

# **Estimates of Burnout in Public Agencies: Worldwide How Many Employees Have Which Degrees of Burnout and With What Consequences?**

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Using a well-validated eight-phase model of burnout, this article summarizes public-sector findings in 34 work settings-in the U.S., Canada, and worldwide. The findings fall in three major categories. First, a large number of variables co-vary with the phases in regular and robust ways-e.g., the incidence of physical symptoms increases, phase by advancing phase. Second, the incidences of advanced phases also vary in numerous populations, but burnout appears high almost everywhere. Third, burnout in the U.S. public sector is not appreciably worse than in business, but attains serious proportions in both arenas. Implications of the findings reflect major challenges for public employers and employees.

The phase model of burnout (Golembiewski, Boudreau, Munzenrider, and Luo, 1996) permits for the first time informed estimates of the incidence of this modern disease. This article focuses on data about burnout in public work-in 13 U.S. work sites, in 11 Canadian sites, and in 10 global studies conducted in sites ranging from China to Taiwan(see Appendix A for summary details). For limited purposes, the public-sector incidences of the burnout also will be compared with two panels of nonpublic work settings-63 in North America and 9 from global sites. This survey has four major components. In turn, it describes the phase model; it reports on a program testing the reliability and validity of the phase model; and, using data from 34 sites, it estimates how many people have which degrees of burnout in public-sector organizations, worldwide. Then, the article addresses a number of significant implications of the phase model for the practice of public managements.

## **Essentials of the Phase Model**

Uniquely, the phase model proposes to place each individual into one of eight phases of burnout from I (least advanced) through VIII (most advanced).

The model's rationale rejects the common convention of estimating stress by focusing on the number and severity of stressors at work. Rather, the phase model focuses on the ways individuals experience whatever stressors they encounter. Why? Our approach builds on two common observations. Individuals differ widely as to the number and intensity of stressors with which they can comfortably cope- not only are there differences between people at any one time, but also at different points in time

for any one person. Moreover, one stressor can energize some people, while it harniates others. Consequently, the phase model focuses on this question: Are the stressors one now experiences too much, whatever their number and severity.

### **Major Components of the Model**

Our operational definition builds on responses to items in the Maslach Burnout Inventory, or MBI (Maslach and Jackson, 1982, 1986). The MBI is a simple paper-and-pencil instrument which asks respondents: How are things at work, relative to your comfortable coping attitudes and skills? Ratings along a seven-point scale assess how much each item is like or unlike the respondent.

For each respondent, these MBI ratings generate three scores:

- Depersonalization, where high scores indicate a marked tendency to think of others as things or objects, to distance self from others.
- Personal Accomplishment (Reversed), where low scores indicate a person who reports doing well on a worthwhile job.
- Emotional Exhaustion, where high scores estimate how close each individual is to the "end of the rope" in emotional terms.

In sum, high scores on emotional exhaustion are seen as contributing more to burnout than inadequate personal accomplishment. Moreover, both are seen as more virulent than depersonalization.

### **Generating the Phase Model**

Based on each MBI score, every individual gets three high or low assignments, using norms derived from a large population of federal employees operating under considerable stress (Golembiewski , Boudreau, Munzenrider, and Luo, 1996, 51-57).[ 2] Directly, then, the phase model takes the form depicted in Figure 1. Individuals in Phase I present this profile of features: they deal with individuals as sentient, valuing beings; they see themselves as doing well on jobs that are socially worthwhile; and they have a surplus or "slack" of emotional resources for coping with more stressors than they are experiencing.

Individuals in Phase VIII present a sharp contrast. They keep themselves distant from people, and hence can lack information as well as social support, also their work is not rewarding psychologically. Phase VIII individuals report doing poorly on jobs that they consider largely unattractive, if not socially unredemptive. Such individuals also are in a deficit condition for mobilizing emotional resources to deal with new stressors.

### One Caution and a Conceptual Attraction

The phase model does not require that individuals proceed to highest burnout by moving through each phase in order. Rather, the phases are seen as progressively virulent, and the onset of advanced phases can be either chronic or acute, following medical usage. The basic chronic flight path through the phases is from I to II to IV to VIII. Interpretively, the high depersonalization phase (Phase II) deprives an individual of important information, which over time can impede performance on task (Phase IV), and these two conditions then can coexist at levels of strain beyond the individual's comfortable coping capabilities reasonably labeled "emotional exhaustion" (Phase VIII).

Acute onsets can take several flight paths, but they all include a high assignment on emotional exhaustion. Hence, acute onset can include these linkages: I to V, II to VI, III to VIII, or IV to VIII. Again, reference to Figure 1 will help the reader visualize these acute flightpaths.

**Figure 1**  
**Phase Model of Burnout**

	Phases of Burnout							
	I	II	III	IV	V	VI	VII	VIII
Depersonalization	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi
Personal Accomplishment (Reversed)	Lo	Lo	Hi	Hi	Lo	Lo	Hi	Hi
Emotional Exhaustion	Lo	Lo	Lo	Lo	Hi	Hi	Hi	Hi

### Summary of the Covariants of the Phases

Directly, the phases covary in expected ways on virtually every one of the several hundred covariants studied so far, both in North America as well as in global work settings (Golembiewski, Boudreau, Munzenrider, and Luo, 1996). To illustrate, as the phases progress from I to VIII, researchers report the following changes in the character and quality of life in organizations:

- Job involvement and all facets of job satisfaction decrease.
- Turnover increases, both in intent and in actual departures.
- Group cohesiveness decreases.
- Physical and emotional symptoms increase.
- Features of family life deteriorate.
- Indicators of performance fall.
- Costs of medical insurance increase significantly.

The results of testing for 19 physical symptoms in a large batch of federal employees (Quinn and

Staines, 1979) illustrate the regularity and robustness of the common pattern of covariation. Each symptom isolates nonrandom variance when arrayed in terms of the phases; differences fall in the expected direction in almost all of the possible paired-comparisons; and over 50 percent of the paired-comparisons also achieve statistical significance. In sum, physical symptoms grow worse, almost literally phase by phase (Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 88-95). More broadly, almost all variables tested so far isolate statistically significant variance when arrayed by the phases.<sup>3</sup> Such covariants of the phases imply major economic and psychological costs for both employees and management. For example, when compared to random national populations, persons in the three most-advanced phases report 5 to 15 times more of all symptoms, while people in Phases I, II, and III report a fraction of the national symptomatology (Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 84-88). In sum, progressively advanced phases imply escalating costs.

## Estimating Global Incidences of Phases

The news about burnout incidence is pretty bad almost everywhere we looked. That "bad news" may even be optimistic because our data may well come disproportionately from sites whose managements have a special concern with the quality of life at work. Specifically, Tables 1, 2, and 3 reflect distributions of burnout phases that add dramatic counterpoint to the virulence of the covariants of advanced burnout illustrated above. Large proportions of people, surveyed at over 100 work sites around the world, are assigned to advanced phases of burnout.

Several points put this conclusion in prominent relief. First, most observers will agree that the proportions of assignments to the advanced phases are "high" in all three tables. Indeed, so many people fall in advanced phases that the term "pandemic" seems no overstatement: Phases VI, VII, and VIII contain 41.8 percent of all respondents in public-sector work sites in Canada, 44.1 percent in the U.S. sites, and 60.0 percent in the 10 available global public-sector work sites.

Second, North American public-sector employees experience levels of burnout similar to those experienced by employees in the private sector (Tables 1 and 2). That is, business settings in North America include 40.9 percent of all respondents in Phases VI, VII, and VIII, compared with 44.1 percent for U.S. public-sector work sites, and 41.8 percent for their Canadian counterparts. In addition, the worldwide contrast in Table 3 is shocking: 44.0 percent overall versus 60.0 percent of employees for the public sector are assigned to the three most advanced phases.

Third, the distributions of phases are bipolar, in general and in almost every individual case.

Eighty-four percent of all Phase I, II, and III assignees are in organizations having 20 to 50 percent of their employees in the three least advanced phases. Similarly, over 87 percent of all assignments to the three most advanced phases (Phases VI, VII, and VIII) occur in organizations having 40 to 60 percent of their employees in those three extreme phases.

Consistent with this bipolarity, Phases IV and V seem sparsely populated, as all tables show. Theoretical and practical reasons support this view of burnout. To illustrate, note that Phase IV is on the chronic flight path of burnout-I to II to IV to VIII-and persistence data imply that IV is a temporary shelving level on the way to maximum burnout (Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 173-177). Phase V also seems on the flight path of acute onset, most directly in I to V movement. Evidence also indicates a short-lived status for V, with acute onset soon leading to improving or deteriorating phases, depending on the severity of the trauma.

## Implications for Public Management

The findings associated with the phase model have major implications for the theory as well as practice of public management. A sampler of 11 illustrates these implications. First, the phase model seems a valid and reliable operational definition. Consequently, although caveats are necessary (Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 179-180), current estimates of the virulence and incidence of the phases must be taken seriously. This capability helps fill a major gap in the development of the study of today's public administration.

Second, the phase model provides room both for those who believe in culture-bounded research and for those searching for general principles. The generic pattern is so dominant that it cannot be camouflaged or distorted by differences between organizational subcultures or by differences between regional or national cultures. At the same time, the various incidences of phases in organizations can accommodate both organizational and national specificities.

Third, although many observers attribute disadvantages to the public sector, no major public-sector differences appear in the burnout data for U.S. or Canadian work sites.

Fourth, most observers will conclude that major proactive things need doing about public-sector burnout. Directly, its somber covariants suggest the usefulness of moderating burnout. For example, witness the direct associations of the phases with turnover and with the

costs of medical insurance (Jackson and Manning, 1996).

**Table 1**  
Incidence of Phases, 13 U.S. Public Sector vs. 63 North American Settings. Incidence of Phases, in N/%

	I	II	III	IV	V	VI	VII	VIII
Summary, Incidence of Phases in 13 U.S. Public-Sector Work Sites (N = 6,426)	1544 24.0%	417 6.5	584 9.1	325 5.1	723 11.3	947 14.7	473 7.4	1413 22.0
		39.6%				44.1%		
Summary, Incidence of Phases in 63 North American Non-Public Sector Work Sites (N = 24,080)	25.0%	6.0	12.8	8.4	6.8	12.8	7.9	20.2
		43.8%				40.9%		

Golembiewski, Boudreau, Munzenrider, and Luo, 1996, Chapter 6.

**Table 2**  
Incidence of Phases, Canadian Settings vs. 63 North American Worksites. Incidence of Phases, in N/%

	I	II	III	IV	V	VI	VII	VIII
Summary, Incidence of Phases in 11 Canadian Public-Sector Work Sites (N = 3,230)	713 22.1%	202 6.3	496 15.4	224 6.9	248 7.7	316 9.8	231 7.2	800 24.8
		43.8%				41.8%		
Summary, Incidence of Phases in 63 North American Non-Public Sector Work Sites (N = 24,080)	25.0%	6.0	12.8	8.4	6.8	12.8	7.9	20.2
		43.8%				40.9%		

**Table 3**  
Incidence of Phases, 19 Global Work Sites, Public vs. Non-Public. Incidence of Phases, in N/%

	I	II	III	IV	V	VI	VII	VIII
Summary, Incidence of Phases in 10 Global Public-Sector Work Sites (N = 4,053)	399 9.9%	192 4.7	285 7.0	489 12.1	259 6.4	535 13.2	197 4.9	1697 41.9
		21.6%				60.0%		
Summary, Incidence of Phases in 9 Global Non-Public Work Sites (N = 2,241)	179 8.0%	119 5.3	491 21.9	403 18.0	65 2.9	159 7.1	109 4.9	716 32.0
		35.2%				44.0%		

From Appendix A, Part III.

Fifth, the phase model permits easy diagnosis of work sites, both large and small. Responses to the Maslach Burnout Inventory take about 5 to 10 minutes, on average, and the evidence implies that the distribution of phases provides a very good indicator of the states of the culture and relationships at work (e.g., Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 215-222). In the present legal context, this diagnostic capability is very attractive. In sum, ignorance about the incidence of stress or burnout now constitutes no legal defense for management, as it once did (e.g., Ivancevich, Matteson, and Richards, 1985).

Sixth, the phases each imply appropriate ameliorative interventions. Thus, Phase II assignees would profit from interventions that improve interaction-e.g., listening skills, and giving effective feedback. Relatedly, those in Phase III would profit from various approaches related to improving their tasks-job rotation, job enrichment, and autonomous teams, among others. A revisit to Figure 1 will suggest to the reader the rationales for such prescriptions. For Phase IV and beyond, the implied prescriptions are more complex, but the principles remain much the same (e.g., Golembiewski, Boudreau, Munzenrider, and Luo, 1996, 222-228).

Seventh, direct research supports the point that reductions in burnout often will be required to facilitate change (e.g., Golembiewski and Rountree, forthcoming). Consider here only that

the success of various popular initiatives-including re-engineering as well as downsizing and rightsizing-reasonably seem to require low burnout. This generalization applies coming and going, as it were. Thus, a high incidence of advanced phases seems likely to complicate the implementation of such initiatives; and the dynamics of implementation may add to the incidence of advanced phases by further stimulating those persons who already have little or no emotional surplus to deal with new stressors. This seventh conclusion, when paired with the newly available data about the high incidence of advanced phases in public organizations, promises no rose garden in connection with initiatives such as the National Performance Review.

Eighth, crucially, the amelioration of burnout is not out of reach. Although interventions remain rare (e.g., Schaufeli, 1996), much experience and theory in organization development (OD) seems directly applicable, with appropriate designs relating to structure, policies, and procedures, as well as interaction (Golembiewski, 1995). Moreover, such designs have ameliorated burnout. In one case, conventional OD designs reduced assignments to Phase VI, VII, and VIII from 64 percent to 16 percent, and those levels were essentially retained over an extended as well as turbulent period (Golembiewski, Hilles, and Daly, 1987). The interventions first induced a specific style of interaction and then reinforced that change with new policies and procedures. In other cases in health care settings, the reductions in burnout were even more dramatic (e.g., Golembiewski and Rountree, forthcoming).

Ninth, the phase model provides important guidance for management reformers, as in highlighting the "immediate work group"-that is, the group of first-reports such as a CEO and vice-presidents, or an executive plus the middle managers reporting directly to her or him. These groups seem to have an affinity for extreme scorers-e.g., Phase I, II, and III or Phase VI, VII, and VIII, but not mixes of both. Processes of selection, socialization, resonance, and so on seem to skew burnout distributions so that, if you know any single member's phase assignment, you have a 75 percent chance, or better, of guessing the overall phase assignments of all members of an immediate work group (e.g., Rountree, 1984). This feature helps target ameliorative interventions to fit each immediate work group. The notion is consistent with Likert's "linking pin" concept (e.g., 1961), as well as with the emphasis on intact work teams characteristic of the OD literature (e.g., Dyer, 1987); but the notion seems to require periodic relearning. Thus, many millions of dollars have been spent in business and government stress management workshops, to which individuals, usually come as "strangers" rather than as members of a work team. Phase model findings encourage intact teams. Relatedly, typical stress management workshops imply the usefulness of a single design for learning, but the phase model implies that at least two major kinds of designs are necessary to touch most employees in most organizations. Put another way, most distributions of burnout

phases seem bimodal with the three most advanced phases including 45 percent of all organization members, or more, on average.

This typical distribution of phases of burnout encourages thinking of organizations as mosaics with complex textures. In contrast, both popularizations (e.g., Peters and Waterman, 1982) and most of the technical literature assume a cultural monolith. The focus on organizational mosaics does have a longish tradition (e.g., Lawrence and Lorsch, 1967), but that tradition often wanes.

Tenth, useful ways exist to reduce advanced burnout. The full prescription is not yet known, but one strategy provides a convenient starting point: keep Phase I assignments where they are. As noted above, on average Phase I includes an average of 20 to 25 percent of all employees. Such a strategy rests on a well-known theoretical rationale, and it involves interventions that have high success rates (e.g., Golembiewski, Boudreau, Munzenrider, and Luo, 1996, esp. 223-233).

Reference to Figure 1 adds detail to this central strategy. In chronic onset, to begin, those in Phase I who progress to advanced burnout will follow this path: I to II to IV to VIII. Note that I to II movement requires a Lo to Hi shift on depersonalization. Thus, Lo to Hi movement is inhibited by maintaining attractive interaction between individuals and groups; and such movement, once experienced, can be reversed by appropriate learning designs.

Eleventh, these important prescriptions rest on the contrast

**Figure 2**  
**The Basic Model**

Degenerative Interaction		Regenerative Interaction	
Lo	Openness	Hi	Hi
Lo	Owning	Hi	Hi
Hi	Risk	Lo	Lo
Lo	Trust	Hi	Hi

between regenerative and degenerative interaction (Golembiewski, 1993, esp. 48-50, 163-169). The basic model utilizes four variables, changes in any one of which will influence the others (see Figure 2). These four central concepts have direct meanings: a valentine signed "Guess Who" is an open expression but is not owned. Moreover, risk deals with the objective threat in a context, and trust relates to the mutual confidence among colleagues that they have the skills and attitudes to achieve satisfying outcomes.



The common outcomes of the two interaction systems differ fundamentally. In degenerative interaction, inter alia, the wrong issues are likely to surface. Consequently, failure is likely to result from even the most competent and well-intentioned efforts. Consequently, especially after some experience, degenerative interaction results in low energy levels most of the time, occasionally punctuated by conflict and scapegoating.

Numerous interventions can induce regenerative interaction- via third-party conflict resolution, confrontation designs, three-dimensional image sharing, and so on (e.g., Golembiewski, 1993, 247-258, 318-323). Such designs are consistent with values considered attractive by most people in organizations, and hence the usually high motivation to learn attitudes and skills appropriate for regenerative interaction. Moreover, these designs have high success rates (e.g., Golembiewski, 1990, 11-28).

## Closing Words, If Only Temporarily

The phase model permits a set of reasonable working answers to the question in this article's subtitle: Worldwide, how many employees have which degrees of burnout, and with what consequences? In public-sector populations, worldwide, large proportions of employees fall into the advanced phases of burnout. As a result, major negative consequences can be expected for both individuals and their organizations. These consequences both require and encourage further research but already suffice to urge applications directed at ameliorating burnout.

Less than ideally, all present studies involve "convenience populations" in tests of the congruence of findings from many work sites that no doubt differ in many details. We also sought replications in national settings (e.g., Taiwan, Japan, and Ghana) which are underrepresented in the earlier stress literature and which for cultural and other reasons might pose special challenges to successful replications of a pattern of covariation with the phases.

Since only robust associations will survive such multiple replications, two conclusions seem appropriate. This survey of findings urges the view that the burnout phases refer to a centroid in nature-a strategic variable which covaries with a broad range of variables in a variety of settings. Moreover, this survey supports the view that the phases are a valid and reliable operational definition.

This valid and reliable operational definition of a centroid emphasizes that available studies can provide valuable information about practical and theoretical questions. Consider this sample of key questions with working answers in the parentheses:

\* Do covariants of the phases imply substantial costs-personal, organizational, and social? (They seem to.)

\* What is the distribution of advanced phases in various settings? (Very high almost everywhere we have looked, and worse in some cases.)

\* Do specific settings have different incidences of advanced burnout? (Yes, but that incidence is high enough almost every- where to urge amelioration.)

\* Can the phases be used to measure the need for as well as the success of efforts to ameliorate burnout? (Yes.)

\* Has successful amelioration been reported? (Yes, and using conventional interventions.)

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**Appendix A.**  
**Descriptions of Public-Sector Work Sites**

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**I. U.S. Work sites**

- U.S. 1 N = 1,535, employees of regional offices of a U.S. federal agency in people-helping roles, a horizontal slice of employees at low to upper-middle levels (Golembiewski, Boudreau, Munzenrider, and Luo, 1996).  
U.S. 2 N = 53, the executives and middle managers of a city probation office.  
U.S. 3 N = 984, K-6 teachers in Florida, (Golembiewski, Scherb, and Munzenrider, 1994).  
U.S. 4 N = 1,106, from a U.S. Air Force fighter wing, all ranks through colonel (Aldinger, 1993).  
U.S. 5 N = 213 police from two municipal governments (Golembiewski, Scherb, Lloyd, and Munzenrider, 1992).  
U.S. 6 N = 357 managerial personnel in 172 VA medical centers (Kilpatrick, Magnetti, and Mirvis, 1991).  
U.S. 7 N = 308 professionals from a state agency (Bower, 1994).  
U.S. 8 N = 160 care providers in a state agency for the physically limited (Billingsley, 1990).  
U.S. 9 N = 69 executives from a collection of federal agencies at a training session.  
U.S. 10 N = 79 executives from several federal agencies.  
U.S. 11 N = 78 city and county managers (Golembiewski and Kim, 1987).  
U.S. 12 N = 432, a comprehensive hospital population, excluding doctors (Munzenrider, 1995).  
U.S. 13 N = 1,064, a field service of a federal agency, which is in the throes of a serious transition (Gabris and Ihrke, 1995).

**II. Canadian Work sites**

- Canada 1 N = 404, all employees of a hospital in a western Canadian province excluding doctors.  
Canada 2 N = 135, police from all Canadian levels of government attending a training session.  
Canada 3 N = 424, enrollees of a police college in Ontario, Canada. (Burke, Shearer, and Deszca, 1984).  
Canada 4 N = 708, police at a training program in a Canadian educational setting.  
Canada 5 N = 36, from a clerical section in a Canadian municipal government.  
Canada 6 N = 58, from the clerical section above after a cutback announcement.  
Canada 7 N = 25, laborers in a Canadian municipal government.  
Canada 8 N = 38, in Site 7 after a layoff announcement.  
Canada 9 N = 746, teachers in Canadian elementary schools (Burke and Greenglass, 1989).  
Canada 10 N = 307, Canadian teachers who responded to a survey (Burke and Greenglass, 1991).  
Canada 11 Those respondents from Site 10 who also responded to a survey one year later (Burke and Greenglass, 1991).

**III. Other Global Work sites**

- China A N = 196, middle managers and above assembled for a conference (Rowney and Cahoon, 1987).  
China B N = 259, from 10 departments of the Beijing municipal government, with about 60 percent in operating roles (Golembiewski and Luo, 1996).  
Ghana A N = 287, respondents from three hospitals near the capital city (Fiadzo, 1995).  
Israel A N = 100, nurses, all female (Pines, 1996)  
Japan A N = 981, respondents from six healthcare locations; all jobs represented, except doctors (Boudreau and Golembiewski, 1989).  
Japan B N = 498, from several comprehensive healthcare centers; all jobs are surveyed, except doctors (Boudreau and Golembiewski, 1990).  
Japan C N = 387, almost all from hospitals (Golembiewski, Boudreau, Goto, and Murai, 1992).  
Saudi Arabia A N = 264, professional trainers and support personnel, Institute of Public Administration, Riyadh (Al-Ebedah, 1995).  
Taiwan A N = 623, from seven types of R.O.C. police, with about 16 percent in "inside" or office jobs; all ranks of police are represented (Golembiewski, Sun, Lin, and Boudreau, 1995).  
Taiwan B N = 553, street-level bureaucrats from all but the three highest of 12 hierarchical grades (Lin, Sun, and Golembiewski, 1996).

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## Notes

1. The term "our" is used descriptively, not imperiously. The present co-authors summarize a huge body of data which many helped amass. The references detail many of the contributors to over a decade of generating replications in nearly 100 separate work settings.
2. We refer to these as "universal norms," and they are always relied on in studies reported here. The medians from each specific population on the three MBI scores constitute the most popular alternative cutting-points (e.g., Burke, Shearer, and Deszca, 1984). These "local norms" may prove the correct convention but, overall, the evidence does not support such a view (Golembiewski, Boudreau, Munzenrider, and Luo, 1996, esp. pp. 199-209).
3. In public-sector work settings in the United States, for example, 158 of 170 variables (92.9 percent) showed nonrandom variation when arrayed by the phases.

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