that program contributed to lack of coverage for those children.

We use combined data from the March 2003, 2004 and 2005 surveys for the CPS supplement. Pooled data were needed in order to have a sufficient survey sample size for children of state employees in the relevant income range that might be affected by the SCHIP exclusionary rule. This method of pooling CPS files from multiple years is routinely used by the Census Bureau to make state level coverage estimates and is used by the Center for Medicaid & Medicare Services (CMS) for state level analyses of children’s coverage. In the combined file we used, there are 9,946 observations for children with one or more parent in full-time state employment. This method yields estimates that represent the average for calendar years 2002-2004.

Ideally, we would have used administrative data to assess the impact of the SCHIP rule. However, to the extent that ineligible children are actually enrolling in the SCHIP program, it is unlikely that their parents or guardians are reporting information that would highlight the children’s ineligibility. Therefore, we resorted to the use of CPS for this analysis.

The CPS, as does other surveys, consistently underestimates enrollment in public programs when compared with administrative data. Although the research on underreporting in surveys focuses primarily on Medicaid as a public program, we can reasonably assume that the reporting of SCHIP enrollment is similar to the reporting of Medicaid enrollment in the states with combined SCHIP-Medicaid programs. Certainly there is no evidence of the overreporting of SCHIP enrollment in the CPS, and it is particularly unlikely that state workers over report their children’s SCHIP enrollment, given the prohibition upon participation by children whose parents or guardians are eligible for state employee health benefits. Therefore, we view our estimate of children with a parent in full-time state employment who are enrolled in the SCHIP program in their state as a lower-bound estimate.
Description of Health Insurance Coverage

Based on the three-year pooled data for all children, there were on average 77 million children younger than 18 years during the years 2002, 2003, and 2004. The coverage status for these children in the aggregate and then broken down by family income is shown in Table 1.

<table>
<thead>
<tr>
<th>Coverage Categories</th>
<th>Total Children</th>
<th>Family Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (Thousands)</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>77,489</td>
<td>100%</td>
</tr>
<tr>
<td>Total private</td>
<td>51,447</td>
<td>66%</td>
</tr>
<tr>
<td>Employment-based</td>
<td>47,609</td>
<td>61%</td>
</tr>
<tr>
<td>Total public</td>
<td>19,766</td>
<td>26%</td>
</tr>
<tr>
<td>SCHIP</td>
<td>3,635</td>
<td>5%</td>
</tr>
<tr>
<td>Uninsured</td>
<td>9,151</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note. FPL = federal poverty level, SCHIP = State Children’s Health Insurance Program.

Nationwide, more than 3.6 million children were reported as being enrolled in SCHIP during this period. When total SCHIP enrollment from the CPS was compared to reported enrollment from administrative records, it was found that total enrollment fluctuated between 3.58 million and 3.95 million, with a mean enrollment of 3.83 million for the 12 quarters included in the combined survey file. The estimate from CPS was about five percent lower than the enrollment reflected in the administrative records, which was consistent with the predicted undercount noted above.

Table 1 highlights the important role of SCHIP in reducing the number of uninsured children, particularly children in low income families. While low income children were substantially more likely to lack coverage than were children in higher income families, more than eight percent of low income children were covered through SCHIP during 2002, 2003, and 2004, and were, thus, not added to the large number of uninsured low income children in the United States.

During the study period, there were 3.45 million children (4.5 percent of all children) living in a family with at least one parent who was working in state government, and 3.25 million children living with at least one parent holding full-time state employment. For purposes of analyzing the coverage status of dependents of state workers in general and the effect of the SCHIP exclusionary rule in particular, we wanted to compare these children to children with at least one employed parent through whom they were likely eligible for employer sponsored coverage. Therefore,
we compared children of full-time state workers to dependent children of full-time federal workers and to dependent children with a parent working for an entity that likely offered health insurance for which the parent was likely eligible.

From the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC), it is known that 98.8 percent of all employees at firms with more than 1,000 employees worked where health insurance was offered during 2003 (the midpoint of our study period), and that 88 percent of all full-time employees at large firms were eligible for coverage. Although we were unable to explicitly control for offer and eligibility rates, excluding the children of all workers at small and moderate sized firms from our analysis ensured that the vast majority of the employee parents worked where a health plan was available to full-time workers. Therefore, we limited our comparisons to children with at least one parent employed full time in state government, children with at least one parent employed full-time federal government, or children with at least one parent employed full-time by an employer with at least 1,000 workers. Table 2 shows the family income distribution for these three groups.

Table 2: Family Income of Children by Parental Work Status, 2002-2004

<table>
<thead>
<tr>
<th>Parental Work Status</th>
<th>One or More State Employee (Thousands)</th>
<th>One or More Federal Employee, No State Employee*** (Thousands)</th>
<th>One or More Private Employee at a Large Firm, No Public Employee*** (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total children</td>
<td>3,253</td>
<td>1,963</td>
<td>23,023</td>
</tr>
<tr>
<td><strong>Family Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below 100% FPL</td>
<td>3.4%</td>
<td>2.8%</td>
<td>4.9%</td>
</tr>
<tr>
<td>&gt;100% FPL and the upper limit of SCHIP eligibility in the state of residence</td>
<td>16.8%</td>
<td>16.0%</td>
<td>19.3%</td>
</tr>
<tr>
<td>Above upper limit of SCHIP eligibility</td>
<td>79.8%</td>
<td>81.2%</td>
<td>75.7%</td>
</tr>
</tbody>
</table>

*Note. FPL = federal poverty level, SCHIP = State Children’s Health Insurance Program.*** Differences significant at  = .001

Children in families with a parent working full time for the state were significantly more likely to live in moderate income families that would meet the income eligibility requirement for SCHIP and significantly less likely to live in high income families than were children with a parent in full-time federal employment. On the other hand, children in families with a full-time state worker were less likely to live in poverty or in moderate income families and more likely to live in families with incomes above the SCHIP eligibility level for their state than were children living in families with a parent employed full time by a large, private firm. Children living in poverty are generally
eligible for Medicaid, while those living in families above the poverty limit but below the relevant upper limit for SCHIP eligibility in their state might be eligible for Medicaid or SCHIP, depending upon their age and the specifics of their state program. State eligibility for SCHIP varies substantially, with maximum eligibility levels in 2003 ranging as high as 350 percent of the federal poverty level (FPL) in one state to levels at or below 150 percent of the FPL in four states. Children in families with incomes above the SCHIP level for their state may have some limited eligibility for public coverage based upon criteria other than family income, such as disability status.

The MEPS-IC provided us with premium information regarding family coverage for 2003. While private sector employees and state employees pay comparable premiums for covering only one dependent, total premiums for family coverage in the private sector were about seven percent higher than were family premiums for state employees, and employee contributions for family coverage were almost 30 percent higher for employees in the private sector than they were for state employees. Therefore, we would expect to see substantially lower group health coverage rates and higher rates of uninsurance for children of parents employed in the private sector than for children of parents who were state employees.

The coverage status for children in these three parental work status groups is shown in Table 3.

Table 3: Coverage Status of Children by Work Status of Parent, 2002-2004

<table>
<thead>
<tr>
<th>Parental Work Status, Full-time</th>
<th>One or More Private Employee*** (Thousands)</th>
<th>One or More Federal Employee, No State Employee*** (Thousands)</th>
<th>One or More Private Employee at a Large Firm, No Public Employee*** (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total (Thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total children</td>
<td>28,239</td>
<td>1,963</td>
<td>23,023</td>
</tr>
<tr>
<td>Coverage Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>86%</td>
<td>88.1%</td>
<td>85.7%</td>
</tr>
<tr>
<td>TRICARE</td>
<td>3%</td>
<td>9.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Other public</td>
<td>12%</td>
<td>8.8%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Uninsured</td>
<td>5%</td>
<td>4.3%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>

Note. Because some children report more than one source of coverage, the percentages for types of coverage total to more than 100.

*** Differences significant at  = .001

Table 3 shows that among these groups of children, health coverage was substantially more complete than it was among all children (see Table 1). While 12 percent of all children lacked coverage, only five percent of children who were the dependents of full-time workers at large firms or of public sector employees lacked coverage. Dependent children of state employees were the most likely to have private
coverage and the least likely of the children in this study to be uninsured, with only 4.1 percent (133,000) of those children lacking coverage during 2002-2004. They were also slightly more likely to have public coverage than were dependents of federal workers. The preliminary analysis showed higher rates of coverage among dependents of state workers than among either of the comparison groups.

In order to assess whether there were disparities in coverage resulting from the exclusion of state employee dependents from SCHIP eligibility among families with low incomes, we further restricted our sample to children who lived in families with incomes below the maximum eligibility level for SCHIP participation in their respective states. Approximately 25 percent of all children who were dependents of public and large firm private sector employees fit this criterion. We compared the coverage status of children in low income and moderate income families during 2002-2004 by parental work status, and the results are presented in Table 4.

<table>
<thead>
<tr>
<th>Parental Work Status</th>
<th>One or More State Employee (Thousands)</th>
<th>One or More Federal Employee, No State Employee*** (Thousands)</th>
<th>One or More Private Employee at a Large Firm, No Public Employee*** (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>657.4</td>
<td>368.7</td>
<td>5,586</td>
</tr>
</tbody>
</table>

**Coverage Status**

<table>
<thead>
<tr>
<th>Coverage Status</th>
<th>One or More State Employee</th>
<th>One or More Federal Employee, No State Employee***</th>
<th>One or More Private Employee at a Large Firm, No Public Employee***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>69%</td>
<td>67%</td>
<td>60%</td>
</tr>
<tr>
<td>Public</td>
<td>33%</td>
<td>24%</td>
<td>37%</td>
</tr>
<tr>
<td>SCHIP</td>
<td>5%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>Uninsured</td>
<td>7%</td>
<td>11%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note. SCHIP = State Children’s Health Insurance Program. Because some children report more than one source of coverage, the percentages for types of coverage total to more than 100.

All of the differences between state employees’ dependents and private sector, large firm employees’ dependents were significant at the .01 level. Dependents of full-time state workers in low income and moderate income families were more likely to have private coverage, less likely to have any public coverage, and less likely to be uninsured than were their private sector counterparts.

Not all differences between dependents of state workers and dependents of federal workers were significant, however. While dependents of state workers were less likely to have public coverage or be uninsured than were dependents of federal workers, the differences in levels of private coverage and in SCHIP coverage were not significant.

These results indicate that some dependents of state workers were being enrolled in SCHIP programs. It is important to note that the employment status of the parent is
determined by a point-in-time question, while the coverage status variables reflect the history of coverage over the previous year. Therefore, the SCHIP coverage of some of the state employees’ dependents may be explained by job transitions during a given year. However, if we remove from the SCHIP category those children for whom private coverage was also reported, a small but statistically significant number of children whose only reported coverage during the year was through the SCHIP program remains. It is likely that states vary in their ability to enforce the exclusionary rule. However, small sample size constraints made state level analysis of this small group of children unfeasible.

The SCHIP coverage rates for children of state workers and children of federal workers were quite similar. The results also imply that dependents of state workers were not disproportionately more likely to lack coverage than were dependents of federal workers or private sector, large firm workers.

**Logistic Regression Analysis of Dependent Coverage**

In order to assess the effect of the SCHIP exclusionary rule on coverage for state workers’ dependents, we estimated a model for the probability that a dependent child would lack coverage as a function of being a state workers’ dependent while controlling for parental wages, the imputed out-of-pocket premium likely paid for coverage, and the family income as a percentage of FPL. Premium information for calendar years 2002, 2003, and 2004 for dependents of state workers was obtained from the National Conference of State Legislatures survey of state health benefit plans. For dependents of federal workers, state-specific premium information for 2002-2004 was obtained from the Office of Personnel Management Web site, and the lowest published premium for workers in that state was used. Finally, for dependents of private sector, large firm workers, state-specific estimates of the average monthly premium for firms with 1,000 or more workers were obtained from the Medical Expenditure Panel Survey.

<table>
<thead>
<tr>
<th>Table 5: Logistic Regression for the Likelihood of Lacking Coverage Among Children in All Income Groups, 2002-2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Label</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>Wage (in 10,000)</td>
</tr>
<tr>
<td>Family income as % of FPL</td>
</tr>
<tr>
<td>Monthly contribution (in 00s)</td>
</tr>
<tr>
<td>Dummy for State Worker</td>
</tr>
<tr>
<td>Dummy for Federal worker</td>
</tr>
<tr>
<td>Year = 2003</td>
</tr>
<tr>
<td>Year = 2002</td>
</tr>
</tbody>
</table>

| * | .05 | ** | .01 |
for the years 2002 and 2003. For states in which the 2003 estimate of private coverage cost for the relevant firm size group was not available, the most recently published estimate was inflated based on average annual increases across all states. For all states, the trend from 1996 to the most recent year was used to calculate mean 2004 premiums. Although the regression was carried out at the level of the individual worker, the premiums are differentiated by state, by class of worker (state, federal, or private), and by year, resulting in 450 different premium measures.

The regression results shown in Table 5 confirm that after controlling for the wage of the highest earning parent, required contributions for coverage, and family income as a percentage of FPL, children of state workers were the least likely to lack health coverage among all children with a parent in either state, federal or large firm private sector full-time employment. Furthermore, family income was more important than wages as a determinant of lacking coverage. The monthly contribution required for family insurance was a significant determinant of coverage among children of all workers.

These results imply that among the children of state, federal, and large private sector employers, an increase in the monthly contribution required for coverage of $100 would result in an increase in the likelihood of lacking coverage from 4.9 to 5.6 percent, or a rise of about 13 percent, among all of these children and would result in an additional 17,000 dependents of state workers falling into the ranks of the uninsured. Unlike their counterparts whose parents work for either the federal government or large private firm, children whose parent work full time for a state have no SCHIP safety net.

**Conclusion**

For the years studied, there was no evidence that children who were dependents of a state worker were more likely to be uninsured because of their eligibility for SCHIP, even after controlling for family income, wages, and the premium required for coverage. However, as states face increasing budgetary constraints and reassess their employee health benefit plan design, past trends suggest that states will consider increasing the required contributions for dependent coverage. In that event, it is likely that more dependent children of low income state workers will lack coverage but will be ineligible for existing public coverage programs, including, by statute, SCHIP.

The results suggest a need to monitor this group of children over time to determine if the effect of their differential treatment with respect to SCHIP begins to affect aggregate coverage levels, particularly if states make changes to the existing state health benefit plans. States may wish to consider mechanisms to address this potential problem. For example, states could create an SCHIP look-alike program that is fully funded at the state level. This would provide access to coverage for low income children but might result in further erosion of coverage for their parents. Alternatively, states could implement a sliding scale for determining contributions for family coverage under the state health benefit program. This would permit low income families with children to gain access to the state health benefit plan at a premium that is proportionate to their income while preserving family coverage for their parents.
Notes


2 Ibid.


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The Luevano Consent Decree and Public Personnel Reform

By J. Michael Martinez, JD, PhD

Special thanks to Dr. Stephen E. Condrey, program manager for the Human Resource Management Program at the Carl Vinson Institute of Government, and an adjunct professor in the School of Public & International Affairs at the University of Georgia.

The 1981 Luevano consent decree that resolved a legal challenge to the Professional and Administrative Careers Examination was one of the most influential public personnel developments of the 1980s and 1990s, widely influencing subsequent civil service reforms. The decree remains in effect as of this writing, although its effectiveness has been increasingly questioned in recent years. This article examines the terms of the decree and whether the stated goal of improving opportunities for blacks and Hispanics to secure positions in the federal civil service would be better accomplished through alternate measures.

The question of what constitutes “merit” and whether civil service examinations adequately test for merit has been, and remains, a key issue in public personnel administration since late in the nineteenth century. This article examines the controversy surrounding one examination—the Professional and Administrative Careers Examination (PACE)—and a subsequent lawsuit and consent decree on the issue. At its conclusion, the article assesses whether the so-called Luevano consent decree effectively resolved the problems identified in PACE, as well as the decree’s effect on subsequent civil service reform.

The Underlying Issue: PACE and “Adverse Impact”

Civil Service Examinations

When Congress passed the landmark Pendleton Act in 1883, it recognized that the central problem in public personnel management was to identify merit. Accordingly, the task of the newly created U.S. Civil Service Commission (CSC) was to develop a measure of merit that stressed neutral competence as the basis for hiring and promotion instead of the patronage considerations that had marred much of federal personnel management since the Jacksonian era of the 1830s. Within a decade after its creation, the CSC had developed a competitive examination designed to identify merit
“of the achievement type” and which the commission believed was suitable for determining who should and should not be eligible for public sector employment.\footnote{1}

In the ensuing years, the federal government attempted to refine the type of examinations used to determine employment eligibility. In some instances, such as during World War II, decentralized examinations were used to meet the divergent needs of federal agencies. The demands of war mobilization and production required different agencies to use different tests to determine which candidates would meet specific agency needs. After the war ended, the CSC concluded that recentralization of personnel functions was needed to instill cohesion in federal employment. As a result, in 1954 the commission established the Federal Service Entrance Examination (FSEE) for most federal jobs. The exam was designed “as a ‘universal’ instrument for selecting college graduates in entry level positions.”\footnote{2}

The FSEE was criticized as “overly general” because it did not adequately pose questions that were reasonably related to job performance. Recognizing this problem, in 1974 the CSC replaced the FSEE with PACE as the primary tool for selecting entry-level applicants in 118 professional and administrative occupations at the General Schedule ratings of GS-5 and GS-7. PACE would allow the CSC to create a large, centralized applicant pool from which specific federal agencies could select qualified candidates; however, most candidates who received passing scores could not realistically expect to secure federal employment. The statistics graphically illustrated this conclusion. Between fiscal years 1976 and 1980, only 35,419 of 723,563 candidates who sat for the exam actually were selected for federal jobs.\footnote{3}

**PACE and Merit**

PACE was designed to improve on the FSEE by testing the “knowledges, skills and abilities” necessary for candidates to assume professional and administrative responsibilities in government service. The CSC specifically developed the new exam in response to a landmark 1971 U.S. Supreme Court case, *Griggs, et al. v. Duke Power Company*. In *Griggs*, the court prohibited the use of selection methods for federal civil service employment that “cannot be shown to be related to job performance.” Moreover, the court outlawed selection methods that discriminate on the basis of race.\footnote{4}

To compete for an entry-level job that was subject to PACE testing, an applicant had to possess a four-year college degree, three years of professional experience, or the equivalent combination of education and experience. The applicant was required to complete an application and sit for the examination. Test scores were converted into numerical scores, with 40 being the lowest possible score and 100 being the highest. A score of 70 or above was considered passing. Veterans were awarded five or 10 additional points depending on their length of service and whether they had incurred a disability during their time in uniform.\footnote{5}

After identifying eligible candidates with a score of 70 or higher, the U.S. Office of Personnel Management (OPM), which replaced the CSC in 1979, prepared a rank-ordered list of applicants known as the “PACE Register.” Federal agencies seeking to fill open positions within the 118 designated occupations had discretion either to consult
the PACE Register or elect to fill its open positions by promoting, reassigning, or transferring current employees. When an agency chose to use the register, it would request a list of eligible candidates from the local OPM area office. The requested list—called a “certificate” in agency parlance—was forwarded to the requesting agency, which then used the “rule of three.” Under this rule, the agency could select any of the top three candidates, with preference given to veterans by statute.6

The OPM certificate was not the sole factor by which requesting agencies would fill positions. Depending on the request of the agency involved, the OPM could institute additional job-related requirements such as knowledge of a foreign language, certain types of computer skills, or other specialized training, education, or certifications. The willingness and ability to relocate or to travel extensively was a factor in some instances. As a result of additional requirements, even candidates with PACE scores significantly higher than 70 were not guaranteed a position in a federal agency. In fact, according to OPM’s data for fiscal years 1976-1980, only 4.9% of applicants who sat for PACE were selected for PACE occupations. Table 1 provides the raw OPM data for those five years. Clearly, an applicant who sat for PACE could not harbor a reasonable expectation of securing employment in a federal administrative agency.7

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Applicants who sat for PACE</th>
<th>Total number of competitive hires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>222,340</td>
<td>8,254</td>
</tr>
<tr>
<td>1977</td>
<td>185,691</td>
<td>8,521</td>
</tr>
<tr>
<td>1978</td>
<td>135,403</td>
<td>7,687</td>
</tr>
<tr>
<td>1979</td>
<td>112,323</td>
<td>6,283</td>
</tr>
<tr>
<td>1980</td>
<td>67,806</td>
<td>4,674</td>
</tr>
<tr>
<td>Total</td>
<td>723,563</td>
<td>35,419</td>
</tr>
</tbody>
</table>

*Note.* PACE = Professional and Administrative Careers Examination.

Four years after PACE was developed, the OPM joined with the Equal Employment Opportunity Commission, the U.S. Department of Labor, and the U.S. Department of Justice to issue a series of guidelines that became known collectively as the *Uniform Guidelines on Employee Selection Procedures* (hereinafter the *Guidelines*). The *Guidelines* represented the agencies’ attempts to establish a rule for determining whether a particular examination had an “adverse impact” on a particular racial or ethnic group. Under the “four-fifths rule,” any examination that resulted in a selection rate of less than 80% for members of a particular racial, ethnic, or gender group was deemed to have an adverse impact, regardless of the intent behind the development of the examination. The *Guidelines* did not absolutely prohibit the use of an examination that failed the four-fifths rule, but it did specify that such examinations must be validated through a series of fairly stringent validation standards.8
PACE’s Proportionality Problem

During the late 1970s, an increasingly large group of detractors began to criticize PACE because of the significant differences between the proportions of white, black, and Hispanic job applicants who received a 70 or higher in the examination. Before these complaints were raised, the OPM generally did not collect data on the race and national origin of PACE applicants. Owing to growing number of questions about the examination’s potential adverse impact on certain races, however, the agency collected sample data during the January 1978, April 1978, and April 1980 administrations of PACE. The four-fifths rule certainly supported the arguments voiced by PACE critics.

Table 2: Disparities in PACE Results by Race, January 1978 and April 1978

<table>
<thead>
<tr>
<th>Scores</th>
<th>Whites</th>
<th>Blacks</th>
<th>Hispanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of PACE applicants</td>
<td>45,539</td>
<td>6,488</td>
<td>2,694</td>
</tr>
<tr>
<td>Number earning 70 or above (unaugmented)</td>
<td>19,177</td>
<td>323</td>
<td>347</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>42.1%</td>
<td>5.0%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Number earning 70 or above (augmented)</td>
<td>21,343</td>
<td>940</td>
<td>518</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>46.9%</td>
<td>14.5%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Number earning 90 or above (unaugmented)</td>
<td>3,861</td>
<td>17</td>
<td>40</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>8.5%</td>
<td>0.3%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Number earning 90 or above (augmented)</td>
<td>6,030</td>
<td>42</td>
<td>69</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>13.2%</td>
<td>0.6%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Note. PACE = Professional and Administrative Careers Examination. The unaugmented score

The data indicated that in the January 1978 and April 1978 administrations of the exam sampled by the OPM, approximately 42% of white test takers earned at 70 or higher, while only 12.9% of Hispanics and 5% of blacks achieved comparable scores. Table 2 provides the raw data from the 1978 samples. Yet even these figures on scores of 70 or above did not illustrate the extent of the disparities. With a glut of highly qualified applicants competing for some positions, in many cases, the threshold score necessary to procure employment was closer to 90. Table 2 shows an even greater adverse impact by race for scores of 90 or higher, especially those augmented by the veterans’ preference. Slightly more than 13% of whites received a score of 90 or higher, while only 0.6% of blacks and 2.6% of Hispanics did so.9

In light of the clear disparities in PACE results by race—the legal definition of adverse impact—it was only a matter of time before the examination was challenged. The challenge came on January 29, 1979, when Angel G. Luevano and a group of plaintiffs representing a nationwide class of blacks and Hispanics filed suit against then-OPM Director Alan Campbell, alleging that PACE discriminated against class members in violation of Title VII of the Civil Rights Act of 1964. Based on the number of PACE applicants who were black and Hispanic, the class included more than 100,000...
members. Scrambling to answer the suit, the OPM asked for, and was granted, four time extensions for filing an answer, which it finally did on December 14, 1979.\textsuperscript{10} For almost two years, the parties litigated the case, exchanging requests for admissions, interrogatories, and the production of documents. At the end of several rounds of settlement negotiations, the parties jointly moved on January 9, 1981, for a court order granting preliminary approval to a consent decree to settle the case. After a minor amendment, the U.S. Court of Appeals for the District of Columbia Circuit granted the order for a consent decree on February 26, 1981, and the final decree was approved on November 19 of that year.\textsuperscript{11}

**The Luevano Consent Decree and “Life After PACE”**

**Phase-Out of PACE**

Under the terms of the consent decree, the OPM agreed to phase out PACE no later than three years after the settlement. One year after the effective date of the decree, 50\% of applicable appointments to federal administrative agencies had to be made using alternative examination procedures. Within two years, the goal was 80\% of appointments. Three years after the decree went into effect, all applicants would have to be examined using alternative procedures. During the phase-out period, the OPM would be required to undertake “all practicable efforts” to minimize the adverse impact of PACE. One such effort was providing financial assistance to applicants by offering the examination free of charge. The OPM assistance program was to be administered in selected areas where large numbers of blacks or Hispanics lived. Although the program was primarily designed to assist members of the identified class, it was not limited to the class.\textsuperscript{12}

In place of PACE, the OPM or a particular agency seeking to hire personnel was directed to develop an examination and examination procedures that were specifically related to the job or a group of job categories where the vacancy existed. To ensure that the new system did not also result in an adverse impact, the consent decree required the OPM to establish a monitoring committee made up of representatives from both plaintiffs and defendants in the lawsuit to oversee the development of test content and validation procedures, and to oversee all steps associated with implementation. The monitoring committee was directed to report back to the federal appeals court on a regular basis.\textsuperscript{13}

The court ordered that after an appropriate replacement examination and procedures were developed, the results would have to be disseminated to the OPM and agency offices around the country. Moreover, the OPM and affected agencies would have to provide for training so that agency testing personnel would be informed of the requirements contained in the consent decree. Over the objection of some class members—who insisted on the immediate elimination of PACE—the court concluded that the terms of the consent decree required a three-year implementation period to ensure that the OPM and the appropriate agencies had adequate time to replace the examination.\textsuperscript{14}
The Outstanding Scholar and Bilingual/Bicultural Programs

The consent decree did not allow the OPM to wait for black and Hispanic applicants to apply for public sector jobs. Instead, it required the agency to develop two recruitment programs to remedy the negative effects of past discrimination. Called the Outstanding Scholar and the Bilingual/Bicultural programs, these two recruiting systems applied to all GS-5 and GS-7 occupations that were originally subject to PACE testing.15

The Outstanding Scholar Program makes all graduates from accredited colleges and universities who have obtained an overall grade point average (GPA) of 3.5 or higher out of 4.0 or who stood in the top 10% of their graduating class eligible for appointment to GS-5 and GS-7 positions in the covered occupations without going through an examination procedure. The program does not ensure that every Outstanding Scholar will receive a federal appointment, but it does mandate that such applicants must be considered before other applicants are considered. Neither the OPM nor the consent decree set a time limit after graduation for Outstanding Scholar eligibility and, presumably, an applicant can receive an unlimited number of Outstanding Scholar appointments.16

The Bilingual/Bicultural Program requires applicants to sit for an appropriate civil service examination and receive a passing score, but it also rewards Spanish-language skills. If a Spanish-speaking applicant is applying for a GS-5 or GS-7 position where “job performance would be enhanced by having bilingual and/or bicultural skills,” the applicant can be appointed even if other applicants receive higher test scores. To demonstrate an applicant’s eligibility, the agency may employ a “reasonable questionnaire” that tests oral proficiency in Spanish, as well as “requisite knowledge of Hispanic culture.”17

As appealing as these programs appeared to some critics of PACE, many observers feared that the new programs were no better—and maybe a good deal worse—than PACE. The Merit Systems Protections Board (MSPB) summarized the concerns voiced by many critics in a 2000 special report titled Restoring Merit to Federal Hiring: Why Two Special Hiring Programs Should Be Ended. With respect to the Outstanding Scholar Program, the MSPB found that the high eligibility criteria were “highly questionable as valid predictors of future job performance.” Moreover, the Outstanding Scholar program effectively denied job opportunities to the large segment of the applicant pool that did not have a college GPA of 3.5 or higher, but which could competently handle job requirements. Finally, the Outstanding Scholar Program became a “primary hiring tool in a number of agencies, contrary to its purpose as a supplement to competitive hiring.” At least one independent study has found no necessary correlation between college grades and job performance.18

As for the Bilingual/Bicultural Program, the MSPB report questioned whether the practice of noncompetitively hiring candidates who met minimum job requirements and possessed Spanish-language skills, as well as an appreciation for Hispanic culture, was appropriate. In the report authors’ view, “We found that by using competitive, merit-based hiring tools, the Government has been able to hire Hispanic job candidates in representative numbers for jobs formerly filled through PACE.” Even in
situations when “extra credit” was not given to candidates through the program, the candidates secured employment through merit-based practices in numbers comparable to the numbers achieved through noncompetitive hiring. Consequently, the MSPB concluded that the goals of the Bilingual/Bicultural Program could be met without resorting to noncompetitive hiring.19

**Schedule B and Problems of Noncompetitive Hiring**

Although the OPM had three years to phase out PACE and develop a new civil service examination following the *Luevano* consent decree, the agency announced on May 11, 1982, that it would abandon PACE immediately.

In its stead, the OPM announced, the agency would use Schedule B appointment authority to select personnel on a temporary basis. Schedule B is one of three appointment authorities in “excepted service,” and it essentially involves hiring personnel on a decentralized, noncompetitive basis. Under this new hiring method, individual agencies generally exercise broad discretion in determining appropriate measures of a candidate’s competence and qualifications. Schedule B is described in the *Code of Federal Regulations* as permissible for “positions other than those of a confidential or policy-making character for which it is not practicable to hold a competitive examination.”20

Schedule B hiring authority was first created in 1910, but, prior to 1982, it had been used sparingly and primarily for student cooperative education programs and for employing university faculty to operate agency training programs. The OPM’s proposed use of Schedule B was a creative response to a difficult situation, but it was not an altogether natural fit. Because personnel appointed pursuant to Schedule B were not part of the “competitive service,” if they sought to move beyond the GS-5 or GS-7 level, they still had to qualify anew for promotion. Thus, personnel who secured employment at the GS-5 or GS-7 level under Schedule B sometimes found their efforts to advance stymied by the same or similar barriers that they would have faced when PACE was still in use.21

In 1988, two scholars, Carolyn Ban and Patricia W. Ingraham, published research about whether “life after PACE,” as they labeled the post-1982 practice of federal personnel management, resulted in increased or decreased employment opportunities for members of racial and ethnic minority groups. Ban and Ingraham found that many agencies preferred Schedule B to PACE because the former allowed them more flexibility in matching applicants with specific skills to needs within the agency. Nonetheless, by decentralizing personnel functions, Schedule B made it more difficult to monitor agency hiring practices, and, with the loss of its oversight capability, the OPM had fewer opportunities to correct abuses. “Schedule B was originally implemented as a temporary solution to the problem created by the consent decree,” the researchers concluded. “If it becomes institutionalized, inevitably pressure will build to swing the pendulum back toward more control and oversight.”22

Twelve years after the Ban and Ingraham study was published, the MSPB found that federal hiring under the Outstanding Scholar Program, the Bilingual/Bicultural Program, and other noncompetitive systems generally did not substantially increase the number of
new hires within the groups of people covered by the Luevano consent decree. Table 3 presents data from one year—1997—when hiring under the Outstanding Scholar and Bilingual/Bicultural programs was especially pronounced. The table shows that approximately 11% of outstanding scholars were black and about 7% were Hispanic. More than 75% were white. When compared with appointment qualification rates under PACE, these figures from 1997 suggest that the Outstanding Scholar Program increased the percentage of blacks hired. The figures are worse for Hispanics.23

Aside from comparing hiring data using PACE and other systems, however, the key issue is whether the Outstanding Scholar Program is preferable to competitive hiring. According to these data, blacks fare about the same under competitive hiring as they do under the Outstanding Scholar Program. Hispanics fare worse. These data, in the words of the MSPB report, “indicate that competitive examining was as good a vehicle as Outstanding Scholar for hiring African Americans and better for hiring Hispanics.”24

As for the Bilingual/Bicultural Program, blacks perform considerably better under competitive examinations than under this program. Not surprisingly, Hispanics have higher employment rates under this program. Taken out of context, the improved hiring of Hispanics might be a persuasive argument for retaining the program; however, the MSPB examined employment figures for 1993-1997 and reached a different conclusion. Table 4 summarizes the raw number of Hispanic hires during the five years examined by the board. The numbers indicate that the Bilingual/Bicultural Program ranked first or second as the method through which Hispanics were hired during three of the five years studied. Notice, however, that the number of Hispanic veterans increased fairly significantly during the study period. Coupled with increases in competitive hiring, the result is that more Hispanics were hired into jobs that had formerly been subject to PACE testing through veterans’ preferences and other competitive examinations—both of which have a merit basis—than through the Outstanding Scholar and Bilingual/Bicultural Program combined. In any case, OPM

### Table 3: Percent of New Hires Into Former PACE Jobs in 1997, by Race and National Origin and Hiring Score

<table>
<thead>
<tr>
<th>Hiring source</th>
<th>Total new hires</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Asians/Pacific Islanders</th>
<th>Native Americans</th>
<th>Whites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding scholar</td>
<td>2,065</td>
<td>11%</td>
<td>7%</td>
<td>5%</td>
<td>1%</td>
<td>76%</td>
</tr>
<tr>
<td>Bilingual/Bicultural</td>
<td>446</td>
<td>1%</td>
<td>79%</td>
<td>1%</td>
<td>0</td>
<td>19%</td>
</tr>
<tr>
<td>Cooperative education</td>
<td>314</td>
<td>25%</td>
<td>10%</td>
<td>6%</td>
<td>1%</td>
<td>57%</td>
</tr>
<tr>
<td>Veterans</td>
<td>676</td>
<td>17%</td>
<td>20%</td>
<td>4%</td>
<td>&gt;1%</td>
<td>58%</td>
</tr>
<tr>
<td>Competitive exams</td>
<td>1,477</td>
<td>11%</td>
<td>11%</td>
<td>6%</td>
<td>1%</td>
<td>69%</td>
</tr>
<tr>
<td>Other</td>
<td>988</td>
<td>16%</td>
<td>10%</td>
<td>5%</td>
<td>3%</td>
<td>66%</td>
</tr>
<tr>
<td>New hires overall</td>
<td>5,966</td>
<td>12%</td>
<td>16%</td>
<td>5%</td>
<td>1%</td>
<td>66%</td>
</tr>
</tbody>
</table>

Note. Percentages may not equal 100 owing to rounding. PACE = Professional and Administrative Careers Examination.
effectively retired these programs in November 2007 in the wake of two MSPB decisions, *Dean v. U.S. Department of Agriculture*, and *Olson v. U.S. Department of Veterans Affairs*.25

Add to these data the problems with Schedule B, and by the 1990s it appeared that life after PACE was not a substantial improvement over life under PACE. Designed to be an interim measure, Schedule B had evolved into a primary federal hiring practice. In fact, the OPM took so long to develop new testing procedures that even Schedule B was challenged as creating an adverse impact on the groups covered by the *Luevano* consent decree. Recognizing the developing controversy, the OPM finally unveiled a new examination, the Administrative Careers With America (ACWA) examination.26

### ACWA

The OPM unveiled the ACWA written test in 1990. Employing a multiple-choice format and containing items designed to assess cognitive ability, the examination also included a bio-data self-rating component that helped to reduce the adverse impact on any particular group. Although it was a centralized exam, ACWA was written so that it could be adapted to some extent to an agency’s needs. The examination covered six broad occupational groupings, each with its own scoring key, as well as a seventh group with specific minimal educational requirements. The exam was first administered in June 1990, and it initially seemed to be an improvement over PACE and Schedule B.27

As with PACE, the ACWA written test was administered to many applicants, but only a small percentage secured federal employment as a result of sitting for the examination. By March 1993, more than 75,000 applicants had sat for ACWA, but only 3,500 of those test takers had actually gotten federal jobs afterward. Fearful that these figures were indicative of continued problems in administering centralized employment testing, and in the wake of reduced federal hiring, the OPM decided to abandon the ACWA written test in November 1994.28

The OPM supplanted the ACWA written test with a rating schedule consisting of a 157-item multiple-choice self-rating form that was available to all federal agencies. The form credits applicants with a passing grade if they possess the minimum qualifications.

<table>
<thead>
<tr>
<th>Table 4: Raw Number of Hispanic Hires Into Former PACE Jobs by Various Hiring Methods, 1993-1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding scholar</td>
</tr>
<tr>
<td>Bilingual/Bicultural</td>
</tr>
<tr>
<td>Cooperative education</td>
</tr>
<tr>
<td>Veterans</td>
</tr>
<tr>
<td>Competitive exams</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Note: PACE = Professional and Administrative Careers Examination.
necessary for the job the agency has to fill. For applicants who meet that threshold, a
standardized rating schedule is used to identify the ones with the best qualifications for
the job, with points being awarded for an individual’s life and work experiences.
Because applicants often are required to possess a bachelor’s degree as a minimum
qualification, in many ways the ACWA rating schedule is a tool for choosing an
appropriate employee from among a large pool of college graduates.29

Owing to congressional budget action in 1999, the OPM began charging agencies
a fee to administer the ACWA rating schedule. As of 2000, the basic fee to apply
the schedule to a pool of applicants and prepare a certificate of eligibility for a single
position was $585.00. The OPM charges different rates, depending on the number of
applicants that must be tested in a single administration. Agencies need not buy these
services from the OPM, however. They have the option to prepare their own
examinations or buy appropriate examinations from any federal agency with “delegated
examining authority,” but most agencies prefer to deal directly with the OPM rather
than running afoul of the Luevano consent decree.30

**Luevano and Next Steps in Civil Service Reform**

In the more than two decades since the Luevano consent decree went into effect, the
OPM has struggled with the concept of merit and the need to hire competent
personnel in a nondiscriminatory manner. With the agency’s decision to abandon
PACE, interim measures such as increased Schedule B hiring, the ACWA written test,
and the ACWA rating schedule have improved on the pre-1981 hiring situation to some
extent. Nonetheless, each of the programs and instruments developed after PACE has
been flawed, thereby leading to another round of civil service reform.

In June 2000, the OPM announced a new 10-point plan to increase Hispanic hiring
in federal agencies. Noting that Hispanics comprised 10.8% of the civilian labor force
but only 6.4% of the federal labor force, the agency fashioned its new plan around
aggressive recruitment at high schools, colleges, and cooperative education centers.
Coupled with diversity training for key federal managers and increased monitoring, the
plan was designed to bolster Hispanic employment and improve on the gains made
since PACE was abandoned.31

The Luevano consent decree remains in effect, despite its “temporary” nature,
but the question remains whether it should be eliminated and replaced by merit-based
Steve Nelson, director of MSPB’s Office of Policy and Evaluation, argued that Luevano
is no longer useful. In his view, the steps taken by the OPM after PACE was rejected
have not resulted in widespread increases in hiring from the groups covered in the
decree. Because competitive hiring is a better way to achieve the goals of promoting
diversity, he argued that the decree should be withdrawn and that alternative hiring
practices should be put in place.32

The current selection process can be reformed by retaining the current ACWA
rating schedule and augmenting it with a new version of the ACWA written test. The
MSPB recommended this action in 2000 as a means of combining the flexibility of the
rating schedule with the rigorous nature of the written exam. In the MSPB's opinion, the written examination was a reliable indicator of future job performance because it was so well tailored to job requirements. Allowing agencies to develop their own alternative examinations in instances where those alternate examinations were well-constructed would go a long way toward reforming federal hiring practices. As an example, the MSPB cited the case of the Immigration and Naturalization Service—now divided into Citizenship and Immigration Services—which had successfully prepared an immigration officer examination for three separate occupations. In its conclusion, the MSPB noted that "ending the Luevano consent decree would free agencies from its constraints, but when developing new examinations they would still be subject to the requirements of Title VII of the Civil Rights Act of 1964, as amended, and the validation requirement of the Uniform Guidelines on Employee Selection Procedures. Consequently, ending the consent decree should not open the door to a proliferation of poorly constructed selection instruments that have an unlawful adverse impact."33

**Notes**

7 93 F.R.D. 68, 74.
12 93 F.R.D. 68, 78-79.
13 93 F.R.D. 68, 92.
24 Ibid.

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The Coachability and Fakability of Personality-Based Selection Tests Used for Police Selection

By Corey E. Miller, PhD, and Gerald V. Barrett, PhD, JD

The use of personality measures for safety force personnel selection has been increasing. Barrett et al.’s recent Public Personnel Management article titled “Practical Issues in the Use of Personality Tests in Police Selection” suggests that, due to issues of validity, managers should be cautious in using personality measures to select safety force personnel. Issues that commonly come up with personality measures are faking and coaching. Current research shows that managers should be concerned with faking and coaching because if training on personality measures is available, applicants who did not take the training will have little chance of being selected.

The use of personality and biodata measures in safety force personnel selection is increasing due to demands to reduce adverse hiring, placement, and promotion decisions. The U.S. Department of Justice advocates the use of personality tests for this very reason. The selection of safety forces such as police is often contentious and is therefore one of the most likely instances in which the use of personality tests would be contemplated.

Personality testing for safety force personnel decision making raises at least two concerns, however. These are the coachability of personality tests, and the low predictive value personality measures have regarding police performance. In a 2003 Public Personnel Management article, Barrett and colleagues highlighted practical issues that arise in the use of personality tests in police selection by exploring in depth the meta-analytic finding that conscientiousness predicts job performance, focusing only on studies that had relevant samples, job performance criteria, and tests that correlated performance with conscientiousness. They found it would be incorrect to assume that conscientiousness would be a useful benchmark for all police selection situations because the personality trait was not a significant predictor of performance. In other words, while research results showing that conscientiousness predicts police performance could be useful to guide theory, those results have limited practical application.

Although this conclusion might seem surprising, many researchers have suggested that meta-analytic results should not be taken at face value. Further, other researchers have specifically corroborated Barrett et al.’s finding. A meta-analysis of
meta-analyses by Barrick and colleagues revealed that conscientiousness was not a significant predictor of police performance, as the lower credibility bound included zero.³ Thus, although on average conscientiousness predicts police performance, it has not been strongly shown to do so in any one particular study. Also, the results of the studies are highly variable, and there are likely to be moderator variables that influence whether the relationship between conscientiousness and performance is significant in a particular sample. This latter observation would be true of any correlation study because the chance of finding a significant result for any given variables is less than one in three. In fact, there is almost a one in four chance of finding a negative correlation.

Moving beyond simple correlation, the study described in this article has performed to explore what might occur if some applicants received coaching on personality tests. The findings make the use of personality tests even less appealing.

Test developers who specialize in safety force testing have cautioned that safety force applicants expect to be able to prepare for important tests.⁴ Even researchers who have suggested that faking is a minor or negligible problem have called for research investigating the effects of coaching.⁵

Training programs for civil service selection tests are common.⁶ Workshops on “test strategy” that cost hundreds of dollars are routinely offered to applicants. In fact, developing training sessions for a test can be more lucrative than developing the test itself. In at least once instance, a consulting firms offered training seminars for a tests it had unsuccessfully bid to create and then later provided expert witnesses for a plaintiff who claimed the test was unfair.⁷ There is such a demand for safety force test training that even the municipalities are offering programs such as situational interview preparation for police and fire promotion.⁸ In the cited example, employees of the municipality conducted the interview prep, which consisted mainly of offering tips such as get plenty of rest, think before you speak (a period of silence is acceptable), make eye contact, and look your best. Role-play demonstrations were done in a training room that was set up exactly as the actual interview room would be, including a video camera that would be used to record candidates’ interviews. Participants in the program did score higher on the subsequent situational interview than individuals who did not participate.

One might wonder what benefits a municipality might gain from such a program. Goodwill among employees is one. Safety force members want to study and prepare for exams, and the testing program was viewed positively by safety force members, the unions, and the community.⁹ A second benefit would be meeting employees’ needs cost-effectively. Safety force unions commonly encourage their members to participate in test preparation programs. Thus, if the municipality did not offer a training program, someone else would satisfy the demand. An analogous case would be that of the Educational Testing Service (ETS, which writes and administers the GRE and SAT). ETS provides test-taking software, past tests, and study guides for the GRE and SAT on its Web site. In addition, the company provides many of these materials with registration confirmations.

A report of a situation in Suffolk County, NY, describes an actual coaching situation that would likely be disconcerting to HR professionals.¹⁰ In an attempt to
increase the rate of minorities selected and fend off pressure from the U.S. Justice Department, the Suffolk County Police Department stopped using cognitive ability tests and instead used only biodata tests to select its 1988, 1992, and 1996 recruit classes. The biodata tests did not change much, which would make them susceptible to coaching effects. The top scores did in fact rise from year to year. The top scores in 1988 ranged from 88.2 to 95.5, and in 1992 the top scores ranged from 93.2 to 99.

When the police department could still not meet minority hiring goals, it began an unusual recruitment program. Forty-three minority applicants were offered part-time unpaid positions as cadets and given police clerk jobs. These cadets were promised officer positions at the end of 30 months of volunteering if they could score 70 or higher on the applicant test. In 1992 ordinary candidates had to score above 90 just to be considered. As the salary of a Suffolk County patrol officer is $70,000 per year, some of the candidates turned down college or law school admissions to enroll in the cadet program.

When it came near time to take the applicant test, most cadets protected their time investment by taking a preparation course given by a sergeant on the force at the time who had been involved in the validation of the instrument. Sgt. Brian Bugge had given courses to hundreds of past applicants for several hundred dollars, but e made an exception for the minority cadets and only charged $20. Bugge’s training consisted of “hypothetical” questions and “preferred” answers such as

Q: How many of your relatives work in law enforcement?  
A: Three.

Q: Which hobbies do you engage in at least once a year?  
A: Hunting.

Again, the exam given in 1996 hadn’t changed much from the versions given in 1988 and 1992, and many of the questions were versions of the “hypothetical” questions given in training. All of the cadets passed; several scored above 90, and some even earned scores of 100. The attitude of the cadets, that there is a right answer and providing it is not cheating, is not uncommon among applicants. The test used in Suffolk County has been used by hundreds of police forces across the nation, so it likely that other jurisdictions are facing situations similar to that in Suffolk County.

Despite suggestive research findings and at least one well-document case study that shows coaching could be a problem when personality-based tests are used for selecting police officers because it produces skewed outcomes, no published research addresses how coaching on personality tests effects hiring can be found.
This gap in the literature led the authors of this article to formulate and test the following hypotheses:

- **Hypothesis 1**: Participants who receive coaching on personality theory and personality test construction will achieve higher scores on the personality measures than a sample of participants who did not receive the training.
- **Hypothesis 2**: Participants who received personality test training will be more likely to be selected for the job than participants who did not receive the training.

**Method**

To test the hypotheses, the authors recruited a total of 246 participants took three tests designed to assess conscientiousness (NEO-FFI, Neo Five Factor Inventory; Hogan Personality Inventory, and the CBDQ, Conscientiousness Biodata Questionnaire) and a Social Desirability measure, commonly known as a lie scale (Marlowe-Crowne) either with or without coaching. All of the study participants were introductory psychology students at a large Midwestern university, and they received extra credit for their participation.

As freshmen who were beginning college, the participants had educational experiences similar to most police officers, as most police officers have some college experience. It is also potentially significant that the study participants were enrolled in introductory psychology courses since those courses typically include material on personality and personality measures. Sixty-six percent of the participants were female, and 13.5% of the participants reported themselves to be of African American descent. Two percent were Asian, 79.2% were Caucasian, 2% were Hispanic, 0.3% were Native American, and 2.6% classified themselves as Other. The mean age of the participants was 20.65 years, while the mean years of education completed was 12.30. Ninety-six and nine-tenths percent of the sample had work experience, and the mean work experience for the entire sample was 5.08 years.

Study participants were divided into six groups. Type of training presented in a given experimental session was randomly chosen, after participants had chosen the time and date of the experimental session they would attend. Participants received conscientiousness measure training, lie scale training, or were a control group. Groups 1 and 2 received both training programs. Group 1 received the personality measure training first, while Group 2 received the lie scale training first. Group 3 received personality measure training only, Group 4 received lie scale training only. Group 5 served as the control group and received a case law based sexual harassment prevention training program. Group 6 also received the control training like Group 5, but was given different instructions. Group 6 was instructed to answer the questionnaires honestly. Group 6 consisted of 51 participants. Groups 1 through 6 consisted of 31, 35, 33, 34, 62 and 51 participants respectively.

The conscientiousness measure training program explained all five traits in the Big Five personality factor taxonomy. The trainer presented the various names the trait
have been called by different researchers (e.g., openness, conscientiousness, extroversion, agreeableness, and neuroticism) and gave definitions and synonyms for these traits provided in the literature and various test manuals. The trainer also presented items modeled after those included in established measures to demonstrate how the traits are measured by personality inventories. It was explained that extroversion predicts performance for most sales jobs and that some personality measures measure constructs such as stress tolerance (e.g., the Hogan Personality Inventory), but that the most important construct is conscientiousness. This was a portion of the first author’s lecture on personality testing and job performance for an introductory psychology course. All of the information presented in the training program for study participants is available on the Internet through sites such as The International Personality Item Pool (www.ipip.org/ipip). The training lasted 15 minutes.

The lie scale training focused on the theory behind lie scales (i.e. unlikely virtues) and included items representative of lie scales. The majority of the training consisted of an explanation of unlikely virtues—mainly that test developers believe that dishonest individuals report that they have many virtues that are unlikely or most people do not have are not being honest. It was explained that test takers should admit to some foibles and human faults in order to appear believable. Examples were given such as someone who admits they do not brush their teeth after every meal and has been late to work at least once in their lifetime is more believable than someone who says they always brush their teeth after every meal and says they have never been late to work. It also emphasized that it is true that some brush their teeth after every meal and have never been late to work; however, the measure identifies these individuals as liars. The training was 15 minutes in duration. All participants completed three Conscientiousness measures (NEO-FFI, Hogan, and CBDQ) and a lie scale (Marlowe-Crowne).

The first personality measure administered was the NEO-FFI inventory. The NEO-FFI is a 60-item measure of the Big Five personality, and is a shortened version of the NEO PI-R. The manual suggests that the measures may be useful for selecting employees and police officers in particular. The NEO-FFI items are arranged in a pattern for ease of hand scoring so that every fifth item is a consciousness item. This would likely aid fakers, especially if they have just taken a training course; therefore the item order was randomized for this administration. Permission from the publisher was obtained to alter the NEO-FFI in this manner.

The second personality measure administered was the Hogan Personality Inventory, which is a 206 True/False item measure of the Big Five personality model. In addition to the five primary scales, the items can be formed into five empirical scales. The Hogan Personality Inventory was used to select police officers in a Midwestern City. The Hogan Personality Inventory empirical scales of Reliability and Stress Tolerance were used to select the police officers along with the primary scale of Intellectance. Reliability identifies individuals who are honest, dependable, and responsive to supervisors. Stress Tolerance identifies persons who handle stress well. Intellectance measures the degree to which a person seems creative and analytical. The
manual reports internal consistency reliabilities for the three scales mentioned from .69 to .86, and test-retest estimates from .79 - .87. One aspect of the Hogan Personality Inventory relevant to the current research is that the scoring key is held secret by the publisher, and test forms must be sent to the publisher for scoring. Therefore, in addition to the fact that the training program was not directly applicable to the Hogan Personality Inventory the trainer was blind to the scoring scheme.

The Conscientiousness Biodata Questionnaire (CBDQ) was administered to all participants. The biodata test was developed by University of Akron Professor Andrea F. Snell and associates, and it has previously been used in faking research. Because the CBDQ measures conscientiousness, it resembles personality tests like the Neo Five Factor Inventory (NEO-FFI) or Hogan Personality Inventory more than what might be termed a traditional biodata instrument. According to Mael's taxonomy of biodata, virtually all of the CBDQ items would be classified as historical, external, objective, firsthand, discrete, controllable, noninvasive, and equally accessible. Also, because the CBDQ was not designed specifically for police officer selection, most of the items on the test are not directly job-relevant for police officers. The bulk of the items would fall in between Mael’s verifiable-nonverifiable attribute, and the items would be best described as verifiable in principle.

Two examples of CBDQ questions are “When you had an appointment scheduled (ex.: hair, doctor, dentist, eye exam) how often were you a few minutes late?” and “How likely are you to keep the manuals and warranties for items that you buy?” The CBDQ is

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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</thead>
<tbody>
<tr>
<td>1. NEO-FFI</td>
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<td>.90</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td>2. Reliability</td>
<td>10.66</td>
<td>3.78</td>
<td>.55**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>3. Stress</td>
<td>17.72</td>
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<td>.64**</td>
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<td></td>
<td></td>
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<tr>
<td>4. Intellectance</td>
<td>15.77</td>
<td>5.43</td>
<td>.46**</td>
<td>.26**</td>
<td>.47**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5. Dependable &amp; Reliable</td>
<td>31.33</td>
<td>5.31</td>
<td>.72**</td>
<td>.51**</td>
<td>.54**</td>
<td>.46**</td>
<td>.80</td>
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<tr>
<td>6. Planful</td>
<td>27.26</td>
<td>4.56</td>
<td>.61**</td>
<td>.41**</td>
<td>.51**</td>
<td>.49**</td>
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<td></td>
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<td>7. Organization</td>
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<td>.43**</td>
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<td>.45**</td>
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<td>8. Self Disclosure</td>
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<td>.70**</td>
<td>.67**</td>
<td>.78</td>
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<td>9. Deliberate &amp; Rational</td>
<td>26.82</td>
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<td>.52**</td>
<td>.22**</td>
<td>.30**</td>
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<td>.61**</td>
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<td>.47**</td>
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<td>.24**</td>
<td>.06</td>
<td>.04</td>
<td>.29**</td>
<td>.22**</td>
<td>.24**</td>
<td>.17**</td>
<td>.26**</td>
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<td>11. Attention to Detail</td>
<td>30.65</td>
<td>4.50</td>
<td>.62**</td>
<td>.41**</td>
<td>.44**</td>
<td>.43**</td>
<td>.65**</td>
<td>.61**</td>
<td>.73**</td>
<td>.63**</td>
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<td>12. Particularity</td>
<td>28.04</td>
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<td>.70**</td>
<td>.44**</td>
<td>.47**</td>
<td>.41**</td>
<td>.65**</td>
<td>.65**</td>
<td>.73**</td>
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<td>13.06</td>
<td>.92**</td>
<td>.71**</td>
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<td>.87**</td>
<td>.65**</td>
<td>.65**</td>
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<td>14. Marlowe-Crowne</td>
<td>6.11</td>
<td>2.75</td>
<td>.60**</td>
<td>.54**</td>
<td>.58**</td>
<td>.37**</td>
<td>.56**</td>
<td>.55**</td>
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Note. Alpha coefficients are presented along the diagonal except for Hogan PI scales as item data is not given by the publisher.
organized into eight facet scales of eight items each: Dependable and Reliable, Planful, Organization, Self-discipline, Deliberate and Rational, High Standards, Attention to Detail, and Particularity. Based on previous research the Dependable and Reliable facet scale would be most applicable to the present research.

The social desirability measure or lie scale was a short form\(^9\) of the Marlowe-Crowne Social Desirability Scale.\(^{20}\)

To determine how faking could effect test scores, Groups 1 through 5 were instructed to answer the tests as they would if they were applying for a police officer position they wanted. They were told to assume that it is a job they feel qualified for, and that they want to ensure the employer makes the right decision—namely, to hire them. Therefore they should respond to questions in the manner they felt would give them the best chance of being selected. These instructions were modeled after instructions used by other researchers.\(^{21}\) Group six was instructed to complete the tests honestly.

**Results**

Means, standard deviations, internal consistency estimates (\(\alpha\)) and correlations for the test scores are presented in Table 1. Internal consistencies are presented along the diagonal and shown in bold text.

**Hypothesis 1**

Hypothesis 1 was supported. Participants who received personality measure training (Groups 1, 3, and 4) scored significantly higher on the conscientiousness measures. The training also had practical effects on all the scales. One-way analyses of variance (ANOVA) were done on all 12 of the conscientiousness measures, using training as the dependent variable, the measures of results are presented in Table 2. Eleven of the 12 ANOVA on conscientiousness measures were significant, and the twelfth approached significance. Although the trained groups taken as a whole had a higher mean score for the Hogan Personality Inventory Reliability Scale (\(M = 11.71, SD = 3.57\)) than did the

<table>
<thead>
<tr>
<th>Variable</th>
<th>9</th>
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<td>Deliberate &amp; Rational</td>
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<td>High Standards</td>
<td>.33**</td>
<td>.56</td>
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<tr>
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<td>.05</td>
<td>.52**</td>
<td>.52**</td>
<td>.53**</td>
<td>.79</td>
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*Note.* Alpha coefficients of internal consistency are presented along the diagonal and shown in bold text, except for Hogan Personality Inventory scales because item data is not given by the publisher. *\(p < .05\); **\(p < .01\)
Table 2: Means, Standard Deviations, and One-Way Analyses of Variance (ANOVAs) for Effects of Coaching on Test Scores

<table>
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<th>Scale</th>
<th>Control M</th>
<th>Control SD</th>
<th>Trained M</th>
<th>Trained SD</th>
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<td>NEO-FFI</td>
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<td>Conscientiousness</td>
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<td>6.82</td>
<td>40.21</td>
<td>6.90</td>
<td>11.00***</td>
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<td>HPI</td>
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<td>Reliability</td>
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<td>17.70</td>
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<td>14.61***</td>
</tr>
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<td>Stress Tolerance</td>
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<td>5.24</td>
<td>20.03</td>
<td>4.32</td>
<td>11.11***</td>
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<tr>
<td>CBDQ</td>
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</tr>
<tr>
<td>Dependable and reliable</td>
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<td>5.18</td>
<td>33.12</td>
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<td>28.78</td>
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<td>15.07***</td>
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<td>5.20*</td>
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<td>5.68</td>
<td>29.14</td>
<td>5.20</td>
<td>17.18***</td>
</tr>
<tr>
<td>High standards</td>
<td>26.19</td>
<td>4.20</td>
<td>27.39</td>
<td>4.15</td>
<td>4.03*</td>
</tr>
<tr>
<td>Attention to detail</td>
<td>30.16</td>
<td>4.19</td>
<td>32.49</td>
<td>4.44</td>
<td>14.00***</td>
</tr>
<tr>
<td>Particularity</td>
<td>28.30</td>
<td>5.17</td>
<td>30.01</td>
<td>6.00</td>
<td>4.50*</td>
</tr>
<tr>
<td>Marlowe-Crowne</td>
<td>7.08</td>
<td>2.46</td>
<td>5.88</td>
<td>3.02</td>
<td>9.23**</td>
</tr>
</tbody>
</table>

* p < .05; ** p < .01; *** p < .001.

Table 3: Effect Size Estimates of Faking and Training on Test Scores

<table>
<thead>
<tr>
<th>Scale</th>
<th>Faking</th>
<th>Training</th>
<th>Training Above Faking</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEO-FFI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.106</td>
<td>1.66</td>
<td>.48</td>
</tr>
<tr>
<td>Hogan PI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reliability</td>
<td>.59</td>
<td>.89</td>
<td>.28</td>
</tr>
<tr>
<td>Intellectance</td>
<td>.20</td>
<td>.77</td>
<td>.55</td>
</tr>
<tr>
<td>Stress Tolerance</td>
<td>.90</td>
<td>1.49</td>
<td>.48</td>
</tr>
<tr>
<td>CBDQ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependable and reliable</td>
<td>.67</td>
<td>1.09</td>
<td>.37</td>
</tr>
<tr>
<td>Planful</td>
<td>.50</td>
<td>.93</td>
<td>.60</td>
</tr>
<tr>
<td>Organization</td>
<td>.60</td>
<td>1.23</td>
<td>.57</td>
</tr>
<tr>
<td>Self-discipline</td>
<td>.70</td>
<td>.99</td>
<td>.33</td>
</tr>
<tr>
<td>Deliberate and rational</td>
<td>.34</td>
<td>.97</td>
<td>.60</td>
</tr>
<tr>
<td>High standards</td>
<td>-.27</td>
<td>.02</td>
<td>.29</td>
</tr>
<tr>
<td>Attention to detail</td>
<td>.57</td>
<td>1.14</td>
<td>.54</td>
</tr>
<tr>
<td>Particularity</td>
<td>.88</td>
<td>1.12</td>
<td>.31</td>
</tr>
<tr>
<td>Lie Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marlowe-Crowne</td>
<td>1.09</td>
<td>.48</td>
<td>-.44</td>
</tr>
</tbody>
</table>
untrained groups taken as a whole ($M = 10.67, SD = 3.90$), the difference was not statistically significant ($F = 3.78 (1, 191), p = .053$). Although the effect of coaching above the uncoached but faking group did not meet traditional significance levels, the coached group had a statistically significant higher mean than the group that received control training and was instructed to answer honestly, and a large effect size was observed ($M = 8.61, SD = 3.14, p < .001$).

Table 3 presents the effect sizes of training and faking on the Conscientiousness measures. According to the common rules of thumb employed in statistical analysis, the effect of training would best be described as a “large” effect.

**Hypothesis 2**

Hypothesis 2 was supported. The simulation presented in Table 4 demonstrates the effect a training program could have in a selection situation. The scenario would be that 40% of applicants have taken a training program and gave coached (i.e., fake) responses to applicant test questions, 40% of applicants did not receive training but still answered questions in ways they believed would match managers’ expectations, and 20% did not receiving training and answered honestly. The selection ratios of 1%, 5%, and 10% represent what proportion of the total sample ($N = 246$) would be selected.

Assuming the selection of new hires was top-down, with the candidates scoring the highest on the applicant test being hired and that in the event of ties, all individuals with high enough qualifying scores were selected, participants who received training and instructions to fake (groups 1, 2, & 3) would be 100% of the top 1% of scorers, 11 of the top 12 scorers, and 21 of the top 25 scorers. Such individuals would be 92% of the top 5% of top scorers. Safety forces jobs are notoriously highly sought after, with often hundreds of applicants for each position. These results suggest that even if less than half of applicants had training in how to take applicant tests, they would virtually be all the individuals selected.

**Table 4: Analysis of Trends of Proportion of Participants Selected by Group for Various Selection Ratios**

<table>
<thead>
<tr>
<th>Training</th>
<th>Instructions</th>
<th>Proportion of Total Sample</th>
<th>Proportion Selected 1% (2)</th>
<th>Proportion Selected 5% (12)</th>
<th>Proportion Selected 10% (25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trained</td>
<td>Fake</td>
<td>40%</td>
<td>100% (2)</td>
<td>92% (11)</td>
<td>84% (21)</td>
</tr>
<tr>
<td>Not trained</td>
<td>Fake</td>
<td>40%</td>
<td>0</td>
<td>8% (1)</td>
<td>16% (4)</td>
</tr>
<tr>
<td>Not trained</td>
<td>Honest</td>
<td>20%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Note: N = 246. Numbers in parentheses indicate the number of individuals selected in each situation.*

**Discussion**

This research was concerned with two main questions: “Is it possible to coach individuals to score highly on personality tests?” and “Are applicants who are coached and told to fake their answers more likely to be hired because they get high scores on
applicant tests?” The answer to the first question was conclusively yes. Although the second question was answered less conclusively, this research raises serious questions about using personality measures as hiring criteria. A review of the results is a good way to begin a discussion of the contributions this research has made to the literature.

Tests of hypotheses 1 and 2 found that trained participants were able to raise their scores on a test designed to measure conscientiousness. These results should be very unpleasant to practitioners using personality measures for selection purposes. The information contained in personality tests is easily available in introduction to psychology classes and on the Internet. Nearly anyone with a little more than a high school education could create an effective training program for “beating” a personality test, and obtaining the test manual would not be necessary. Such a situation has the potential to create difficulties for hiring managers and testing professionals.

An analysis of the effects of faking and training on the likelihood of being selected for a job clearly showed that coaching and faking would greatly improve an applicant’s chances. In fact, an applicant was honest and did not receive training would appear to have no chance of being selected if a personality test score is the sole criterion for decision making. These factors are especially pertinent in a safety forces testing program. Typically, several hundred applicants apply for each position. Many applicants take the test every time it is offered, many are coached, and the applicants interact with each other in mass testing. If an individual planned on answering honestly, it is quite doubtful he or she would continue to do so if he or she discovered that other applicants were coached.

Previous researchers have conceptualized the effects of coaching as the effect of the coached group being instructed to fake over the group that received no training and was instructed to answer honestly and found effect sizes ranging from .92 to 1.13. Using the same definition, the study described in this article found effect sizes ranging from .02 to 1.66 (see Table 3). The effect size for the scale the training was designed for (NEO-FFI conscientiousness) was 1.66. To put this in perspective, individuals who scored at the 50th percentile before training (or are at the average), would be expected to score at the 95th percentile after training (or be in the top 5%).

A simple, short, training program had statistically and practically significant effects. An individual with a baccalaureate degree in psychology could develop a similar training program. Due to the prevalence of coaching programs in safety forces applicant testing, managers should expect training programs to be developed and marketed that dramatically increase applicants’ scores on personality tests. Thus, managers using conscientiousness for selecting police officers will likely not only face the prospect that the measure might not pick people who will perform well on the job in a situation where there was no training program, but also a situation where the conscientiousness measure will actually be selecting individuals who were participants in coaching programs.

A natural question this raises is how the results of this study would apply to an actual selection situation, or, “What happens if there is a training program available?” The most important implications for hiring managers are enumerated below:
1. The low validity of personality tests for safety forces applicant, particularly police candidate, selection are likely to be even lower (quite likely nonexistent) if a training program is available.

2. The level of expertise that is needed to design an effective training program is actually quite low (perhaps as low as a few undergraduate courses in psychology).

3. Individuals taking such a test-taking training program would be expected to receive top scores on the tests, even if their scores before the coaching were average.

4. When few people are hired (which is common for safety forces) the people selected may only be those who took the training program.

5. People who are honest when taking personality tests have virtually no chance of being hired. Such hypothetical applicants had no chance in a simulation run as part of this study.

6. Because previous research has consistently found that test-taking training programs have little effect on individuals’ performance on professionally developed cognitive ability tests, the results of this study likely have little implication for cognitive ability tests. It is suggested that practitioners should not be concerned if their battery of applicant tests consists of cognitive ability tests and not personality tests.

Notes


7 Cavanaugh v. Cleveland, Ohio, No. 331912, (C.P Cuyahoga County 1997).


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The Human Resource Competency Studies and the IPMA-HR Competency Training and Certification Program in China

By Li Sun, EdD, and Kan Shi, PhD

Human resource development and competency studies in China are at an early stage, which researchers in both China and the United States acknowledge. The human resource competency training and the scientific research on validating the competency standards that are or will be established by companies in China will advance basic skills of Chinese professionals in these areas and allow them to keep up with the rapid development of HR professionals in the global environment.

In 2004, the U.S.-based International Public Management Association for Human Resources (IPMA-HR) and the China-based Training Center of State Administration of Foreign Expert Affairs (TC-SAFEA) established a collaborative competency certification training program. The participants are Chinese professionals who are looking to keep abreast of HR professionals in the Western world as they attempt to become world-class HR leaders, change agents, and HR experts. The IPMA-HR/TC-SAFEA program is the first large-scale foreign initiative of its kind in China.

This article first reviews HR competency studies in the United States and in China. It then examines the IPMA-HR/TC-SAFEA program and its development in China. The article concludes by noting that HR competency is emerging as a field of study in China and that the introduction of the IPMA-HR competency model has done much to enhance the awareness of the importance of the competency development and to assist Chinese organizations in establishing their own scientifically sound and practical HR competency models.

Major HRD Competency Studies in the USA

The IPMA-HR/TC-SAFEA program is a human resources development (HRD) program that contributes not only to initiating academic HRD profession, but also to the development of HRD ideas via the construction of competency profiles and
competency models in contemporary organizations in business, industry, and civil service agencies.

Competency and competency development are integral to HRD. The two significant behavioral components of HRD are performance and learning. Competency comprises the specification of knowledge and skills, and the application of knowledge and skills to the standard of performance required to complete a task. Competency can be acquired through training and learning, as well as through experience. Behavioral, functional, and humanistic/holistic educational philosophies have served as theoretical frameworks for the design of competency-based training programs.

When searching for the origin of competency, researchers generally cite McClelland’s “Testing for Competence Rather Than for Intelligence,” which appeared in American Psychologist in 1973. McClelland’s concept of competency has been the key driver of the competency movement and competency-based education. Since 1973, there have been a number of competency studies published in the HR literature. Some of the major studies from the United States are reviewed below.

In 1978, Pinto and Walker conducted a study of professional training and development roles and competencies. The purpose of their study was twofold. The first purpose was to define the basic skills, knowledge, understanding, and other attributes required by professionals for the effective performance of training and development activities. The second purpose was to provide a listing of activities that could be grouped so a model and set of competencies for training and development (T&D) professionals could be created.

The researchers sent questionnaires to American Society for Training & Development (ASTD) members in the United States, Canada, Mexico, and other countries. From 2,855 returned questionnaires, 14 activities were identified, and a model that described the primary areas of T&D professionals was extrapolated from the data.

In 1983, McLagan published Models for Excellence, in which she examined the current and future directions of T&D. McLagan focused on how T&D was related to and different from other HR specialty areas, and what knowledge and skills enabled people to work in the field. In 1996, when training was no longer seen as sufficient to solve all human performance problems in organizations, Rothwell (1996) wrote ASTD Models for Human Performance Improvement, in which he identified new roles, competencies and outputs for HRD efforts, and laid the foundation for future practice in human performance improvement.

In 1999, Rothwell, Sanders and Soper reinvented the field by broadening the research focus from HRD to workplace learning and performance, or WLP. The research that led to the formulation of WLP was the most comprehensive HRD competency study up to that time. Rothwell (1999), particularly, emphasized the importance of understanding workplace learners, noting that competence is a function of what teachers, trainers and supervisors know about learners and employees. This point is the essence of adult learning and adult education; how much the HRD or WLP professional knows about the learners he or she is working with goes a long way toward determining performance results. Therefore, research in adult learning theory...
indicates that understanding people is the key to remaining competitive both inside and outside organizational settings.

There are other points of view on competency. In 1995, the Society for Human Resource Management conducted research to explore the relative compensation of various HR specialties and in different working environments and developed its HR Competency Tools in 2000.\textsuperscript{11} HR Competency Tools is a toolkit for performance development, providing information on key HR competencies to guide the practitioner in assessing and developing competencies in others.

The U.S. Department of Energy created a Human Resource Excellence training module designed for self-paced study for employees who are high school graduates. Weaver and Coker published the \textit{Diversity Practitioner Competency Model in 2000}, which focuses on workplace diversity competencies. In addition, Schoonover published the \textit{Human Resource Competencies for the New Century}, a study of emerging trends in human resources and new competency criteria.\textsuperscript{12}

In 2004, ASTD published its \textit{ASTD 2004 Competency Study: Mapping the Future}, which provides a framework for the competencies that learning professionals need today and will need in the future while identifying eight trends.\textsuperscript{13} McLagan praised the work, saying she believed that “the study provides insights and language that shines a new light on the direction that self-creation can and must go.”\textsuperscript{14}

Ulrich and his associates have been working on the Human Resource Competency Study (HRCS) since 1987. According to one report, the HRCS has created a huge database of HR competencies and trends based on data and feedback from more than 30,000 HR professionals in hundreds of companies.\textsuperscript{15}

In 2007, Ulrich and his team released an all-new 2007 HRCS report. According to Grossman,\textsuperscript{16} the latest HRCS findings and interpretations have reflected the continuing evolution of the HR profession and established professional guidance for HR professionals for at least the next few years. The 2007 HRCS study highlights six core competencies that HR professionals should perform in their jobs. The core competencies were identified by examining more than 400 companies, according to Grossman.

In addition, the Human Resources Competency Model created by the IPMA-HR has received significant attention in the literature. The association’s model refocuses performance on what it takes to succeed in today’s marketplace. A complete training program—Developing Competencies for HR Success—is available to help HR professionals serve their organizations as business partners, change agents and HR leaders.\textsuperscript{17}

**HR Competency Studies in China**

Competency method—the Chinese translation of \textit{competency training}—was introduced into China by foreign companies only in recent years. Foreign, independent, and joint-venture companies came to China and brought with them their own systems of HR management and employee selection, training and retention. At the same time many international consulting and training companies introduced
management training, including competency standards. Shi Kan, a former director of the Chinese Academy of Sciences’ Institute of Psychology, and his team have conducted several research projects on competency method and building in China since 2000. Shi’s first research in these areas, which involved assessing the competencies of Chinese senior managers in the telecommunications industry, was published in 2002. His study employed behavior event interviews and survey questionnaires to explore the Chinese senior managers’ understanding of competency concepts and their use of competency standards.

In 2004, Shi and Zhong Lifeng conducted the research that lead to the development of the Competency Model for Senior Managers in Chinese Family Firms. By interviewing 18 senior managers of family companies in Wenzhou, China, Shi and Zhong were able to establish their model and validate the competency assessment method. Among all the 11 competencies in the model, there are nine that are similar to those of the generic competency model for senior managers from overseas companies. Eight competencies are similar to those of the generic competency model of state-owned firms in China. The competencies of authoritarianism orientation and benevolence and consideration are unique to the Competency Model for Senior Managers in Chinese Family Firms.

For the majority of Chinese organizations and enterprises, competency is still a new term, and Chinese HR professionals are just now making the transition from knowing the term to understanding it, and are still far away from the application of it. One researcher from the United States has pointed out that “HR [in China] is at an earlier stage in professional development and there is great emphasis on transactional activities.” By the same token, Shi and other Chinese researchers have emphasized the need for HR competency training and the importance of validating the competency standards established by Chinese companies. The IPMA-HR competency training and certification program was introduced in early 2004 to accomplish these goals.

**IPMA-HR Competency Model Training**

According to IPMA-HR, its competency training and certification program consists of two parts—a behavioral component based on the IPMA-HR competency model, and a personal profile to evaluate technical capability. The purpose of the training and certification program is to promote excellence and continuous learning and to develop the next generation of HR leaders in the United States and worldwide. The IPMA-HR competency model consists of 22 competencies, envisioned as being used by HR professionals in the four major roles of HR expert, business partner, change agent, and leader. The IPMA-HR competency model focuses in greatest detail on the three emerging roles while acknowledging the ongoing need for HR expertise. As indicated by IPMA-HR, the major reasons for developing models for HR competencies are to reshape the ways people think about human resources and to identify and prioritize the training and development needs for HR professionals.

In its *Workforce Planning Resource Guide of Public Sector Human Resource Professionals*, IPMA-HR defines competencies as “sets of behaviors (encompassing
skills, knowledge, abilities and personal attributes) that, taken together, are critical to accomplishing successful work and achieving an organizational strategy.” Competencies, according to the association’s model, can be defined at six levels.

1. Organizational: core competencies identified during strategic planning.
2. Leadership: the behaviors the organization expects all leaders to demonstrate or to develop.
3. Functional: competencies that cascade from the core competencies and are associated with specific work functions or business units.
4. Occupational: competencies that cascade from the core and functional competencies and then are anchored directly to the needs of a specific occupation.
5. Individual: what each employee brings to his or her function.
6. Team: what members of a team, in the aggregate, bring to their work.

In addition, each organization needs to determine which competency level is essential to ensure that critical work gets performed. Used as a road map, the IPMA-HR competency model sets forth a set of competencies that are aligned with any organization’s mission, vision, and strategic goals for HRD practice.

**IPMA-HR/TC-SAFE A Program Development**

Before introducing its competency training and certification program to China, IPMA-HR adjusted its certification program based on a brief study of the China HR professional market. The modified China certification program retains the same four-day series of instruction in the competency model, but it features additional training in technical capacity. The technical capacity modules cover topics in the areas of employee selection, classification and compensation, performance management, and employee and labor relations. The purpose of the certification program is to produce more Chinese HR professionals who understand international best practices for HR management in today’s global marketplace.

China chose to import the IPMA-HR competency certification program mainly because the association’s program is uniquely based on competencies and provides training for the four roles of the HR professional—HR expert, business partner, change agent and leader. Zhang Jianguo, then-deputy director of State Administration of Foreign Expert Affairs, said in 2004 that the adoption and promotion of the IPMA-HR competency certification program would greatly advance the development of China’s HR management and help improve China’s HR evaluation systems.24

Many experts commended the timing of the introduction of the IPMA-HR competency model and the training program in China in 2004. Following a joint decision made by the Central Committee of the Communist Party of China and the State Council, China had recently launched a reform in its management of skilled and professional people by adopting a new assessment system and a market-oriented employment mechanism. Professionals would be judged according to their abilities.
and achievements instead of education and career experience. This reform called for further improvements to the management of talented people.\textsuperscript{25}

In July 2005, one of the authors of this article, Li Sun, took part in a 10-day train-the-trainer class taught by four American IPMA-HR certified experts. Li was able to observe the actual behavior of students and teachers, their facial expressions, tones used in teaching and discussions, and the atmosphere of the class. Li also had the opportunity to communicate in depth about the program with both American and Chinese HR professionals. Through interviews with participants at the time of the class observation and by attending meetings and discussions, Li developed a better understanding of the program.

Generally speaking, the introduction of the IPMA-HR competency training and certification program has great significance for the development of HRD in China. The program enhances the awareness of the importance of competency development, and it also assists Chinese organizations with establishing their own competency models that are scientifically valid and practical to implement.

Feedback and suggestions from Chinese HR professionals regarding the IPMA-HR competency training and certification program that Li received during interviews and other communications include the following:

- Qiang Wang, a professor from Tsinghua University in Beijing and an author of three books on human resources and management, expressed his full concurrence with the four HR roles defined by the IPMA competency model—especially the leadership role and change agent role. He emphasized the significance of the IPMA-HR training program and said, “This model is very useful for organizations in China that are undergoing a period of innovation” At the same time, Wang pointed out the disappointing phenomenon in organizations and companies in China, which, according to him, supported change and participation in learning but were most often looking for high test scores rather than real learning. He also indicated that the challenge Chinese HR professionals are facing is how to have trainings really turn participants into learning leaders, not just test takers.\textsuperscript{26}

- Lin Zeyang, a senior researcher of human resources for the State Council of China, said that China has put efforts into the study and establishment of competencies for Chinese HR professionals that emphasize knowledge learning and skills enhancement. These standards, built on the experiences of HR researchers, experts, and practitioners, include knowledge that HR professionals have to possess. However, the IPMA-HR competency model and standards are derived from the HR roles and enhance the competency nature, which is a very good supplement to the Chinese competency standards.\textsuperscript{27}

When asked about the impact of the IPMA-HR competency model, the training program participants’ answers mainly focused on the significance and benefits of the program rather than on whether the model fit into the Chinese culture. Almost all the
participants recognized the importance of the IPMA-HR competency training and certification program and the need of it for the human resources field in contemporary China. The participants also voiced their willingness to accept and integrate the concepts into their practices.

Responses from participants included the following:

- “I am so excited to be exposed to the IPMA-HR competency model. Though it is new, it will play a significant role in changing the current China HR profession which was still dealing with the soft-side of business and was not accountable.”

- “I believe in it fully. I try to apply the principles as much as possible in my job and in my organization.”

However, some participants expressed hesitations because of the influence of the surrounding environment. These participants feared that their colleagues, supervisors and students might have a hard time understanding what they were doing. A participant from Tianjin summarized six reasons about his learning and acceptance of the IPMA-HR competency program. This learner participated in the training taught by Chinese instructors and organized by a local training center in Tianjin. He wrote, “I chose to attend the IPMA-HR training because (1) the program is provided by the authoritative organizations you can trust, (2) the program will enhance my personal growth, (3) the program’s new paradigm training surpasses the traditional HR scope, (4) the training is taught by qualified teachers trained by IPMA-HR, (5) the program is applicable because the competency model can be used by HR professionals of most industries, [and] (6) the program is easy to learn and practical because it is full of practical case scenarios and case studies.”

Other participants emphasized the challenge of actually applying what they learned in the program in practice, the evaluation of the program, and many other issues related to possible different interpretations that might develop because of translation, cultural differences, cross-cultural communication concerns, and issues with program localization and modification.

It is noticeable that the pros of the IPMA-HR competency training were mentioned more than cons by the participants. As these examples illustrate, many participants confirmed the value and comprehensiveness of the competency model and expressed their readiness and willingness to apply what they had learned to their practices. With respect to possible program acceptance in light of participants’ comments, one may infer that the current Chinese political and economic environments and globalization allowed for the embracing of the IPMA-HR competency model and the success of the training. It can also be inferred that the universal desire for competency made it possible for the Chinese HR professionals to learn and relate to the IPMA-HR model and that the increasing requirements for the mastery of job-related HR knowledge, responsibilities and professional growth and development were
important to making the training successful.

In conclusion, the introduction of the IPMA-HR competency training and certification program will have great significance in China because it will enhance Chinese HR professionals’ awareness of the importance of competency studies and HRD. Generally speaking, the program is developing robustly in China because the necessary localization efforts and the implementation process and strategies are in place. The implementation process emphasizes instructor training, the use of the local language, textbook translation, textbook modification, and Chinese case study development, all of which has helped make the program more culturally relevant and Chinese-oriented. Cultural considerations have also been taken in regard to teaching technique development, the application of adult learning theory, and instructor-trainee communication, all of which require continuous efforts from both IPMA-HR and TC-SAFEA.

According to the TC-SAFEA, through the second half of 2006, more than 200 Chinese HR professionals from 32 qualified training organizations nationwide have participated in the IPMA-HR training and certification program and more than 700 in 2007. It is estimated that 1,200 HR professionals will be trained in 2008.

This is the first study that has focused on the IPMA-HR competency training and certificate program in China. Further research into all aspects of the program would be helpful to the development of international training and certificate programs in China.

Notes


14 Ibid.


International Personnel Management Association for Human Resources and Training Center of State Administration of Foreign Expert Affairs. (n.d.), op cit.

Ibid.

Ibid.

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The Blended Workforce: Alternative Federal Models

By James R. Thompson, PhD, and Sharon H. Mastracci, PhD

The term blended workforce describes a group of employees within the same organization who are in a variety of work arrangements—part-time, temporary, seasonal, and contract, as well as full-time, full-year, and permanent. The use of such arrangements has been expanding in some sectors as a result of managers' interests in improving cost-effectiveness and in accommodating employees' demands. In this article, the operational advantages of having employees with mix of work arrangements are identified and alternative models of how blended workforces are being created in U.S. federal government agencies is examined.

Federal employment has long been characterized by lengthy tenures, wages set according to an internal job classification scheme, a high level of job security, promotion from within, and adequate-to-generous pay and benefits. These are characteristics of what has been defined as an internal labor market. Internal labor markets afford workers a degree of protection from external market forces. With jobs being filled from within, for example, employees do not have to compete with outside candidates for open positions. Wages tend to be stable and are protected from fluctuations in the market. Implicit in the concept of an internal labor market is that in return for wage and job stability, the workers are loyal to their employer.

Internal labor markets have been a characteristic of large employers in the United States during most of the post-World War II era. However, it has been hypothesized that the social compact between capital and labor that gave rise to internal labor markets has begun to break down. As a result of heightened competition associated with globalization and gains in political power by owners of capital, many of the protections traditionally offered workers are evolving toward new forms. Theorists have pointed to widespread layoffs and downsizings, as well as to the erosion of worker benefits, to support the contention that a fundamental change in labor-management relations is in the offing. For instance, Tilly and Tilly have observed that “in recent years, Europe and North America have seen a trend away from now classic forms of employment and production. Temporary and part-time labor, franchises, deliberate stimulation of turnover to reduce seniority payments and worker organization, commission sales, and household production by means of computers and telecommunications are all chipping away at the labor markets that for a century or more have seemed the natural order of things, at least in the world of large-scale manufacturing, administration, and merchandising.”
A key feature of this “chipping-away” phenomenon is the expanded use of contingent work arrangements. In place of maintaining staffs consisting almost entirely of employees with permanent full-time jobs, employers are making increased use of temporary, on-call, and contract workers. Internal labor markets are being eroded, and labor is being treated like other production inputs. More firms are procuring workers on an as-needed basis, pursuant to production and workflow dictates.

Public administration specialists have posited the applicability of these ideas to the public sector. In this article, we examine the phenomenon of contingent work arrangements in the federal government. Our interest is less in the implications of these arrangements for labor and management relations than for workforce flexibility. Consistent with other studies, we employ the term nonstandard work arrangements, or NSWAs, which, as discussed further below, has broader connotations than does contingent work arrangements. The term blended workforce connotes a workforce that incorporates a high proportion of employees with NSWAs.

After defining the concepts named above, we review data regarding the incidence of different forms of NSWAs in the public sector and the private sector. We also review recent trends in NSWA usage in both sectors. We then present the findings from a recent survey of NSWA use by selected federal agencies. Finally, we discuss the blended workforce concept in the context of recent proposals to reform the federal civil service. The Bush administration included in its 2005 draft of the Working for America Act a provision for maintaining a cadre of temporary workers who would supplement the permanent workforce. We compare the Bush proposal to alternative models of the blended workforce.

The Blended Workforce: Defining the Concepts

Blended workforce is defined by the Society for Human Resource Management as “a workforce that is comprised of permanent full-time, part-time, temporary employees and independent contractors.”

Related but distinct terms include, contingent work, NSWAs, alternative work arrangements, flexible staffing arrangements, and just-in-time employment practices. Although all these terms refer to the same general phenomenon of other than full-time, full-year, permanent employment, their use tends to vary by context. For example, the term contingent work is associated with the Contingent Work Supplement (CWS) to the Current Population Survey, which was initiated by the U.S. Bureau of Labor Statistics (BLS) in response to policymakers’ interest in trends in the relative permanence and impermanence of work arrangements in the United States. Houseman, in contrast, used the term flexible staffing arrangements for her 2001 survey, as it was consistent with her interest in how private employers use NSWAs to enhance workforce flexibility. In this article, we use the term NSWAs because it is the most inclusive of the alternatives, covering all work arrangements that are not full-time, full-year, and permanent.

The CWS has been the most ambitious and specific effort to collect data concerning the incidence of NSWAs, and, as such, the BLS’s definitions of the
arrangements serve as a starting point for most discussions of NWSAs. Most of the questions on the CWS survey instrument relate to the respondents’ expectations regarding duration of employment. The BLS also asks each respondent whether he or she has been engaged in any of four alternative work arrangements—独立 contractor, on-call worker, temporary help agency worker, or contract company worker—within a specified period. Implicit in the inclusion of these particular work arrangements in the survey is that they are more contingent than are others.

Table 1: Alternative Categorizations of Nonstandard Work Arrangements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Hires as</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part Time</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Seasonal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On Call</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Day Labor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Appointment</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Self Employed</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Indirect Hires through</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract Company</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Temporary Help Agency</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Independent Contractor</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lease Arrangement</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*a* See Note 5.  
*b* See Note 6.  
*c* See Note 10.

Table 1 compares the categories of NWSAs included in the CWS to those listed in two other, widely cited studies. As is apparent from the table, there is no standard definition of NWSAs. The Government Accountability Office (GAO) explained the terminological and definitional confusion that prevails on this subject in a 2000 overview as follows:

The term “contingent” has been used for many years to describe a variety of nonstandard work arrangements. It was first used in 1985 to describe the impermanent nature of certain work arrangements, such as the practice of hiring workers only when there is an immediate and limited demand for their services, without any offer of permanent or even long-term employment. Consistent with
this concept, some definitions of contingent work have focused on work that provides a relatively low level of job security. The term “contingent” has also been expanded by some labor experts to include work arrangements with more variable or less predictable hours, as well as arrangements that reflect a change in the traditional rights of workers and the benefits offered to them. This expanded definition can include such varying employment arrangements as independent contracting; part-time work; or any work arrangement that is not long-term, year-round, full-time employment with a single employer. Under this definition, the term “contingent” is used to describe a broad range of work arrangements; however, some labor experts prefer terms less linked to job security, such as “nonstandard,” “flexible,” or “alternative” work arrangements.6

As indicated in Table 1, the list of NSWAs we used for our analysis includes part-time, temporary, on-call, seasonal, temporary help agency, and contract company work. In light of our interest in the public sector, we have left out those NSWAs that are exclusive to the private sector, such as self-employment and day labor.

**Contract Company Workers**

Most of the NSWA categories are self-explanatory. However, the *contract company worker* category warrants some discussion. The BLS defines contract company worker as follows: “Contract Company Workers—Workers who are employed by a company that provides them or their services to others under contract and who are usually assigned to only one customer and usually work at the customer’s worksite.”7

For the purposes of our analysis, it is important to distinguish between contract company workers and employees of firms that work under contract with the government. As detailed by Light in *The True Size of Government*, the federal government contracts out for an extensive range of services.8 Among the commercial activities listed by Light are computer programming, data processing equipment maintenance and installation, operation of cafeterias, custodial services, building construction, training, and guard services. In most instances, the contract between the government and the vendor specifies the particular service to be provided, and the contractor then mobilizes the resources required to fulfill the contract and hires and directs the workers. The work may be done at either the customer’s site or the contractor’s site.

Contract company workers, in contrast, are those who work under personal services contracts and who receive direction from the customer to whom they are assigned rather than from the firm that employs them. As specified in the BLS’s definition, such workers work at the customer’s worksite. Included as a contract company worker in our study, then, would be an individual scientist retained by NASA through a staffing services company to work a particular research project and under the direction of a government manager at a NASA facility. Not included would be a Lockheed Martin employee who works on the space shuttle at a Lockheed Martin facility.
The distinction between contract company workers and employees of firms that work under contract with the government is important because only contract company workers are subject to supervision by government employees and, hence, appropriately included in agency workforce management considerations.

**Direct- versus Indirect-Hire NSWAs**

Table 1 distinguishes between direct-hire and indirect-hire NSWAs. Direct-hire work arrangements are those in which a worker is an employee of the host organization. Examples of nonstandard direct-hire work arrangements include part-time, seasonal, and on-call employment. Indirect-hire work arrangements are those in which a worker is retained through a contractual mechanism. In other words, the individual is not an employee of the organization that benefits from his or her work product. Contract company and temporary help agency employment are examples of indirect-hire work arrangements. The blended workforce concept incorporates workers with both types of arrangements.

### Table 2: U.S. Workforce by Category of Worker, 1995, 1997, 1999, and 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Temporary workers^a</td>
<td>4,574,000</td>
<td>3.80</td>
<td>4,563,000</td>
<td>3.60</td>
</tr>
<tr>
<td>On-call workers and day laborers</td>
<td>2,014,000</td>
<td>1.60</td>
<td>1,977,000</td>
<td>1.60</td>
</tr>
<tr>
<td>Contract company workers</td>
<td>652,000</td>
<td>0.50</td>
<td>809,000</td>
<td>0.60</td>
</tr>
<tr>
<td>Independent contractors</td>
<td>8,309,000</td>
<td>6.70</td>
<td>8,456,000</td>
<td>6.70</td>
</tr>
<tr>
<td>Part-year and seasonal</td>
<td>5,507,000</td>
<td>4.47</td>
<td>4,900,000</td>
<td>3.85</td>
</tr>
<tr>
<td>Self-employed workers</td>
<td>7,256,000</td>
<td>5.90</td>
<td>6,510,000</td>
<td>5.10</td>
</tr>
<tr>
<td>Regular part-time workers</td>
<td>16,813,000</td>
<td>13.60</td>
<td>17,290,000</td>
<td>13.60</td>
</tr>
<tr>
<td>Total NSWAs^b</td>
<td>45,125,000</td>
<td>36.57</td>
<td>44,505,000</td>
<td>35.05</td>
</tr>
<tr>
<td>Regular full-time workers</td>
<td>83,589,000</td>
<td>67.80</td>
<td>87,135,000</td>
<td>68.80</td>
</tr>
<tr>
<td>Total in Workforce</td>
<td>123,207,000</td>
<td></td>
<td>126,740,000</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** NSWAs = nonstandard work arrangements. Percentages do not sum to totals due to rounding. Data for years 1995, 1997, and 1999, except those for the category of part-year and seasonal are from the Governmental Accountability report cited at Note 6. Data for 2001 and the category part-year and seasonal for all years are based on authors’ calculations of Current Population Survey Contingent Work Supplement data, which can be retrieved from http://www.census.gov/cps.

^a The original Government Accountability Office table listed “Agency temps” and “Direct hire temps” separately; these categories are combined here. For 2001, a portion of this number was estimated using a least squares line fitted to the previous years’ data.

^b Total NSWAs is the total of all nonstandard workers identified in the table (i.e., part-year and seasonal, temporary, on-call and day labor, contract, independent, part-time, self-employed).
Trends in Public and Private Use of NSWAs

The CWS survey was administered in 1995, 1997, 1999, and 2001 by the U.S. Bureau of the Census and the BLS, and it remains the single most comprehensive source of data on NSWAs in the United States. Table 2 summarizes the findings of the 1995, 1997, 1999, and 2001 CWS. As of 2001, individuals with NSWAs accounted for about one third of the total U.S. workforce. Regular, part-time employees account for 13.2% of the total, or 38.4% of all those in NSWAs. The next-largest category was independent contractors, at 6.42% of all workers and 18.4% of those with NSWAs. Self-employed workers represented 4.93% of all workers and 14.2% of those with NSWAs. Temporary help agency workers represented 3.8% of all workers.

Table 3

<table>
<thead>
<tr>
<th>Department of Agriculture</th>
<th>Environmental Protection Agency</th>
<th>General Services Administration</th>
<th>Forest Service</th>
<th>Internal Revenue Service</th>
<th>Department of Justice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct-Hire Arrangements</td>
<td></td>
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</tr>
<tr>
<td>Part time</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
<tr>
<td>On-call and intermittent</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
<tr>
<td>Part-year and seasonal</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
<tr>
<td>Job sharing</td>
<td>Ltd</td>
<td>Ltd-None</td>
<td>Ltd-None</td>
<td>Ltd</td>
<td>Ltd-None</td>
</tr>
<tr>
<td>Cooperative education and</td>
<td>Mod</td>
<td>Mod</td>
<td>Ext</td>
<td>Mod</td>
<td>Mod</td>
</tr>
<tr>
<td>work-study programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telemark</td>
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<tr>
<td>Indirect-Hire Arrangements</td>
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</tr>
<tr>
<td>Temporary Agency appointments</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Mod-Ext</td>
<td>Mod</td>
<td>Mod</td>
</tr>
<tr>
<td>Contract company</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ext</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
<tr>
<td>Intergovernmental Personnel Act appointments</td>
<td>Ltd</td>
<td>Ltd-Mod</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
</tr>
</tbody>
</table>

As summarized in Table 2, the total number of workers in all NSWAs, public and private, decreased modestly from 1995 to 1999 and increased slightly between 1999 and 2001. As a percentage of the total workforce, those in NSWAs declined from 36.6%
to 34.6% during the 1995-2001 period. Longer-term data is available only for the NSWA categories of part-time work and temporary help agency employment. Questions on part-time work are part of the Current Population Survey and are, therefore, available going back to 1968. Between 1968 and 2002, the proportion of the overall workforce in part-time arrangements rose from 14% to 18%. Data from the Current Economic Survey, which is a survey of payrolls rather than individuals, show long-term growth in the temporary help agency sector from only 0.3% of the workforce in 1972 to more than 2.4% by the end of 2002. Thus, although the incidence of NSWAs has remained relatively stable in the short-term since 1995, there has been long-term growth in selected categories.

### Table 3 cont.

<table>
<thead>
<tr>
<th>Direct-Hire Arrangements</th>
<th>NASA</th>
<th>Office of Naval Research</th>
<th>U.S. Postal Service</th>
<th>Social Security Administration</th>
<th>Transportation Security Administration</th>
<th>Veterans Health Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part time</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Mod</td>
<td>Ltd</td>
<td>Ext</td>
<td>Ltd</td>
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<tr>
<td>On-call and intermittent</td>
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<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ext</td>
</tr>
<tr>
<td>Part-year and seasonal</td>
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<td>Mod</td>
<td>Ltd</td>
<td>Ltd</td>
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<tr>
<td>Job sharing</td>
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<td>Ltd</td>
<td>Ltd</td>
<td>Ltd-None</td>
<td>Ltd</td>
</tr>
<tr>
<td>Cooperative education and work-study programs</td>
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<td>Ext</td>
<td>Mod</td>
<td>Mod</td>
<td>Ltd</td>
<td>Mod</td>
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<tr>
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<table>
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<th>Transportation Security Administration</th>
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</thead>
<tbody>
<tr>
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<td>Mod</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Mod</td>
<td>Ext</td>
</tr>
<tr>
<td>Contract company</td>
<td>Ltd</td>
<td>Ext</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Mod</td>
<td>Mod</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>NASA</th>
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<th>U.S. Postal Service</th>
<th>Social Security Administration</th>
<th>Transportation Security Administration</th>
<th>Veterans Health Administration</th>
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</thead>
<tbody>
<tr>
<td>Reemployed annuitants</td>
<td>Mod</td>
<td>Ltd</td>
<td>Ltd</td>
<td>Ltd</td>
<td>None</td>
<td>Ltd</td>
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<td>Intergovernmental Personnel Act appointments</td>
<td>Ext</td>
<td>Ext</td>
<td>Ltd</td>
<td>Ltd</td>
<td>None</td>
<td>Ltd</td>
</tr>
</tbody>
</table>

Note. Ext = extensive; Ltd = limited; Mod = moderate. The information in this table is drawn from the report cited at Note 10.
Use of NSWAs in Selected Federal Agencies

Of interest here is whether federal agencies would benefit from expanding their use of NSWAs and creating more blended workforces. As part of an earlier study, we surveyed 12 agencies that use NSWAs. Table 3 summarizes our findings regarding the extent to which each of the agencies utilizes each of 10 categories of NSWAs. We also sought to identify the advantages the agencies received from making use of NSWAs. We identified five main reasons for supplementing the regular workforce with workers with different types of NSWAs. These were (1) to accommodate fluctuations in workflow, (2) to provide a family-friendly workplace, (3) to screen and recruit new talent, (4) to obtain skills on demand, and (5) to expand the labor pool. Each of these reasons is discussed in more detail below.

To Accommodate Fluctuations in Workflow

An important reason that agencies use NSWAs is to accommodate fluctuations that occur in their workloads. For example, the Internal Revenue Service (IRS) makes extensive use of seasonal employees to help with the processing of tax returns during the January-April time period. The Forest Service hires seasonal workers to assist with forest fire prevention during the warm weather months, and the National Park Service also adds employees during the spring and summer to assist with the larger number of park visitors.

The Transportation Security Administration (TSA) uses part-time employees to accommodate fluctuations in airline arrival and departure patterns. Initially, the TSA hired only full-time employees. However, the workload for the passenger and baggage screeners peaks in the early morning and late afternoon. With a workforce consisting predominantly of full-time employees, more workers than needed were available during the middle part of the day. By substituting part-timers for some full-timers, staffing patterns could be brought into line with workloads, with the schedules of the part-timers targeted to either the morning or the afternoon “banks.”

The Federal Emergency Management Agency (FEMA) has to quickly mobilize large numbers of workers when natural disasters strike. Such disasters are, of course, unpredictable, and FEMA does not know in advance how many workers will be needed at any one time or how long those workers will be needed. To cope with these circumstances, FEMA hires disaster assistance employees (DAEs) who are assigned intermittent work schedules and who can be deployed on short notice when a disaster strikes. The DAEs are, in essence, on call and must be amenable to a high degree of employment uncertainty.

Not all federal government agencies have such distinct fluctuations in workflow. For those that do, however, using NSWAs is a cost-effective means of accomplishing their missions.

To Provide a Family-Friendly Workplace

A second reason agencies use NSWAs is to accommodate the personal needs of employees. Consistent with family-friendly workplace policies, most agencies are
Amenable to requests by employees to switch from full- to part-time work when child care or elder care responsibilities arise. Occasionally, two employees will arrange to job share, with each person working a portion of a total 40-hour week.

To date, agencies have made only modest use of job sharing. Even the use of part-time work arrangements for personal reasons is unusual. One disincentive for a full-time employee to switch to part-time work is that the out-of-pocket cost of health insurance for federal employees is prorated based on the numbers of hours an employee works. Thus, an employee working half time would have to pick up half the total cost of his or her health insurance. This amounts to several hundred dollars per month in additional insurance costs, which is prohibitive for many workers.

**To Screen and Recruit New Talent**

Several of the agencies we surveyed make extensive use of student employment programs as ways to recruit and screen new talent. The students generally work part-time during the school year, and many work full-time over the summer. The students are generally brought in under one of the two main student employment programs—the Student Career Experience Program (SCEP) or the Student Temporary Employment Program (STEP). Recently graduated students can be hired through the Federal Career Intern Program (FCIP).

In general, the STEP is intended to help underprivileged individuals pay for college, whereas the SCEP is designed to facilitate the recruitment of individuals with needed skills. Under the SCEP, a student enters into an agreement with a host agency, and the work done must relate to the academic and career goals of the student. If, upon graduation, the student has worked at least 640 hours and otherwise meets the qualification standards for the targeted position, he or she can be converted noncompetitively to a permanent position. Under the STEP, the work does not have to relate to the student’s academic or career interests, and STEP participants are not eligible for noncompetitive conversion to permanent employment. Therefore, the STEP is less well suited to meeting an agency’s recruitment purposes than is the SCEP.

Although it is designed for individuals who have already received their undergraduate degrees, the FCIP is also popular with some agencies. Managers at the Environmental Protection Administration, in particular, cited the advantages the FCIP affords to evaluate a potential hire for two years before having to make a decision about converting the person to permanent status.

Agencies that employ large numbers of workers with NSWAs note that an associated benefit of doing so is that workers with NSWAs constitute a pool from which full-time, full-year, permanent employees can be recruited. Thus, the IRS recruits from among its seasonal employees for full-year positions at its large Submission Processing Centers. The IRS can base its hiring decision on an employee’s actual work record rather than on a resume or recommendations of third parties. Similarly, the TSA hires for full-time positions from among its part-timer workers. Among the benefits of this is that the part-timers who seek full-time employment have an additional incentive to perform well. NWSAs create a queue of trained personnel who can enter an agency’s internal labor market core.
To Obtain Skills on Demand

Agencies often have need of a particular skill for which it is not practical to hire a full-time employee or for which regular hiring mechanisms are not well suited. Depending on the level of demand for the skills, agencies may use either a direct- or an indirect hire NSWA to meet the need.

For example, the Veterans Health Administration (VHA) needs anesthesiologists at its hospitals. Government salary limitations preclude the VHA from actually hiring these individuals, however. Instead, the VHA enters into contracts with firms that can pay practitioners the market rate. Under the contracts, the hospitals are guaranteed the required services.

The Office of Naval Research (ONR) and its subsidiary, the Naval Research Laboratory (NRL) contract for large numbers of scientists and engineers to supplement their regular workforce. In 2004, approximately 40% of the NRL’s total labor force of 4,500 consisted of contract workers. The NRL enters into contracts with outside entities, including the ONR, to conduct specific research projects. It is up to the director of each project to determine how the project will be staffed. In most cases, a mix of contract workers and government employees is involved.

From the perspective of a project director, using a high proportion of contract workers is desirable because of the flexibility such workers afford. First, they can be assigned different tasks without violating federal classification rules. Second, upon the completion of a project, a contract worker who is no longer needed can simply be let go; no complicated reduction in force or termination process is required. Operationally at NRL facilities, contract workers are indistinguishable from the government employees. They are colocated, attend the same meetings, and take direction from the same supervisor. Further, most stay at least for the duration of the project to which they are assigned, which can be as long a four or five years. According to officials at the NRL, the quality of the contract workers is high.

The use of contract company workers at the NRL has succeeded, in part, because of the symbiotic relationship that has developed with the staffing companies. The companies are eager to accommodate the NRL’s needs, and if a problem arises—for example one of the workers is not getting along with his or her supervisor—the worker will be reassigned even if the contract does not require this.

One issue with this arrangement has to do with the question of whether, given the degree to which contract company workers are integrated into the agency’s regular workforce, they are de facto employees who are entitled to all the benefits government employees enjoy. The issue arises because of various court cases that have been brought by contract workers in the private sector. In one of the most prominent cases, the U.S. Court of Appeal for the Ninth Circuit ruled that individuals working under contract for Microsoft were in fact employees pursuant to the common law definition of an employment relationship. The court ruled that the individuals were therefore entitled to the same profit sharing and health insurance benefits Microsoft employees received. An important consideration in making this determination was that the workers were supervised by a Microsoft employee.
Federal agencies, like private sector employers, need to be careful about crossing the line and treating contract workers like employees. Federal Acquisition Regulation (FAR) 37.104 states that agencies cannot award personal services contracts unless they are specifically authorized to do so by statute. FAR 37.104 defines a personal services contract as one characterized by an employer-employee relationship between the government and contractor personnel in which the contract personnel are subject to the “relatively continuous supervision and control of a government employee.”\textsuperscript{14} The contracts that NRL enters into with its staffing vendors are not personal services contracts, and the NRL specifies that the workers are not under the “relatively continuous supervision and control” of an NRL employee. In fact, however, the relationship is somewhat ambiguous, and the agency would be potentially vulnerable to claims by contract company workers except that these workers already receive compensation and benefits comparable to those of their government counterparts.

**To Expand the Labor Pool**

There is a controversy among labor economists as to whether NSWAs disadvantage workers and whether any evolution in employment structures is being driven less by operational considerations than by a desire to reduce costs. In fact, BLS data show that workers in some categories of NSWAs are much less likely to receive health insurance or pension benefits from their employer than are regular, full-time, full-year, permanent employees. However, BLS data also show that many workers—particularly retirees, students, and those with personal or family obligations—prefer part-time, temporary, seasonal, and contract work.\textsuperscript{15} It is in the interest of agencies seeking to tap this labor pool to make suitable job opportunities available by expanding NSWAs. Such a strategy is likely to become even more compelling in the future as a result of the simultaneous slowing of growth in the overall labor market and an increase in the number of individuals working past retirement age.\textsuperscript{16}

Some agencies are beginning to hire back their own former, retired employees. The prospect of supplementing their retirement income is attractive to many of these annuitants. The Social Security Administration (SSA) has brought back retirees to assist with in the training of new hires, freeing up regular employees to perform ongoing mission-critical duties. The Department of Justice and the IRS have also used annuitants for training purposes. According to federal human resource managers, these are win-win opportunities: The annuitants remain engaged in their work, while the agencies benefit from the skills and experiences of these individuals.

Office of Personnel Management (OPM) regulations present an obstacle to the rehiring of annuitants, however. Those regulations require that an annuitant’s earnings be offset by the amount of his or her pension.\textsuperscript{17} Under these conditions, the annuitant is, in essence, working for free up to the amount of his or her retirement check. Agencies can apply for waivers of the annuity offset, and many have, including the U.S. Department of Defense. However, the waivers are subject to rigid requirements and are not readily granted. The strictures derive from a concern by policymakers about the appearance of double-dipping by those receiving both pension and salary checks.
The benefits that derive from an expanded use of NSWAs are offset, at least in part, by some costs. For example, it is harder to recruit for part-time, temporary, or seasonal positions than for full-time, full-year, permanent jobs. Many of those who accept NSWAs do so pending an opportunity for regular employment, and agencies like the IRS and the TSA report high levels of turnover among their seasonal and part-time employees, respectively. That turnover, in turn, results in higher recruitment and training costs.

On balance, however, the advantages of using NSWAs are sufficiently compelling that we recommend agencies incorporate NSWA considerations into their strategic human resource plans. Even agencies that do not have significant fluctuations in workflow can benefit by affording current employees expanded opportunities to shift to part-time work when family needs dictate. Virtually every agency will have to cope with the impending wave of baby boomer retirements, and putting in place some mechanism to facilitate “phased retirement” with either part-time or temporary employment will make coping easier.

Continuing budget pressures and outsourcing directives are also conducive to expanding the use of NSWAs. As a result of the Bush administration’s competitive sourcing initiative, a number of agencies are making increased use of NSWAs. For example, an IRS team won a competitive bid for document handling work at its Submission Processing Centers by substituting employees on intermittent work schedules for full-time employees. As a result of having won the competition, the IRS will increase the number of document handling employees assigned to intermittent work schedules from 82 to 455.

While the extent of NSWA use is in part a function of each agency’s particular mission and technology, these type of cross-cutting pressures warrant governmentwide

### Table 4: Alternative Models of the Blended Workforce

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*Note. OPM = U.S. Office of Personnel Management; NRL = Naval Research Laboratory; NSWAs = nonstandard work arrangements.*
attention to the NSWA phenomenon. Below, we identify three alternative models that have emerged in separate agencies. Following the incremental model would lead to only marginal changes in NSWA use across the government. Following either the NRL model or the OPM model, however, would lead to dramatic expansions in NSWA use.

**The Incremental Model**

The OPM reports that approximately 93% of all work hours in executive branch agencies are accounted for by those in full-time, permanent jobs. (Note that in the federal structure, many of those holding seasonal positions are counted as full-time and permanent employees, although they work only part of each year.) Under the incremental model of NSWA use, the vast majority of government agencies' work would continue to be done by employees with traditional work arrangements. However, there would be an expansion of NSWAs targeted at three groups who will figure prominently in the workforce of the future annuitants; employees who, for personal reasons, prefer part-time work to full-time work; and students.

Policy changes would be required to accommodate the job needs of both annuitants and part-time employees. This policy simply forces agencies and annuitants to resort to contractual means of accomplishing the same end: The annuitant goes on the payroll of a staffing firm, which then contracts with the agency for the annuitant’s services. In many cases, this will end up costing the government more than if the individual were hired through more direct means because of the overhead and profit requirements of the staffing firms.

A primary deterrent to expanding the use of part-time jobs in federal government agencies is the policy that the cost of health insurance be prorated based on the number of hours worked. As a means of encouraging those who would prefer to work part time to do so, the government could pay full health insurance benefits to anyone working 20 or more hours per week. The resulting increase in agency spending on insurance benefits would be at least partially offset by a reduction in wage costs.

Student employment programs constitute the third category of jobs that would be expanded under the incremental model. Some agencies, such as the General Services Administration (GSA), have made strategic use of these programs for recruitment purposes. The GSA hires SCEP participants in each of its eight core occupations, including procurement, realty, property management, supply management, and information technology. Further, the GSA provides a comprehensive orientation to the SCEP participants and assigns each of the students a job coach who serves as a mentor throughout the training period.

In a 2002 report, the Partnership for Public Service cited the government’s hiring needs while endorsing an expansion of federal student employment programs. The partnership quoted findings from a study by the National Association of Colleges and Employers that both internship and cooperative education programs are effective means of bringing in new talent. The partnership further recommended that “federal agencies should specifically include student employment programs in their strategic workforce planning efforts as a talent pool for future permanent hires, and should allocate resources accordingly.”
The OPM Time-Limited Employment Model

The Bush administration’s Working for America Act includes a brief reference to the blended workforce concept. The letter transmitting the legislation to Congress includes the statement, “Our blueprint would provide unprecedented flexibility to meet temporary and continuing mission needs by permitting a streamlined hiring process, consolidating categories of employees into two groups—career and time-limited—and allowing for those on time-limited appointments to convert to career status under certain conditions.”

A substantial expansion in temporary, or time-limited, hires is envisioned. It is a variant of the core-ring model of staffing used by some private sector firms, with a core of permanent, full-time employees surrounded by a ring of those with more temporary arrangements adopted. For example, Nollen and Axel have described Hewitt-Packard’s experiment with its Flex-Force project, which was intended to protect permanent employees from layoffs. The central idea was to create a core staff of permanent employees surrounded by a ring of workers with NSWAs. The advantage of such an arrangement is threefold. First, temporary employees can be let go more easily than can permanent employees should the workload decline. Second, the hiring process for time-limited employees tends to be simpler and faster so the workforce can be ramped up more rapidly when needs require. Last, agencies have extensive information on the capabilities and performance of its temporary employees that is valuable in deciding which such employees should be offered permanent work.

The primary disadvantage of adhering to the OPM time-limited employment model is that agencies may find it difficult to recruit for positions that are time-limited. Further, employees who accept such appointments will always be considered second-class citizens relative to their colleagues who hold permanent positions. As a final issue, agencies will have little or no incentive to invest in the training of employees who may be on board for only a short period.

Moss, Salzman, and Tilly studied the experiences of four firms in the electronics and insurance industries which followed the core-ring model. The researchers found that the model met with mixed success. “Managers generally voiced negative opinions about the results of using temporary workers, including lower productivity, higher turnover, and lower moral,” they wrote. The firms found that temporary workers performed effectively in routine functions such as security guard or mailroom clerk, or at remote sites as low-level call-center and back-office staff but not when assigned work, “where commitment, communication, and the ability to innovate are most critical.”

The NRL Contract Company Worker Model

The model for the use of NSWAs that has the most promise in the federal government setting is the NRL contract company worker model. As noted above, the NRL makes extensive use of contract company workers, effectively integrating these workers into its regular workforce. A key advantage of doing this is that managers can assign workers to tasks, and remove them, without being subject to the rigid requirements of the
federal personnel system with regard to layoffs and transfers. The arrangement further meets the needs of the contract company workers, who receive pay and benefits that are comparable to those of their government counterparts. Many contract workers also enjoy the variety in assignments that a staffing agency affords. At the NRL, these workers get the best of both worlds, as the assignments also tend to be long-term in nature. According to NRL officials, the cost to the agency of government and contract company workers is roughly comparable.24

Is the NRL model viable governmentwide? As noted above, expansion of the model will be contingent on a resolution of the legal issue that arises with regard to the supervision of contract company workers by agency employees. The question is whether, legally, the workers are de facto employees of the agency and, hence, eligible for the same benefits granted to government employees.

A major question with regard to the NRL model is whether its success is attributable to the somewhat unique nature of that agency’s business. Most of the NRL’s work is project-oriented. The assignments given to contract workers have clear beginnings and end points that provide an inherent logic to the use of temporary work arrangements. What is more, most projects are four to five years in duration, which accords the contract workers a degree of permanence and stability.

Could such a model work at, for example, the SSA, where much of the work consists of the relatively routine processing of claims? The viability of the NRL model in such a circumstance may be contingent on the work philosophy that is followed, as well as an agency’s production processes. A key to the success of the NRL model is that the work itself has appeal to outsiders. If a production agency like the SSA accords its workers a degree of discretion in how they go about their jobs, it is more likely that individuals with high levels of skills would be attracted to the agency. If, on the other hand, the agency accomplishes its tasks in a traditional, assembly-line manner, it will be hard to entice qualified outsiders. Like most organizations, the SSA has some work that is routine and some that is less so. It may be that the NRL model would work for nonroutine functions, while the more routine tasks are handled in house or contracted out.

The use of the NRL model may also be constrained because of considerations of privacy. Should private sector employees have access to the type of private information handled by workers at the SSA or the IRS? The integration of private sector employees into regulatory agencies like the Environmental Protection Agency, and to some extent the IRS, may not be appropriate given the inherently governmental nature of the work. A variety of such issues would have to be resolved before broad expansion of the NRL model of using NSWAs could be considered.

**Conclusion**

Is blended workforce just another glitzy phrase coined by management consultants and trade journals to generate sales? This analysis demonstrates that there is enough substance to the concept to warrant the attention of policymakers. At a minimum, NSWA considerations should be incorporated into the strategic human resource
management plans of federal government agencies. At a maximum, a governmentwide strategy should be developed.

The incremental model of NWSA use would represent a positive step towards making the federal workforce more flexible. The OPM time-limited employment model and NRL contract company worker model need additional study and would be suitable subjects of the OPM’s personnel demonstration project authority. The OPM should solicit agency participation in one or more such projects, with the aim of evaluating the viability of these models. A test of this nature would help determine whether the concepts are suited only to agencies with particular types of work or whether they have broader application.

Notes


11 Ibid.

12 Ibid

13 Vizcaino v. Microsoft, 97 F 3d 1187 (9th Cir. 1996).


17 5 CFR § 1, Pt. 837.303


23 Ibid.


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