

QUALITATIVE METHODS CAN ENRICH QUANTITATIVE RESEARCH ON OCCUPATIONAL STRESS: AN EXAMPLE FROM ONE OCCUPATIONAL GROUP[☆]

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ABSTRACT

The chapter examines the ways in which qualitative and quantitative methods support each other in research on occupational stress. Qualitative methods include eliciting from workers unconstrained descriptions of work experiences, careful first-hand observations of the workplace, and participant-observers describing “from the inside” a particular work experience. The chapter shows how qualitative research plays a role in (a) stimulating theory development, (b) generating hypotheses, (c) identifying heretofore researcher-neglected job stressors and coping responses, (d) explaining difficult-to-interpret quantitative findings, and (e) providing

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rich descriptions of stressful transactions. Extensive examples from research on job stress in teachers are used. The limitations of qualitative research, particularly in the area of verification, are also described.

QUALITATIVE RESEARCH ON OCCUPATIONAL STRESS CAN ENRICH QUANTITATIVE STRESS RESEARCH

The purpose of this chapter is to advance the idea that qualitative methods and more highly controlled quantitative methods applied to occupational-stress research, together, compared to either methodology alone, can provide a clearer picture of the stress process. Plewis and Mason (2005) wrote that quantitative and qualitative methods represent “mutually informing” strands of research. Hugentobler, Israel, and Schurman (1992) underlined the view that every method has weaknesses, and that by applying manifold methods to the study of occupational stress, weaknesses in one method can be compensated for by strengths in other methods. They go on to show how qualitative and quantitative methods converged in identifying the sources of stress in workers in a manufacturing firm. Qualitative research, moreover, can be useful to quantitative researchers in instrument development (Blase, 1986; Brown et al., 1986; Schonfeld & Feinman, 2009).

Qualitative methods, particularly methods associated with grounded theory (Glaser & Strauss, 1967), emphasize the emergence from data of theoretically important categories as well as hypotheses bearing on the relations among those categories. There is no dearth of literature on using multiple methods (Cresswell, 2003; Tashakkori & Teddlie, 2003). Smith (2006), justifying the application of multiple methodologies in educational research, pointed out that “any methodology has inherent deficiencies and fails to capture the chaos, complexity, and contextuality of applied fields such as education” (p. 458). We would add the applied field of occupational-stress research. Methods must fit the research questions. It is appropriate to use survey methods, for instance, when one wants to quantify variables in the occupational-stress context. To characterize descriptively the intensity of work-related stressors experienced by individual workers, however, qualitative methods may be profitably used (Jex, Adams, Elacqua, & Lux, 1997).

There are at least three broad types of qualitative methods that have been employed in occupational-stress research (see Tables 1 and 2). The first, and most commonly used, method involves having members of

Table 1. Qualitative Studies of Occupational Stress Involving a Variety of Workers with the Exception of Teachers.

Paper	Sample	Method	Key Findings
Abouserie (1996)	305 male and 109 female academics at a university in Wales	Questionnaires containing open-ended questions about stressors as supplement to a quantitative study	Leading sources of job stress were conducting research, time constraints, relationships with others, and financial difficulties
Arter (2008)	32 male police officers from two southern U.S. localities Included officers currently undercover, formerly undercover but now having routine duties, and never undercover and having routine duties	Used an interview designed to understand the phenomenology, or "lived experience," of policing. Interview tied to Agnew's (2001) strain theory Police officers invited to serve as "co-researchers" Unusual for purely qualitative study because author tests hypotheses (regarding Agnew's theory of stress)	Those currently undercover showed the most deviance, defined as behavior that if discovered would lead to department sanctions Those formerly undercover showed a decrease in deviance from period covering previous duties to new duties Least deviance in the officers on routine patrol
Bargagliotti and Trygstad (1987)	63 medical-surgical nurses and 67 critical-care nurses in a qualitative study 22 psychiatric nurses in quantitative study Not clear but probably predominantly female sample California	Qualitative interviews to identify stressors and designed to let categories of stressors emerge from the data Also collected quantitative data from standardized instruments	Colleague relationships were source of stress evident in qualitative study but not in quantitative study In quantitative study, difficulties with management were the most common stressors Difficult to compare psychiatric nurses to others because roles involve different types of nursing

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Billeter-Koponen and Fredén (2005)	10 Swedish women nurses	Semistructured interviews organized to allow categories of stressors to emerge	<p>Stressors included colleagues absenting themselves, creating more work for nurses who were present in terms of piling on tasks. Authors read nurse powerlessness into these conditions</p> <p>Strains included headaches, stomachaches, and lack of energy</p> <p>Presence of colleagues was important to well-being: "It is not the coffee, but the meeting others. One has to get energy. One is working much better"</p> <p>"Burnout was a mental coma. I could do nothing" (p. 24)</p>
Brown et al. (1986)	268 faculty and 74 student-affairs (S-A) staff members Sample was representative of faculty and S-A staff at Midwestern U.S. state university	Qualitative component supplementing quantitative questionnaire study involving scales measuring job stress Qualitative component included open-ended questions on sources of job stress and coping	<p>Qualitative results indicate that sources of stress included lack of time, problematic relationships, and certain job characteristics (e.g., red tape, committee work)</p> <p>Coping included self-care (e.g., relaxation and recreation) and direct action (e.g., time management and shedding responsibilities)</p> <p>Qualitative findings were consistent with quantitative findings, particularly in area of lack of time and problematic relationships</p>

<p>Browner et al. (1987)</p>	<p>21 psychiatric technicians in 4 Southern California units that housed mentally retarded patients, whom a companion paper by Lundgren and Browner (1990) indicated were challenging to care for 12 techs were women</p>	<p>Interviews covered sources of perceived work stresses, sources of satisfaction with work, and support from work and nonwork sources Participant observation in each of the 4 units under study; authors engaged in activities performed by the technicians</p>	<p>Job stressors centered on lack of control and disrespect: 1. psychologists planned for residents but had unrealistic expectations and did not consider the ideas and experience of technicians; 2. administrators made decisions affecting technicians without technician input One of 4 supervisors was supportive; in that unit technicians were highly cohesive and had the best Cornell Medical Index scores Violence among residents was a stressor</p>
<p>Büssing and Glaser (1999)</p>	<p>32 nurses in ward that was redesigned for more holistically delivered services and 75 nurses in control wards; Germany; 87.5% females</p>	<p>12 discussion groups There was also a quantitative study Qualitative data were to illustrate the meanings of quantitative findings</p>	<p>The quantitative study had seemingly contradictory results: nurses who worked in the "holistic" wards experienced a reduction in stressors (time pressure, contradictory task goals, and ergonomic stressors) as a result of job redesign; however, emotional exhaustion and depersonalization were elevated Qualitative findings indicated that holistic system intensified nurses' emotional work and interaction stress: no opportunity to withdraw from difficult patients; traditional wards had only piecemeal exposure to difficult patients</p>
<p>Carradice, Shankland, and Beail (2002)</p>	<p>8 females nurses who worked in community mental health teams; U.K.</p>	<p>Semistructured interview designed to elicit narratives about family caregivers, but caregivers themselves were not interviewed</p>	<p>The nurses indicated that caregiving gave rise to distress in the caregiver Technically not a study of occupational stress; more an assessment of nurses' models of stress in family members who provided care to demented patients Some gaps in nurses' understanding of caregiver stress By implication these gaps affect nurse efficacy</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Cohen (1989)	43 California county directors of nursing 42 were women	21 directors were interviewed. Qualitative material came from the interview, which included open-ended questions about stressors and structured probes about stressors Interview also included questions about coping All questionnaires also contained quantitative measures	Stressors included reduced funding, high workload, understaffing, interpersonal conflict, and role ambiguity Coping included problem solving (e.g., time management, delegating), confrontation (e.g., letting feelings out, expressing anger), positive reappraisal (e.g., putting events in perspective) Support came from associates, mates, other administrators, and friends Quantitative findings indicate high levels of psychological symptoms relative to scale norms.
Dewe (1989)	5 supervisors and 5 administrators in U.K. sales office contributed to first stage of a two-stage study; stage 2 was quantitatively organized study Gender distribution not clear	Interviews using open-ended questions "Can you think of a time at work when you felt under stress?" "Can you tell me what happened and how you managed to cope with it?"	Positive and negative pressures Some pressure viewed as helpful, causing feeling of having one's abilities stretched; such pressure was reported to be stimulating Coping seen as central to shaping stressful experiences Qualitative results helped in development of items for coping scale used in stage 2
Dick (2000)	35 English police officers 11 were female	Based on experiences of author as a counselor to police officers	A "one-off" event was unanticipated, especially violent event; an epiphanal event had been experienced previously but now has acquired new meaning Officers who experienced one-off event were more motivated to recover and return to work; officers who experienced an epiphanal event were more pessimistic and more likely to want to leave job

<p>Elfering et al. (2005)</p>	<p>23 employees at a Swiss counseling agency 19 men</p>	<p>Officers often used palliative coping strategies Coping via rumination (here meaning dwelling on causes of stressful events) was especially evident in officers who experienced anger and depression Organizational values influenced the individual; example of "acting tough" in face of devastating stressor</p>
<p>Firth and Morrison (1986)</p>	<p>318 fourth-year U.K. medical students Sex distribution not mentioned</p>	<p>Employees experienced about 7 stressful work-related events per day Daily stressors came more from work than home Work stressors included interpersonal stressors, quantitative and qualitative overload, organizational problems such as lack of data backup Situational well-being after a daily stressor (ascertained qualitatively) was inversely related to the intensity of chronic stressors (measured quantitatively) Calming down after daily work stressor was directly related to job control</p>
<p>Firth and Morrison (1986)</p>	<p>Keenan and Newton's (1985) SIR to ask about 1 stressful incident (excluding exams) in the last month Also asked about most liked and disliked aspects of work (gets at chronic stressors) Content analysis</p>	<p>Stressors included talking with psychiatric patients, effects of work on private life, and dealing with death Chronic stressors included feeling useless, relations with senior doctors, feeling inadequate</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Fischer, Kumar, and Hatcher (2007)	12 New Zealand psychiatrists; 6 were high in emotional exhaustion and 6 were low Sex distribution not mentioned	Semistructured interview Used quantitative instrument to identify psychiatrists who were high and low in emotional exhaustion	Number of themes emerged from data Burnt out psychiatrists showed more irritability Excessive work volume adversely affected them Perfectionistic behavior contributed to burnout Supportive relationships with managers were helpful Supportive family and friends were helpful
Glazer and Gyurak (2008)	1,442 nurses from U.S., U.K., Hungary, Italy, and Israel. More than 90% females	Open-ended qualitative question included in survey to elicit from nurses the workplace condition each identified as most stressful or anxiety-provoking Responses were content analyzed	Stressors like workload and organizational constraints were universal Other stressors like type of patient were only a stressor in Israel perhaps because "Israeli nurses were confronted with death and dying of young soldiers far more frequently than nurses in the other countries." (p. 62)
Gomme and Hall (1995)	No more than 26 Crown prosecutors in Canadian province (exact number not clear) Gender distribution not clear	In-depth interviews with prosecutors Observations of prosecutors Examination of documentary material	"Qualitative overload" reflected in the indeterminacy and uncertainty connected to many criminal cases Spillover of job stress with prosecutors showing difficulty leaving work difficulties behind at the end of the work day

<p>Goodwin, Mayo, and Hill (1997)</p>	<p>16 salespeople from the Midwestern U.S. 9 were men</p>	<p>In-depth, semistructured interviews regarding major sales loss and coping with such loss Interviews were “co-created” by interviewer and interviewee in order to cover themes in stress literature and have flexibility to follow topics brought up by salespeople</p>	<p>Intense loyalty to customers Money as scorecard to measure success Coping responses to major stressor, account loss, included mainly emotion-focused coping; emphasis on exercise and avoidance; little help-seeking Identified internalizers and externalizers among the responders to major sales loss Internalizers took loss personally; experienced intense emotions Externalizers were more likely to experience a rush of anger; internalizers, grief</p>
<p>Grebner et al. (2004)</p>	<p>80 Swiss apprentices 53 women and 27 men Employed in 5 occupations: nurses, cooks, salespersons, bank clerks, and technicians</p>	<p>Qualitative part is centerpiece integrated into ambitious quantitative daily diary study that assesses Ss on 7 days Qualitative description of stressors was part of paper-and-pencil pocket diary</p>	<p>7.3 stressful events per person per week; more than 75% were work events Results consistent with the view that “the Swiss apprenticeship system prepares people rather well for their new role by extensive training” (p. 41) Overload and interpersonal stressors most commonly occurring work stressors Chronic job stressors (measured quantitatively) predicted the occurrence of daily stressors (ascertained qualitatively) Job control predicted calming down after a daily stressor Daily job stressors did not predict situational well-being when chronic job stressors were controlled</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Guthrie et al. (1995)	172 English first-year medical students, 51% males	Using Keenan and Newton's (1985) SIR asked about 1 stressful incident (excluding exams) in the last month Also integrated a quantitative component in the form of scale measuring emotional disturbance with the qualitative data	Stressors included keeping pace with heavy workload, upset at first experience at dissection, arrogant instructors Compared to those who did not report a stressor, those who did, had significantly higher scores on emotional disturbance
Guthrie, Tattan, Williams, Black, and Baciocotti (1999)	106 U.K. psychiatrists of three seniority grades; about half were male	Using Keenan and Newton's (1985) SIR, each psychiatrist described a stressful event that occurred in the last month Supplemented a quantitative study	More stressors at work than at home Violent patients were a stressor for psychiatrists at all levels of seniority Junior psychiatrists more often experienced stressors in their personal lives (e.g., illness, loss) and patient-related stressors; for senior psychiatrists stressors more likely to include administrative problems Age and seniority-graded patterning of stressors. Balancing work and family life more of a stressor early in psychiatrists' careers
Holmes and MacInnes (2003)	59 U.K. prison workers Jobs included managers, health-care assistants, nurses, prison officers Vast majority were women (Holmes, April 23, 2009, personal communication)	35 in focus groups 24 interviewed Attempted to capture the "everyday reality" of the participants	Many distressing experiences including self-harm among inmates Other stressors included high levels of role switching and absenteeism among coworkers Supportiveness among staff but support was limited because of absenteeism Concerned that info. obtained in focus groups could have involved mimicry; one-to-one interviews served as a validity check. Info. from both sources dovetailed

Hugentobler et al. (1992)	<p>Michigan manufacturing plant with 1,080 employees in which a health education intervention was being prepared</p> <p>42 employee "key informants" interviewed</p> <p>Unknown number of focus groups with each group having 8–10 employees</p> <p>Gender distribution not clear</p>	<p>Semistructured individual, "in-depth" interview covering a set of topic areas such as the nature of respondent's job and its stressful aspects</p> <p>Focus-group interviews eliciting employee opinions and feelings about past health education interventions and why they failed</p> <p>Field observations</p> <p>Observation of committee meetings</p> <p>Supplemented by 3 waves of surveys</p>	<p>Themes that emerged from qualitative data were consistent with quantitative results</p> <p>Major sources of stress in the plant: interpersonal problems (e.g., lack of cooperation); lack of timely information and feedback; lack of influence over important decisions; conflict between quality and quantity in production</p> <p>Value of multiple methods emphasized</p>
Hutchinson (1987)	<p>20 women nurses from U.S. operating room and general medical units</p>	<p>Participant observation in a variety of different units</p> <p>In-depth interview</p> <p>Developed level I and II codes for qualitative data</p> <p>Level I codes relied on the nurses words</p> <p>Level II codes merged categories from Level I</p> <p>Example of Level I expressions like "feeling angry," "yelling," and "feeling used" merging into Level II "catharsis"</p>	<p>Self-care strategies emerged</p> <p>These included acting assertively, seeking resources, questioning, and setting limits</p>
Huxley et al. (2005)	<p>237 U.K. mental health social workers</p> <p>61% were females</p>	<p>Open-ended responses in a section of a quantitatively organized mail questionnaire/diary (1 week) study</p> <p>Qualitative data were analyzed thematically by a computer program</p>	<p>Social workers had high levels of psychological distress as per the quantitative part of the study</p> <p>The qualitative data suggest that the distress resulted from overwork, feeling intense pressure to work extra, burdensome paperwork, and time-consuming administrative work including government-mandated assessments</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Isaksen (2000)	28 Danish workers in catering business where work was highly repetitive 24 were women	Qualitative interview with highly phenomenological, interpretive approach Meaning of work was the focus	Meaning of work can affect stress symptoms Workers who emphasized boredom and negative work attitudes were more likely to experience stress symptoms than those who experienced work as meaningful
Iversen, Farmer, and Hannaford (2002)	16 general practitioners (12 males), 14 nurses (all females), 9 practice managers (8 females), and 14 administrative staff (all females) divided between rural and urban practices that were about equal in size Scotland	Semistructured interview including question about pressures of the job Observation day in each practice to verify info. obtained in interview although not clear if blind to interview results Also had participants read and check preliminary version of report on findings to identify discrepancies	Workload (WL) pressures for all practitioners Burden of large amount of paperwork Dominating burden for rural doctors was requirement to handle great variety injuries and diseases because of the distance from a hospital Another element of the rural WL burden was the heavy on-call commitments
Iwasaki, MacKay, and Ristock (2004)	34 Canadian male and female managers who were experiencing role stress in a number of life roles	3 focus groups: one all-female ($n = 12$), one all-male ($n = 12$), one half female and half male ($n = 10$) Let deeper meanings emerge from transcripts	Male and female managers indicated personal relationships were a major source of stress although female managers were more "worried" about others Females were more likely to hold back feelings in mixed-sex group Females showed more stress issuing from home life and greater responsibility for caring for others
Jex et al. (1997)	151 female clerical workers at U.S. university	Wrote descriptions of recent job-related critical incidents that they found stressful Instructed to "think of a specific incident that illustrates the degree of [stressor] you experience on your job. Include all relevant details such as ..." (p. 232) Qualitative component an adjunct to quantitatively oriented study	Qualitative measures consistent with quantitative findings from the same study, suggesting that bias in the quantitative measures of role ambiguity, role conflict, and interpersonal conflict was minimal Nevertheless, quantitative and qualitative measures should not be viewed as interchangeable

<p>Jones and Fletcher (1996)</p>	<p>20 U.K. couples All college graduates</p>	<p>Completed daily diary every day when both members of the couple went to work or they spent more than an hour together in the evening over the course of 3 weeks Participants asked to describe an incident that made them feel bad or good The study had a quantitative focus but also collected supplementary qualitative data</p>	<p>Qualitative findings indicate for men and women, most key negative events were interpersonal More negative events occurred at work than at home</p>
<p>Kahn (1993)</p>	<p>7 social work staff members, the executive director, SW supervisor, fundraiser, and office manager at a SW agency 8 women and 3 men U.S.</p>	<p>Intensive observation of interactions over 6 months with participants in a variety of settings within work roles Checked observation notes with participants Two in-depth interviews with each staff member</p>	<p>Emergence of 8 caregiving dimensions: accessibility, inquiry, etc. From an organization level, patterns of caregiving could be supportive or depletive vis-à-vis recipient Depleted coworker found to be at risk for burnout “Troubling patterns of interaction are generally overdetermined, locked into systems by multiple factors that render obsolete the simple language of single cause-effect relations” (p. 560)</p>
<p>Kalichman, Guertault-Chalvin, and Demi (2000)</p>	<p>499 AIDS-care nurses in the 84% female U.S.</p>	<p>In survey, there was an open-ended question asking nurses to write about one of the most stressful work experiences Also a quantitatively organized section that included quantitative coping scale and standard stressors. Integrated qualitative data into quantitative analyses</p>	<p>Coping strategies varied by the nature of the stressful situation (e.g., death of a patient, staff conflict) Problem solving used more often in response to some workplace stressors (e.g., biohazards) In response to patient-care stressors nurses were more likely to use acceptance</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Keenan and Newton (1985)	798 young engineers Gender distribution unclear but given era and other info. likely to be predominantly male	Developed the Stress Incident Record (SIR) Wrote on stressful incidents occurring in the last two weeks Instructed to "recall incident that made you feel anxious, annoyed, frustrated..." (p. 152)	Chief sources of stress included (a) job demands that waste time and (b) interpersonal conflict Interpersonal conflict included verbal aggression and covert hostility Predominant outcome was anger
Khowaja, Merchant, and Hirani (2005)	45 registered nurses in Karachi hospital with high turnover A second sample of nurses who were leaving their jobs (<i>n</i> unknown) No gender information but clues in paper suggest predominantly female sample	5 focus groups conducted with nurses from variety of specialties Questionnaire to assess satisfaction Sample of job leavers received an exit interview	Nurses often cited high workload (WL) as a contributor to dissatisfaction and turnover WL included having nurses perform nonnursing tasks such as removing linen and bringing water and tea Management disrespect was also important Satisfiers included safe working environment, opportunities for growth and advancement, advanced technology, and positive comments from patients and their families Most nurses in exit interview viewed salary as too low; by contrast, 93% of nurses in focus group viewed salary as satisfactory
Kidd, Scharf, and Veazie (1996)	70 Kentucky farmers age 55 and older Half female (T. Scharf, personal communication, April 21, 2008)	Nine focus groups "The women [were] just as much farmers as their husbands" (T. Scharf, personal communication, April 21, 2008)	Injury related to the way farmers prioritize safety decision-making and economic concerns Recommended that in disseminating safety knowledge, underline for farmers economic benefits of safety

<p>Kimman and Jones (2005)</p>	<p>45 U.K. residents who worked at a cross-section of jobs 20 were women</p>	<p>Semistructured interview Inductive framework was computer-driven content analysis of how workers conceptualized job stress</p>	<p>Some workers described stress as a stimulus, while others, a stimulus-response relation Managers tended to describe stress as an individual response Those without management positions tended to describe stress as developing "from untenable job conditions" or in stimulus-response terms Only small number believed organization had responsibility to manage stress; most believed that management of stress was up to the worker</p>
<p>Kirmeyer and Diamond (1985)</p>	<p>29 male and 2 female U.S. police officers</p>	<p>Semistructured interview; officer asked to think of recent stressful work event Then answered standardized coping items to assess coping with event. Analyses integrated quantitative and qualitative data</p>	<p>Stressors included difficult civilians, events with risk of physical harm to self or coworker, and death of a civilian Type A officers used more active coping in response to the events</p>
<p>Lee (1998)</p>	<p>50 U.K. people who in response to advertisements indicated that they were bullied or observed bullying at their workplaces 21 were men Teachers, factory workers, managers, secretaries, etc.</p>	<p>Semistructured interviews</p>	<p>Reactions to workplace bullying included nightmares Publicity about the workplace bullying and its wrongness were helpful to victims Euphemisms for bullying included "personality clash" Often bullying culminated in termination Fear of meeting bully outside of work</p>
<p>Liu, Spector, and Shi (2007)</p>	<p>300 Florida faculty and support staff 286 university employees in China Both samples had about 40% males</p>	<p>143 in US and all in China completed quantitative component of study. Keenan and Newton's (1985) SIR supplement to quantitative component of study Unlike most qualitative studies, hypothesis-driven</p>	<p>Americans more likely to find lack of control a stressor. Levels of interpersonal conflict about the same in the two countries but types of conflict differed (in U.S. conflict was more direct and in China, more indirect) For Americans strains were more likely to be anger and frustration; for Chinese, anxiety</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Liu, Spector, and Shi (2008)	175 Florida university faculty and 161 support staff; 198 women Overlap with Florida participants in Liu, Spector, and Shi (2007).	Keenan and Newton's (1985) SIR as supplement to quantitative component of study Unlike most qualitative studies, hypothesis-driven	Support staff had more conflict than faculty Women experienced more conflict than men Women had more strains Quantitative findings partly support qualitative findings
Maki, Moore, Grunberg, and Greenberg (2005)	19 managers from west coast of U.S. 11 were women	Semistructured interview that included questions on organizational changes and their impact	Women were more likely to cry when having to inform employee about layoff; feeling shame after crying. Women showed greater emotional involvement with workers; men showed greater emotional suppression Women noted vast improvement in how women have been treated in the workplace Women showed greater reluctance to confront dismissal of their ideas Men felt greater pressure to advance in their careers, and this was stressful
Mazzola, Jackson, Shockley, and Spector (2008)	207 U.S. graduate assistants 70% females	Keenan and Newton's (1985) SIR covering last 30 days; asked to describe reaction to stressor Also integrated a quantitative component of study into data analyses	Principal stressors included overload, interpersonal conflict, organizational constraints, and evaluation Stressors were related to emotional strain Quantitative analyses indicated that occurrence of any event was related to elevated physical symptoms Linked SIR reports of stressor to quantitative work stress scales Sample had lower stressor scores (e.g., interpersonal conflict) than published norms

<p>McDonald and Korabik (1991)</p>	<p>19 male and 20 female Canadian managers Theoretical sampling of managers about equally divided among occupants of low- and high-stress positions Quantitative study with 121 male and female managers</p>	<p>In-depth critical incident (CI) interviews Quantitative study using survey to assess job stress and coping preceded by 6 months the CI interviews The 39 men and women in qualitative CI interview study were sampled from the 121</p>	<p>Men more likely to have problems with work relationships, particularly unfair criticism from the boss Women were more likely to be troubled by difficulty motivating subordinates whose performance did not meet standards Use of physical activity to cope Quantitative study indicated that females and males were about equally stressed</p>
<p>Mears and Finlay (2005)</p>	<p>15 female fashion models living in Atlanta</p>	<p>Participant observation Interviewed models</p>	<p>Modeling seen as neither glamorous nor well paid Models were subject to sharp competition and insult Great deal of rejection; great deal of standing Lack of privacy: having to change clothes in corridors Models often coped by attributing failure to get jobs to bad luck or by working on appearance Other kinds of coping included "strategic friendliness" and exchange such as buying an agent a gift</p>
<p>Molapo (2001)</p>	<p>813 male Black South African mineworkers</p>	<p>Structured and open-ended interviews that capture work stressors and psychological distress Participant observation Quantitative component of the study included blood pressure (BP) measures. BP was not related to feelings about work</p>	<p>Documented distress in workers who saw coworker(s) die in mining accident Other stressors included underground accidents (survivors suffering PTSD) and "constant fear" of such accidents, physical demands of work, fear of underground "demons," disrespect from bosses, exploitation, inadequate pay, bosses minimizing injury, medical staff not taking miners seriously Some veteran miners "numbed" to fear of accidents</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Motowidlo, Packard, and Manning (1986)	104 U.S. nurses Predominantly female based on clues in text	Focus groups Quantitative study with larger sample followed qualitative study	Coping with fear of accidents by religious belief, reliance on traditional healers and ritual Downside of reliance on healers was interference with treatment for serious medical conditions (e.g., HIV) Support from family and friends
Narayanan, Menon, and Spector (1999a)	133 Florida women clerical employees and 130 Indian women clerical employees	Keenan and Newton's (1985) SIR Augmented by questions that add focus on women's coping with the stressful work event and whom the women spoke to Content analysis of results Quantitative measures also in the study Given the size of the study, and unlike most qualitative research, an examination of the patterning of responses was hypothesis-driven	Stressors included work overload, uncooperative patients, negligent coworkers, difficulties with physicians Results of qualitative study helped to create self-report questionnaire for quantitative study conducted with much larger sample Interpersonal conflict was stressor in both places Otherwise different profiles of stressors with lack of clarity more common in India and overload in the U.S. In response to a stressor, more frustration/annoyance/anger in the U.S. Acceptance/resignation in India Americans talked to coworkers more; Indians, to family

<p>Narayanan, Menon, and Spector (1999b)</p>	<p>133 women clerical workers (same as in above study); 70 male and 54 female professors 79 male and 51 female retail sales employees All from Florida</p>	<p>Keenan and Newton's (1985) SIR Describe emotional reaction to event How person handled event What support employee used, if any Content analysis The study, and unlike most qualitative research, was hypothesis-driven</p>	<p>Stressors for clericals included lack of autonomy and interpersonal conflict For professors, interpersonal conflict and time wasting For sales employees, interpersonal conflict and time wasting Clericals coped by talking to coworkers and friends; professors, by direct action; sales people, by talking to coworkers and family</p>
<p>Noblet and Gifford (2002)</p>	<p>32 Australian men who played Australian Rules Football professionally Sampling ensured inclusion of players with different levels of professional experience</p>	<p>Semistructured interview and focus groups Authors compared results with other studies of elite (but amateur) athletes to corroborate interpretation of transcripts</p>	<p>Stressors included negative aspects of organizational system (e.g., autocratic leadership); performance worries (e.g., pressure to perform); career development concerns (e.g., job insecurity); negative aspects of relationships (e.g., abusive criticism); demanding nature of the work (e.g., long training sessions; injury); work-nonwork interface (e.g., missing family and friends); post-football career uncertainty</p>
<p>Noonan et al. (2004)</p>	<p>17 high-achieving U.S. women having physical or sensory disabilities</p>	<p>Semistructured interview Included questions specific to disabilities, career path, disability influences, stressors, coping Series of steps that begin with coding of data into concepts and then categorizing concepts into "increasingly comprehensive aggregates of categories" (p. 70)</p>	<p>Emergent model was centered on a dynamic self, which subsumes identity constructs such as disability identity and racial/ethnic identity The dynamic self embedded in contexts including family, opportunity structure, sociopolitical context, social support, disability impact (includes prejudice and discrimination), and the individual's own attitudes toward work</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Paice, Rutter, Wetherell, Winder, and McManus (2002)	1435 U.K. doctors in the second half of their first year 787 women Given nature of sampling, the sample was fairly representative of population	Questionnaire that asked to describe in own words one particularly stressful work-related incident that occurred in their new post Also asked how they coped In addition, there was a quantitative component	Stressors included professional responsibility beyond competence; senior staff unfairly critical, bullying, incompetent, or uncaring; intensity of work; conflicting demands; unexpected sudden death, sudden serious illness of patients Hard emotional work dealing with death Coping by means of talking to someone supportive Doctors who experienced incident beyond responsibility or competence had higher levels of distress
Palmer (1983)	22 emergency medical technicians in the Southwestern U.S. Sex of EMTs not specified but reader is led to believe they were mostly male	Participant observation with author trained as EMT Rode with EMTs on calls Informal interviews with EMTs Immersion in work culture	EMT argot was helpful in adjusting to the stressfulness of the job by distancing the EMT from injured person Humor was helpful in adjusting to stress Training served to frame injury objectively and distance the EMT from the gruesomeness of injury
Parkes (1985)	150 U.K. student nurses, almost all women Plus an additional 56 from another intake group	Nurses interviewed and asked to describe a stressful event at work A quantitative component of the study described in Parkes (1984) used the stressful event elicited from the interview differently	Stressors include communicating with dying patients and the death of patients. Problems arose when a patient died who was subject to a minor discourtesy Other stressors included interpersonal problems with supervisors and insecurities about own knowledge Insecurity helped by sensitive supervisors Two types of overload, pure workload and complexity of work

<p>Polanyi and Tompa (2004)</p>	<p>120 U.S workers from wide variety of jobs 56% males 25% of workers in arts and recreation; 20%, services; 15%, management and administration; 14%, sales</p>	<p>Secondary data analysis of "Studs Terkel" type interviews of workers who provided rich descriptive monologues about their jobs Computer program organized coding</p>	<p>Identified dimension of work not found in demand-control and effort-reward imbalance models Dimension concerned meaning and purpose of work. Workers experienced distress when they believed purpose of their job was destructive; importance of feeling ethically at ease with one's job Results also underlined importance of social interactions with clients and customers as well as with managers and coworkers</p>
<p>Reid et al. (1999)</p>	<p>30 London mental health professionals drawn from earlier study ($n = 121$) by Prosser et al. (1996) Gender distribution not clear</p>	<p>Semistructured interview Software facilitated textual analysis by creating indexing system for categorizing emergent themes Earlier quantitative study found that community mental health staff had higher levels of distress and emotional exhaustion than hospital-based staff This study to help understand earlier finding</p>	<p>Sources of satisfaction for hospital and community staff included contact with colleagues Ward nurses had little control over uncooperative patients, leading to negative mood Ward nurses complained of not having much of a therapeutic role Community staff had more patient responsibility; felt constant pressure and fear of patient crisis; fear of violence, personal safety</p>
<p>Rout (1996)</p>	<p>14 male and 11 female general practitioners and their partners; UK</p>	<p>Separate semistructured interviews for targeted GPs and spouses Covered stress related to job and coping</p>	<p>GPs experienced great time pressure Women GPs had more responsibilities for childcare and home; more conflict between work and home Husbands were not sufficiently supportive of the women given the dual burdens Wives of GPs experienced detachment in husbands High level of professional commitment subtracted from family life</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Severinsson (2003)	One female Australian community nurse	Interview to produce narrative of the nurse's professional and inner life leading up to her becoming burnt out	Stressors included overwork in a frontline, impoverished area and exposure to much suffering Patients confided in her their personal sorrows that nurse held in confidence. That confidence became a burden Experienced headaches, exhaustion, and lowering of self-confidence Developed fear of making mistakes in caring for patients and need to leave nursing
Shinn, Rosario, Mørch, and Chestnut (1984)	148 group therapists in organizations and in private practice 58% women US	Questionnaire with open-ended questions about job stress and individual and organizational coping Closed-end items measuring psychological symptoms, somatic symptoms, alienation, job satisfaction	Stressors included workload, role conflict, lack of recognition, dealings with incompetent administrators, feeling inadequate in helping role Individual coping strategies included focusing on family, friends, hobbies; relaxing on weekends; building competence by attending workshops Agencies did little to help morale; some responses in this domain were tinged with bitterness Quantitative component indicated that Ss who worked for agencies showed more strain

<p>Taylor and Barling (2004) 20 registered rural Australian mental health nurses (5 males) Convenience sampling via snowballing; sought nurses experiencing <i>carer</i> fatigue</p>	<p>Semistructured interview designed to elicit narrative Transcription and computer-driven analysis of emergent themes</p>	<p>Stressors included: threat of job loss if one voices a complaint; high paperwork demands; emotional investment in patients who have chronic illness, and are not going to get better; some very disruptive patients; and doctors being dismissive and undervaluing nurses Reactions to the stressors include tiredness and insomnia Coping by setting boundaries, thinking about new career</p>
<p>Tewksbury (1993)</p>	<p>Participant observation In-depth semistructured interviews</p>	<p>Stressors involved instructors having to be extra careful interacting because of presence of violent felons Another stressor was increased likelihood that inmate would misinterpret kindness; intensified self-monitoring of speech Another stressor was having many weak students Satisfiers included feeling good about achievements (social compensations) and money earned</p>
<p>Thelwell, Weston, and Greenlees (2007)</p>	<p>Semistructured interview</p>	<p>Stressors included perceptions of self (e.g., fear of failure, self-doubts); match-specific factors (e.g., respondent is last batsman); relationships with others (e.g., too much advice) Coping with stressors include self-talk (e.g., self-instructions) and support from teammates and others</p>

Table 1. (Continued)

Paper	Sample	Method	Key Findings
Tracy, Myers, and Scott (2006)	109 U.S. participants, mostly correctional officers but including firefighters and 911 operators Gender distribution not clear	Field observations accompanying firefighters on 15 emergency response calls, shadowing corrections officers, sitting in with 911 call-takers Ethnographic field interviews In-depth formal interviews Interviews aimed at obtaining worker narratives and retrospective accounts of sense-making	Humor used to distance self from others or feel superior to others; provide emotional relief; help with cognitive consistency (a joke may put together unrelated or inconsistent matters) Humor served as an organizing force for sense-making among workers in difficult jobs
Weyman, Clarke, and Cox (2003)	64 U.K. male miners participated in the first part of 2-part study, with 2nd part of study quantitatively organized	Miners distributed in 8 focus groups Concern was not actual risk-taking behavior but miners' attributions regarding risk-taking	19 thematic constructs emerged from the transcript of focus group interviews Qualitative results contributed to the development of 83 questionnaire items to be used in larger study of 787 miners 3 attributional factors emerged from quantitative study: time pressure/performance pressure; management commitment; confidence in ability to deal with risk
Wilstrand, Lindgren, Gilje, and Olofsson (2007)	6 Swedish nurses (3 males) in an inpatient psychiatric ward	"Narrative interview" in which nurse narrated a satisfying experience and an unsatisfying experience connected to a patient who harmed himself or herself	Burden of being on guard at all times because self-harm could be fatal, a burden compounded by patients who were manipulative and deceitful Experienced anger toward patients that nurses cannot release Felt troubled when there was lack of support from colleagues; felt confirmed when support was present Troubled by paradox of having to care for the self-harming patient without rewarding the patient with attention in the aftermath of the act of self-harm

Table 2. Qualitative Studies of Occupational Stress Bearing on Teachers.

Paper	Sample	Method	Key Findings
Blase (1986)	392 U.S. teachers 67% females 38% taught in elementary school; 20%, middle school; 42%, high school	Teacher Stress Inventory, a written questionnaire, the purpose of which was to identify, describe, and illustrate meaning of stressors	Stressors included student discipline problems, student apathy, low achievement, and overload Exposure to stressors led to wasted instructional time, decline in teachers' intellectual curiosity and enthusiasm, and increased distress
Blase and Pajak (1986)	2 qualitative studies: A. 80 teachers in urban Southeastern U.S. high school B. 55 teachers in Iowa and Georgia Gender distribution not clear.	Teacher Personal Professional Life Inventory, an open-ended questionnaire designed to elicit from teachers effect of work on their personal lives	High workload (WL) was emotionally and physically draining; feeling used up "Job tensions precipitated negative mood states which caused teachers to 'neglect' spouses and children" (p. 312) Excessive WL and poor quality of relationships with colleagues had detrimental effects
Engelbrecht, Oswald, Swart, and Eloff (2003)	52 female and 3 male South African teachers having special education children in their classes	10 teachers were administered a detailed interview, the purpose of which was to closely examine perceived stressors associated with having special education children in classes All teachers participated in quantitatively organized survey	Teachers distressed by: inclusion of learners with short attention spans; limited contact with parents; children's inappropriate social behavior, violent behavior; and teachers' lack of knowledge regarding managing the children
Farber (2000)	1 male high school teacher, 1 female high school teacher, and 1 female elementary school teacher; NY metropolitan area (Farber, April 2, 2008, personal communication)	Clinical case material	Three subtypes of burnout: the worn-out, the classic (or frenetic), and the underchallenged subtypes

Table 2. (Continued)

Paper	Sample	Method	Key Findings
Ginsberg, Schwartz, Olson, and Bennett (1987)	Sampled 6 urban schools (3 in a Northeastern U.S. city and 3 in Midwestern city) including elementary, middle, and high schools Numbers of teachers interviewed or observed was not clear nor was gender distribution	Interviews Observations Analysis of documents such as memos and quantitative data	Stressors included barriers to teaching (e.g., large volume of paperwork and other nonteaching roles) Student stressors included disrespectful behavior Security/safety a problem in school and neighborhood around school In schools with older students, problem of bigger and stronger students was more threatening
Griffith and Brem (2004)	15 biology teachers (8 women) from 6 Phoenix-area high schools and one middle school	5-person focus groups, one-to-one interview sessions, questionnaires Purpose was to learn about effect of evolutionary theory on students, teachers' feelings when writing and circulating evolution lessons, and identifying aspects of teaching evolution that made teachers uncomfortable	3 types of teachers emerged from qualitative data 1. Scientist teachers (deep love of science; no internal stress); 5 men, 0 women 2. Selective teachers (concern for community harmony led them to restrict content); 6 women, 1 man 3. Conflicted teachers (experienced internal and external pressure and worry about consequences); 2 women, 1 man Teachers lacked training in the social and personal implications of teaching evolution
Kainan (1994)	Israeli high school having 138 teachers Quoted 55 teachers directly Descriptions of 110 teachers (includes the 55 above) Gender distribution not clear	First-hand observation. Investigator situated herself in the staff room Recorded staff room conversations	Themes to emerge included teachers having to confront difficult students and a lack of appreciation. Teachers enjoyed complaining, "a general human phenomenon" (p. 286).

<p>Moriarty, Edmonds, Blatchford, and Martín (2001)</p>	<p>151 reception teachers (children age 5) and 208 first-year teachers Not indicated but likely to be principally female; U.K.</p>	<p>As part of a larger quantitative study, 2 open-ended questions, "What do you find most stressful about your job?" and "What are the main reasons for being satisfied/dissatisfied with your job?", were included in questionnaire At a time when a major education reform was initiated</p>	<p>Stressors included excessive paperwork linked to new educational initiatives, inspections by government authority, and not having enough time Reception teachers expressed dissatisfaction with excessive formality in educational changes for the youngest children</p>
<p>Mykletun (1985)</p>	<p>79 teachers from small Norwegian city 55% females</p>	<p>Interview with open-ended questions</p>	<p>Sources of satisfaction included: successful teaching and interactions with colleagues Job stress carried over to the home; observed in difficulties relaxing</p>
<p>Naylor (2001)</p>	<p>644 British Columbia elementary and secondary school teachers No info. on gender distribution</p>	<p>Survey with open-ended questions Methodology not well spelled out</p>	<p>3 broad categories of stressors: Teaching classes with heterogeneously placed students with special needs or deficient English; increased numbers of at-risk and disruptive children in classes; and unsupportive parents</p>
<p>Parkay (1980)</p>	<p>8 male and 13 female urban U.S. high school teachers</p>	<p>Two qualitative interviews and observations Teachers were selected based on prior quantitative study</p>	<p>Some teachers showed cynical adaptation to the stress: "I have no standards. I give easy quizzes. I go over the test before the test.... I do what's easiest on my nerves. But there's not much in the way of rewards and satisfaction" (p. 457) Other teachers adapted by showing tolerance for the tumult and liking for the students; they had low levels of felt stress</p>

Table 2. (Continued)

Paper	Sample	Method	Key Findings
Sachar (1991)	Author's own experiences as mathematics teacher in Brooklyn junior high school	Participant observer; own observations of other teachers and administrators Author a journalist who obtained position as full-time teacher for one year	Everyday insult from some students Widespread student underachievement Safety a problem in and near school Disengaged principal; teachers obtained little help from other administrators Morale problems among faculty
Schonfeld and Feinman (2009)	74 NYC-area teachers (42 women) 252 NYC public school teachers (165 women) in first few years in profession	Qualitative, critical incident (CI) interview based on O'Driscoll and Cooper (1994) for 74 teachers Results of CI study used to construct Teacher Daily Diary (TDD) for longitudinal, quantitative study involving the 252 teachers	CI study identified classroom management difficulties and violence as problems Example of teacher who would like help with classroom management; however, asking for help would make teacher vulnerable to appearing incompetent, adversely affecting job security TDD study found high levels of classroom management problems in alternatively certified and, to a slightly lesser extent, traditionally certified teachers
Schonfeld and Ruan (1991)	Case study of one female NYC high school teacher An adjunct to a report on a quantitatively organized study	Interview of teacher	Impact of stressors on psychological distress is not easily documented High levels of psychological distress antedated onset of stressors, suggesting plausibility of proneness to stressors as explanation for distress-stressor relation
Schonfeld and Santiago (1994)	More than 300 New York City area teachers on the job for less than 3 years More than 90% were women.	As part of quantitatively organized study, the teachers were allowed to freely describe their working conditions	Themes to emerge from the data included feeling happy with the job; problems with administrators or colleagues/lack of support; serious classroom management difficulties; violence/lack of security/crime

Smith and Smith (2006)	<p>8 female and 4 male urban teachers who left the profession 7 worked in elementary schools, 1 in middle school, 4 in high schools From Massachusetts and Michigan (B. Smith, personal communication, April 2, 2008)</p>	<p>Interviews Asked for stories "they most often tell about their time at the urban schools"</p>	<p>10 of 12 teachers told about violent incidents Examples included: a large 5th-grader pinning a pregnant teacher to the blackboard; and two groups of warring students who grabbed ground poles used to stake trees, swinging the poles at each other; throwing rocks and soda cans at each other</p>
Steggerda (2003)	<p>10 male and 10 female former Des Moines elementary and secondary teachers Selected from among 70 public school teachers who recently resigned</p>	<p>Interviews Field notes based on documents and conversations with the 70 former teachers</p>	<p>Withdrawal from teaching as the result of: Unanticipated difficulties motivating students; Classroom management problems; Out-of-license assignments; Lack of support and respect from administrators; Exposure to violence</p>
Younghusband (2008)	<p>8 female Newfoundland (NF) teachers 12 female and 11 male NF teachers 169 female and 123 male additional NF teachers</p>	<p>Focus group for the 8 females 60-90 minute interviews of the 23 teachers Mail survey to the 292 teachers; survey included both qualitative and quantitative components</p>	<p>Qualitative data dovetailed with quantitative results that revealed high rate of exposure to abuse, threats, and violence Qualitative results underlined the anxiety and fear teachers felt as well as reluctance of administrators to take steps to support and protect teachers. Qualitative findings highlighted administrators who bullied and abused teachers Quantitative findings were consistent with the qualitative findings</p>

occupational groups describe, in their own words, in writing or orally (including focus groups, which are, in effect, group interviews), their everyday work experiences. This type of method has been applied to a variety of occupational roles (Abouserie, 1996; Arter, 2008; Bargagliotti & Trygstad, 1987; Billeter-Koponen & Fredén, 2005; Brown et al., 1986; Browner et al., 1987; Büssing & Glaser, 1999; Carradice et al., 2002; Cohen, 1989; Dewe, 1989; Dick, 2000; Elfering et al., 2005; Firth & Morrison, 1986; Fischer et al., 2007; Glazer & Gyurak, 2008; Gomme & Hall, 1995; Goodwin et al., 1997; Grebner et al., 2004; Guthrie et al., 1995, 1999; Holmes & MacInnes, 2003; Hugentobler et al., 1992; Hutchinson, 1987; Huxley et al., 2005; Isaksen, 2000; Iversen et al., 2002; Iwasaki et al., 2004; Jex et al., 1997; Jones & Fletcher, 1996; Kahn, 1993; Kalichman et al., 2000; Keenan & Newton, 1985; Khowaja et al., 2005; Kidd et al., 1996; Kinman & Jones, 2005; Kirmeyer & Diamond, 1985; Lee, 1998; Liu et al., 2007, 2008; McDonald & Korabik, 1991; Maki et al., 2005; Mazzola et al., 2008; Mears & Finlay, 2005; Molapo, 2001; Motowidlo et al., 1986; Narayanan et al., 1999a, 1999b; Noblet & Gifford, 2002; Noonan et al., 2004; Paice et al., 2002; Parkes, 1985; Polanyi & Tompa, 2004; Reid et al., 1999; Rout, 1996; Severinsson, 2003; Shinn et al., 1984; Taylor & Barling, 2004; Tewksbury, 1993; Thelwell et al., 2007; Tracy et al., 2006; Weyman et al., 2003; Wilstrand, Lindgren, Gilje, & Olofsson, 2007) including that of teachers (e.g., Blase, 1986; Blase & Pajak, 1986; Engelbrecht et al., 2003; Farber, 1991, 2000; Ginsberg et al., 1987; Griffith & Brem, 2004; Moriarty et al., 2001; Mykletun, 1985; Naylor, 2001; Parkay, 1980; Schonfeld & Feinman, 2009; Schonfeld & Ruan, 1991; Schonfeld & Santiago, 1994; Smith & Smith, 2006; Steggerda, 2003; Younghusband, 2008). In this type of qualitative research, workers' descriptions of their working conditions are not constrained to fit the response alternatives found in structured interviews and questionnaires, the stock-in-trade of quantitatively oriented, occupational-stress investigators.

The second method involves investigators who situate themselves in a workplace (without obtaining a position in the workplace), and observe, first-hand, workers on the job (Ginsberg et al., 1987; Gomme & Hall, 1995; Hugentobler et al., 1992; Iversen et al., 2002; Kahn, 1993; Kainan, 1994; Tracy et al., 2006). The third method involves participant observation. Here the researcher works at the kind of job that he or she intends to study, and describes elements of the occupational stress process "from the inside" (Browner et al., 1987; Hutchinson, 1987; Mears & Finlay, 2005; Molapo, 2001; Palmer, 1983; Tewksbury, 1993; see particularly Sachar, 1991). Sometimes the participant-observer obtains a partial work role that includes some but not all job tasks (Browner et al., 1987; C. H. Browner, personal

communication, September 20, 2007). While this first-hand experience on the job provides an insider's perspective, participant-observers, like the investigators in the second category, also closely observe other workers first hand. Although some investigators label as participant observation, scrutiny at close quarters without necessarily occupying the same occupational role as the workers under study (Gomme & Hall, 1995; Tracy et al., 2006), we do not.

Qualitative research playing a direct role in hypothesis testing. Although not the focal concern of this chapter, it should be mentioned that 12 studies reviewed here (Arter, 2008; Elfering et al., 2005; Grebner et al., 2004; Guthrie et al., 1995; Jones & Fletcher, 1996; Kalichman et al., 2000; Kirmeyer & Diamond, 1985; Liu et al., 2007, 2008; Mazzola et al., 2008; Narayanan et al., 1999a, 1999b) contrast with the others. Although the 12 studies collected a substantial amount of qualitative data, these studies differ from the rest because the 12 were largely hypothesis-driven rather than hypothesis-generating.¹ Nine of the 12 employed "hybrid methodologies" (Mazzola, Schonfeld, & Spector, 2009) that coordinated qualitative and quantitative study components, and integrated into the same analyses both qualitative and quantitative data. The nine applied inferential statistical analyses (e.g., ANOVA) to variables developed from qualitative descriptions of work experiences and quantitative data from structured scales; one (Narayanan et al., 1999b), using chi-square statistics, assessed hypothesized relations among qualitatively ascertained variables; one (Liu et al., 2008) examined hypothesized relations in the qualitative data using log-linear modeling; and one (Arter, 2008) evaluated hypotheses without applying inferential statistics to the qualitative data. By contrast, the bulk of the studies cited in Tables 1 and 2 were more purely qualitative and exploratory, and principally examined qualitative data without the aid of inferential statistics.

A Quantitatively Oriented Approach to Measuring Stressful School Conditions

Teaching is a particularly stressful occupation because the profession is built on a fundamental conflict, namely, the tension between the socializing agent and those being socialized (Mykletun, 1985). The examples to follow will show how qualitative research helps to add theoretical depth to findings obtained from a longitudinal study of new teachers. The qualitative research includes teachers' descriptions of their jobs and a participant-observer's description of her year as a junior high school math teacher as well as a Canadian interview and focus-group study.

To describe how qualitative research was utilized in a research program devoted to teachers, we first briefly describe a series of quantitatively oriented studies and measurement concerns related to those studies. Within the framework of two cross-sectional studies of veteran teachers (Schonfeld, 1990, 1994) and one longitudinal study of newly appointed female teachers (Schonfeld, 1992a, 2001), one of us developed self-report instruments that were designed to assess teachers' exposures to adverse working conditions.

The occupational-stress scales had solid measurement characteristics. The alpha coefficients of scales measuring episodically occurring work events and ongoing job conditions were satisfactory. In the veteran- and new-teacher samples, the occupational-stress scales were more highly related to each other than they were to nonwork stressors. In the longitudinal study of new teachers, workplace scales administered during the fall term demonstrated convergent and discriminant validity. The fall-term workplace measures were more highly related to spring-term depressive symptoms and job satisfaction four and a half months later than to summer, pre-employment depressive symptoms and anticipatory levels of job satisfaction, measured four and a half months earlier (Schonfeld, 2000). Compared to other measures found in the occupational stress literature, the teacher stressor measures were relatively uncontaminated by negative affectivity, a personality trait thought to have the potential to affect the reporting of stressors (Brief, Burke, George, Robinson, & Webster, 1988), or by prior psychological distress (Schonfeld, 1992b, 1996).

Like qualitatively oriented researchers, quantitatively oriented researchers are concerned with the richness and informativeness of the data they collect. Quantitatively oriented investigators have addressed the value and accuracy of both "objective" and self-report data, and have considered the best ways to ensure the validity of quantitative data (Frese & Zapf, 1994; Kasl, 1987). In view of these considerations, one of us secured official, objective data bearing on the quality of the workplaces of the new teachers who were employed in New York City public schools. The objective data included school-by-school rates of assaults, robberies, and sex offenses against teachers. One of the project's aims was to link the official data, which were independent of the responses of the New York City participants in the longitudinal study, to various outcome measures, including depressive symptoms and job satisfaction. Interestingly, the objective data proved to be of little merit. An audit of the official data revealed widespread underreporting by administrators who were charged with officially recording and aggregating crimes occurring in the city's schools (Dillon, 1994). The problem of underreporting violent incidents continues to occur in schools

in New York City (Gootman, 2007) and across the United States (Schonfeld, 2006). Information obtained independently of audits is consistent with the view that there has been serious underreporting of violent incidents (Bloch, 1978; Sachar, 1991; Schonfeld, 1992b). This situation amounted to an instance in which the quality of the self-reported data that became part of the abovementioned episodic and ongoing stressor scales was superior to that of the so-called objective data.

The longitudinal research on new teachers identified sizable mean differences in depressive symptoms and job satisfaction among new women teachers confronting different levels of adversity in working conditions (Schonfeld, 2001). Compared to their colleagues who worked in quieter circumstances, teachers who experienced high levels of episodic stressors (e.g., students acting aggressively or defiantly) were considerably more likely to show elevated depressive symptom levels and diminished job satisfaction. In addition, colleague and supervisor support were found to be a positive influence on job satisfaction. The findings were largely independent of the women's (a) pre-employment symptom profiles, (b) anticipatory levels of job satisfaction measured prior to their entry into the teaching profession, and (c) stressors occurring outside of work.

Qualitative Data that Enrich the Quantitative Data

As a supplement to the longitudinal study mentioned above (Schonfeld, 2001), the new teachers were given an opportunity to write, with no constraints, about their work experiences. As the longitudinal study progressed, hundreds of pages of the teachers' written descriptions of their work lives accumulated.

Given the labor required by the quantitative side of the research, a quantitatively oriented investigator may initially view qualitative research as an interested spectator; it is something best done by ethnographers who seek to describe diverse subcultures. By contrast, the research activities of a quantitative investigator are best devoted to scale construction, power analyses, the writing of computer programs to identify response sets, etc., in adherence to the methodological canons of quantitative research. How does one assess the reliability of workers' characterizations of their phenomenal worlds? Despite the difficulties involved in "processing" the qualitative data, a reading of the teachers' descriptions proved to be highly compelling and demanded a closer look.

The qualitative data collected to supplement the quantitative research on new teachers provided a detailed examination of the transactions occurring in schools (Schonfeld & Santiago, 1994) as do qualitative data collected by Sachar (1991) and Younghusband (2008). These qualitative data vividly depicted the working conditions that gave rise to psychological distress in teachers. For example, a former public elementary school teacher, a participant in the longitudinal study, wrote (in future references, if we omit mentioning the study from which the quotation comes, we refer to the longitudinal study):

I loved the teaching profession but because of my experience at P.S. xxx I doubt I'll ever teach again. If I do, it will not be for the New York City Board of Education. My present job requires me to work many more hours and much harder but I am a much happier person. The stress caused by teaching a rough class is incredible. I used to come home crying every night.

Crying can be construed as a symptom of depression; it is captured in items on the Center for Epidemiologic Studies Depression Scale (Radloff, 1977) and the depression subscale of the SCL-90 (Derogatis, Lipman, & Covi, 1973). This teacher's words and the words of many other teachers richly describe the human context to which the quantitative findings pertain. Consider the words of the following elementary school teacher (all teachers are public school teachers unless otherwise indicated):

The students in my school are physically violent. It seems that fighting is the only solution to their problems. I was previously working in this school as a substitute teacher. It is discouraging and depressing to me to see that even first graders are fighting. There seems to be no love, friendship, or caring going on among the students.

Notice that she used the terms "discouraging" and "depressing" to describe how she felt about the student-to-student transactions she observed as part of her job. The longitudinal study found that teachers in the most dangerous, worst-run schools manifested high levels of depressive symptoms (Schonfeld, 2000).

Consider the words of this female high school teacher who wrote to the first author in connection to an effort to follow a cohort into a fourth (and additional) year of teaching:

This questionnaire is late getting to you because I didn't want to fill it out while I was feeling depressed about the job. I kept waiting for it to pass. It usually does, but this has been a longer termed thing. I think this fourth-year, 37-year-old teacher is trying to accept that some things are probably not going to get easier anymore. It was so tough as a new teacher that [I thought] things could only get better.

Also consider the fear in the next teacher and its impact on her health and life decisions:

One of the worst classes I have is a fourth grade Gates class² in which the children are around age 13. They are very rough children and I have to break up fights regularly. Last week as I was getting the children ready to be dismissed, an object which looked like a gun fell out of a child's pocket. I was in a panic until the boy picked it up, turned it over and it was red and purple. In this class I would not have been surprised if it were a real gun. Weapons are constantly being taken away from children in this class. Also lately there has been a big security problem in the building. Several times intruders have entered the building. Last week children reported being threatened by a man with a knife and a gun. Since I have been teaching my health has declined. I am constantly sick with whatever the kids have and I have developed an ulcer-like condition. Last year I was perfectly healthy. I have decided that since I have the grades, in two years I will start law school.

Being a prekindergarten teacher does not provide immunity from classroom violence. Nor does it guarantee action by administrators. One prekindergarten teacher wrote:

My supervisor was not helpful. She was daily informed of an insubordinate assistant teacher in my classroom. I was attacked by this person who is almost 100 lbs [heavier] than me and 10 inches taller than I am. The school is not standing behind me even though [administrators] told me this person is being put on probation due to insubordinate behavior in the classroom.

Participant-observer research, another form of qualitative research, also sheds light on teachers' working conditions. Emily Sachar (1991), who had been a journalist, left her job at a newspaper to obtain a teaching position in one of New York City's more chaotic schools, Walt Whitman Junior High School in Brooklyn. As a participant-observer, she wrote what amounts to an ethnographic account of one year in the life of a mathematics teacher. She described a high level of day-to-day verbal abuse, disrespect, and insult:

My problems with Jimmy promptly worsened. By the third week, he had a ritual prank – raising his hand constantly to pose questions that had nothing to do with class work. I fell for the bait every time. His questions were tame enough at first. “Mrs. Sachar, could I get a drink? I’m gagging in my throat,” or “Mrs. Sachar, how about a night of no homework?” Their innocent tone did not last long. One day after waving his hand frantically, Jimmy asked, “Mrs. Sachar, where do babies come from?” Calmly I told him to ask his health instructor. Another day he tried, “Mrs. Sachar, do you like sex?.... Do you have orgasms, Mrs. Sachar?... Do you masturbate Mrs. Sachar?” (pp. 76, 77)³

This student was not a rarity. A woman high school language arts teacher reported:

The students are generally nasty, impolite, and non-cooperative. The result is that I feel that my health is suffering tremendously. I often feel confused and depressed. I just pray that all high schools are not this bad.

Consider this third-grade woman teacher.

When I was first interviewed for this job my principal said the children were slow. I told him that I could deal with slow but not too many discipline problems. He assured me there were no discipline problems. However, I soon found out that 10 out of the 20 children in my class belong in special education for emotional problems as well as severe learning disabilities. [Administrators] have removed the top 7 children in my class so they can be in a more positive learning environment and are doing well. The remainder of the children consist of a child whose mother and two sisters died of AIDS, two self-destructive children, a child who sings whenever he feels like it, a child who likes to roll on the floor and quiet but resistant others who refuse to work. I have referred these children for special ed. (I am not a special ed teacher.) I feel more like a babysitter than a teacher and get little support past the removal of my high functioning students. I was told [administrators] expect results. I feel a lot of pressure because I still cannot control the room. Teachers who had these children say just close the door and survive. I really want to help these children. However, most come from such confusing backgrounds and I am not told very much by administration about their problems. I often feel confused and I'm sure the class senses this as well.

Another woman elementary school teacher wrote:

My students have very short attention spans. They just will not behave. They will be quiet and well behaved for 5 minutes and then they are off again. In everything we do from reading to going down the stairs it takes us at least 10 minutes to quiet down. I try rewarding and praising good behavior but that doesn't mean anything. Sometimes when I'm standing, trying very hard to teach a lesson, no one pays attention. I feel frustrated at least twice a day for the entire school week. I sometimes just want to quit with the behavior and lack of supplies in the school.

Although many fewer males than females were recruited to participate in the longitudinal study, male teachers described classroom management problems that rivaled those of female teachers. A male junior high school Spanish teacher wrote:

My greatest problem is gaining and maintaining control of my students. Students are constantly getting out of their seats, calling out to each other and throwing paper in class. I admit I have lost control but I also believe that most students have very little respect for anyone. I feel that I am being left on my own to resolve my problems. When I did follow the recommendations of a [supervisor], I was told in effect that it's my responsibility to discipline my class not theirs. I feel almost isolated and on most days I get home emotionally and physically drained.

A woman elementary school teacher wrote:

Presently a number of children have been transferred to my class. All of them have behavior problems. Fighting, name calling, swearing, and the inability to literally sit still for short periods of time remain problems for them.

The teacher went on to express worry that the newcomers will be a baleful influence on the behavior of the students who were already in her class.

Violence and its threat are a problem for teachers and children. Sachar (1991) wrote:

We were not officially informed of the gun incident until the monthly faculty conference on January 23rd [about three weeks after the incident occurred]. Then we learned that one student had been inches away from death in the accident. Winfield [the principal] told us that a twelve-year-old boy had brought a loaded gun to school, and that it had accidentally fired in class. The bullet tore a large hole through the coat of a girl standing next to him, then ricocheted off a desk. "If the girl had larger breasts, they would have been eliminated," Winfield said, "and if she'd been turned in another direction, she'd probably be dead." (p. 146)³

Despite the seriousness of the situation, the principal's flippancy is evident.

Violence was not a rare occurrence at Walt Whitman Junior High School. Sachar (1991) also wrote:

This was only the first of a series of weapons incidents. In February, one dean told me, a sixth-grade girl hit another student over the head with a hammer and was suspended for five days. A few days later, another sixth-grader brought a custom-made .410-gauge shotgun to school, and was arrested. The boy had borrowed the weapon from his fourteen-year-old brother, a drug dealer, to scare another kid at school who was "giving him trouble." A detective from the local precinct said that the boy showed no remorse: "He was quite callous, in fact." (p. 146)³

Compounding the school's problems, Sachar (1991) noted that many administrators were not forthcoming in helping the teachers tackle classroom management problems. She observed that administrators tended to squelch reports of school violence. The principal used to dress in such a way that parents visiting the school would mistake him for a member of the nonprofessional staff, and not think to stop to talk to him about their concerns.

Many teachers in the longitudinal study reported that administrative support was absent. For example, this female junior high school language arts teacher reported:

My supervisor has been totally nonexistent in my career to date. She has observed me twice since September – each time no longer than 5 minutes! She really has no idea what I'm doing (or not doing), except for the weekly set of plans I give her. No curriculum

guidance, no support, no advice. I think it's shameful that I am allowed to have virtual *carte-blanche* in my classroom especially since I am a first-year teacher.

In a similar vein, a female elementary school teacher complained that administrators in her school adhered to the view that "the child is precious" and that children should not be judged "without considering their race, socioeconomic [status], and gender." However, she went on to note that administrators gave teachers "one tenth the consideration" given to students. She then commented sarcastically: "Perhaps I am ignorant but I view adults as important as children." Another teacher, a woman who recently left teaching wrote, "The supervisor in my school has never praised me. She also has as little to do with me as possible."

Disrespect from administrators is compounded by administrative incompetence. A male junior high school language arts teacher complained that he was

given a memo on Friday saying Monday's classes would start later. When I got to school on Monday, classes started the regular time. Experienced teachers know to ignore this misinformation [that comes from administrators].

Consider the supervisory problem of this female high school math teacher:

The person who puts stress in my work is my supervisor. She used to walk into my classroom at any time during the first 3 weeks of school to observe me or to give me things. From talking to other teachers in the department, it seemed that she did this with everybody. Anyway, I just didn't like it. Also, I found out she hung around outside my classroom door. I don't know what it meant. She just did it once. And I learned that she doesn't mean what she says. For instance, she invited me to observe her teaching. When I went to her class, she asked me very coldly in front of the class: "May I help you?" And when I told her I came to observe her, she said, "Not today" and turned around to go to her desk. I felt insulted that she treated me that way.... So, from now on I don't worry about her and try to have as little contact as possible with her.

Qualitative material from Barry Farber (1991) in his book on teacher burnout depicts a young idealistic teacher working in an inner city school. Farber described her incessant problems controlling her class, the lack of help from an otherwise "caring" principal, and how "beat" she felt at the end of the day.

Sachar (1991) also described the physical toll of the job including exhaustion and other bodily complaints. She wrote:

I phoned this teacher on a Sunday to chat about the coming year and to gossip a bit about the school administration.

"I'm in the midst of a diarrhea spell," he said.

“What’s wrong? Did you eat something bad?”

“You know what’s wrong,” my friend said. “I’ve got to go back there in two days.”

This was a veteran teacher with a good reputation at Whitman, a man whose company I cherished during the year. Later the man reported “I feel helpless. You have a principal who says the school is great when the school stinks.” (p. 215)³.

Other teachers in Sachar’s school spoke of chronic depression.

Consider the observation of this woman, a Brooklyn elementary school teacher:

The children in my class have had behavior problems. Since I began to work, I have become sick with my nerves and have lost a lot of weight. I think that I would be much happier if I were to quit my job at this point.

The nervousness and weight loss are linked to her having to confront a difficult class in a high-need area, and suggest that she will quit her job, teacher retention being another casualty of exposure to highly problematic student behaviors (also see Ingersoll, 2003; Ingersoll & Smith, 2003). In fact, she moved to another school in a more middle-class area within a term. Teachers’ motivation to remain in the profession goes hand in hand with their experiencing high levels of psychological distress (Schonfeld, 2001).

Making Sense of Qualitative Data

Given the wealth of descriptive material gathered from the new teachers in the longitudinal study, the project needed a method for categorizing the teachers’ writings. Brenner (2006) suggested an analytic framework for interview data consisting of five phases: transcription, description, analysis, interpretation, and display. Although she presented them as a linear progression, she emphasized that working with qualitative data is often a cyclical process. In this case, the transcription was relatively easy since the data were already written.

For the qualitative data collected in the longitudinal study, a provisional set of themes emerged “naturally” from the new teachers’ writings according to a method described by Farrell (1990). The readers’ goal was to adhere to the principle that no preconceived theory guide this stage of the qualitative research, the readers following the groundbreaking dictum of Glaser and Strauss (1967) who advanced the view that theory arise from data. Of course, the thesis that important categories emerge from data is an ideal. Popper (1963) underlined the fact that “observation is always selective,” and

that so much of what one observes is presupposed by a host of factors. Nonetheless, qualitative methods have a role to play in occupational-stress research.

It should, of course, be noted that qualitative researchers dispute positivist social scientists on the role of methodology. Kirk and Miller (1986) maintained that quantitative definitions of reliability and validity are rarely appropriate to the way qualitative researchers work. They argued for a theoretical rather than an apparent validity. They were less charitable when discussing reliability, calling a single method of observation continually yielding an unvarying measurement a quixotic reliability. They advanced the idea of linking the two concepts while realizing that there are tradeoffs between them when conducting qualitative research. Qualitative researchers lean toward validity as the more important concept with experimental controls and triangulation to increase objectivity (cf., Goodwin et al., 1997; Holmes & MacInnes, 2003; Hugentobler et al., 1992; Kidd et al., 1996).

Notwithstanding Kirk and Miller's (1986) admonitions about reliability, Schonfeld and Santiago (1994) needed a way to make sense of hundreds of pages of teachers' descriptions of their working conditions, descriptions that were collected as a supplement to the longitudinal study. After the initial content analysis, the two readers independently read through a series of about 75 writings, categorizing the writings by the provisionally agreed-upon, "naturally emerging" set of themes mentioned above. After the readers examined their disagreements, they slightly altered the categorical scheme. The readers then proceeded to classify another series of about 75 descriptions using the revised scheme, checked how reliably they classified the writings, and made additional adjustments in the categorical scheme based on the location of disagreements. They blindly and incrementally refined the initial set of categories. With the final set of thematic categories, the pair of readers obtained coefficient *kappas* (Cohen, 1960) of 0.79 or greater for every category, indicating a satisfactory level of inter-rater agreement. *All* the teachers' writings were reread and sorted on the basis of the final categorical scheme.

With few exceptions (Elfering et al., 2005; Firth & Morrison, 1986; Glazer & Gyurak, 2008; Grebner et al., 2004; Isaksen, 2000; Keenan & Newton, 1985; Kidd et al., 1996; Kinman & Jones, 2005; McDonald & Korabik, 1991; Paice et al., 2002; Schonfeld & Feinman, 2009; Schonfeld & Santiago, 1994; Shinn et al., 1984) among the 81 qualitative studies of occupational stress that we reviewed (see Tables 1 and 2), most investigators neglected to apply *kappa* to assess the reliability of the categories that emerged from their

data. *Kappa* should not be mistaken for percent agreement, a much weaker standard of reliability that has been used in some qualitative studies (Arter, 2008).

Although validity checks have also been rare in qualitative, occupational stress research, they were sometimes carried out. Kidd et al. (1996) reported on a validity check that involved the successful application of their agricultural-stressor coding scheme, which they developed for one sample of farmers, to another farm sample. Goodwin et al. (1997) had interviewees read summaries of interviews to confirm the accuracy of the summaries; Noblet and Gifford (2002) and Arter (2008) had interpretations of the qualitative interview data corroborated by the interviewees. Goodwin et al. also solicited from interviewees' interpretations and disconfirmations of "findings from previous interviews" as the interviews progressed. Iversen et al. (2002) had participants read a preliminary report in order to identify discrepant findings; none were identified and some participants noted that the analyses were very much consistent with their perceptions. Kahn (1993) had participants read a transcript of his observational field notes in order to check for accuracy. Other types of validity checks included having outside experts review transcripts and coding (Goodwin et al., 1997; Noblet & Gifford, 2002), using both interviews and focus groups to evaluate informational consistency (Holmes & MacInnes, 2003; Noblet & Gifford, 2002), having participants report on both stressful and satisfying experiences to help to assess for disconfirming conditions (Firth & Morrison, 1986; Jones & Fletcher, 1996; Moriarty et al., 2001; Wilstrand et al., 2007) and break response sets, cross-checking interview and observational data (Iversen et al., 2002), and cross-checking qualitative findings with quantitative results (Liu et al., 2008; Schonfeld & Santiago, 1994; Younghusband, 2008). Noblet and Gifford (2002), in their research on stress in professional athletes, compared their results to results of other studies of elite (but amateur) athletes, a kind of consistency check on sporting stress. Although most qualitative research is, by definition, interpretative (Erickson, 1986; Farrell, Pegero, Lindsey, & White, 1988; Rabinow & Sullivan, 1987), we suggest that some of the tools (e.g., *kappa*) employed by quantitative researchers can be used to strengthen qualitative research.

Four Themes Emerge from the Teacher Data

Four major categories emerged from the new teachers' descriptions: (a) interpersonal tensions and lack of support among colleagues/supervisors,

(b) happiness with one's job, (c) violence and other security problems, and (d) classroom management problems. Teachers' descriptions sometimes reflected more than one theme. The themes illuminate problems with which quantitatively oriented occupational-stress researchers have grappled.

The first two themes to emerge from the teachers' writings accord with findings from the longitudinal study and with much of the quantitative research literature bearing on social support. Many new teachers described their distress when supervisors absented themselves from the supervisory role or when they obtained jobs in schools characterized by interpersonal tensions among the faculty members or between faculty and administrators. By contrast, when new teachers reported being happy with their jobs, they often described the importance to their well-being and success in managing a classroom, of good relationships with colleagues and supervisors. For example, a female fourth-grade Catholic-school teacher wrote:

Where I work the teachers are very close. They help each other when help is needed. There is only one [other] teacher who is also teaching for the first time and we are close. We usually talk about school and our own personal life but we don't do any recreation together.

Another woman who taught in a Catholic elementary school wrote:

I believe that I do not have much stress to deal with because of the school I am working in. The principal and my colleagues made me feel welcome from the beginning. We have more of a family at school. I honestly could ask anyone for help.

Although some parochial schools offer clues for improving public schools (Bryk, Lee, & Holland, 1993), one of the Catholic-school teachers mentioned above went on to complain about the difficulties she experienced in making ends meet because her salary was considerably lower than that of her public school colleagues. In general, when teachers expressed satisfaction with their jobs, they tended to mention reliable colleagues and administrators who were available to help them (Schonfeld & Santiago, 1994).

The examples of teachers who expressed satisfaction with their jobs are not limited to teachers in Catholic schools. Sometimes public school teachers expressed such satisfaction. Again, school administrators played an important role in the public school teachers' satisfaction. A male elementary school teacher wrote:

As a new teacher, I feel I am lucky to have landed a job in the school where I work. The main reason is that my supervisor (and mentor teacher) is very reliable and very, very cooperative and encouraging with me.

This woman elementary school teacher wrote:

I am extremely fortunate. My supervisors and administrators are very supportive. They go out of their way to help me when/if I need it. I have learned many things [during] my first year of teaching. Most important, though is that I can't reach every child. I certainly try.

The theme of violence in the schools is particularly troubling. Violent and overly aggressive behavior has often been evidenced in qualitative research on teachers (Engelbrecht et al., 2003; Ginsberg et al., 1987; Sachar, 1991; Schonfeld & Feinman, 2009; Schonfeld & Santiago, 1994; Smith & Smith, 2006; Steggerda, 2003; Younghusband, 2008). Teachers reported on the personal consequences of having been victimized by violent students. Teachers also reported being affected by the *prospect* of violence even on occasions in which student violence did not occur. Bloch (1978) described a sample of 253 traumatized Los Angeles teachers referred for psychiatric evaluation in the aftermath of exposure to either physical violence *or* its threat. For many teachers, violence often seemed to be lurking. Bloch observed that "threats of a brutal attack were often more psychologically disabling than the actual event" (p. 1190). The picture is troubling enough to warrant public health concern.

Lest the reader think that the problem of teachers being targets of verbally and physically assaultive behavior is concentrated in urban areas, such an assumption is wrong. Consider the example of Newfoundland teachers (Younghusband, 2008). With regard to verbally assaultive behavior, Younghusband reported that students commonly abused teachers, hurling at teachers derogatory comments including considerable profanity.

Younghusband's work underlined the extent to which teachers have been exposed to violence and its threat. One Newfoundland teacher reported:

Recently a parent came to my school on two separate occasions and verbally and physically assaulted me. I was punched, yelled at continuously, kicked and threatened. I was told to leave the community or something.⁴

Another Newfoundland teacher related the following to Younghusband:

I had to get my class out of the room while a student was tearing the place apart in anger. He struck several students as they were being removed. This occurs often, sometimes several times in a week. This child is as big as me.⁴

The following Newfoundland teacher expressed fear for her students and herself:

A very disruptive student took a long pole (one to open windows with) and began swinging it at anyone he could strike. In fear of my own safety and especially the safety

of my students I had to get everyone out of the classroom and leave the violent student in the room alone.⁴

Younghusband also found that many Newfoundland school administrators were unsupportive of teachers, failed to back teachers when irrationally angry parents bore down, and regarded teachers with contempt. Consider the observations of the following Newfoundland teacher:

I was told by the principal: I was an idiot who did not deserve to teach, that I was a loser whose work was incomplete and total garbage, that as far as humans went I was a waste of time and energy and that if a grievance could be filed against someone for stupidity he would do so.⁴

Younghusband also obtained quantitative data from a survey she conducted of Newfoundland teachers. Her quantitative findings paralleled the results of her analyses of the qualitative data she collected. Qualitative findings from Massachusetts and Michigan (Smith & Smith, 2006) and Des Moines (Steggerda, 2003) are consistent with the results from New York City and Newfoundland. These qualitative findings dovetail with more extensive, quantitatively organized research showing the national dimensions of violence in schools (Schonfeld, 2006). Of course, the qualitative research shows the violence up close, and underscores the humanity of teachers caught in the aggressive tide. Smith and Smith (2006), for example, reported on a pregnant teacher who was pinned against the blackboard by “an exceptionally large fifth grader.”

Apart from the violence, teachers described having students who were verbally, if not physically, assaultive (recall Sachar’s Jimmy). The disruption caused by the behavior of some children sabotaged lessons, causing teaching to proceed haltingly, in a stop-and-go manner, if at all. Thus, even if teachers did not become victims of violence, they had to be concerned about being targets of endemically disrespectful behavior that makes managing classrooms difficult.

The qualitative findings just described suggest that if the qualitative and quantitative research traditions can be linked, a truer, more rounded picture can emerge of what it is like to work in a variety of school environments and the consequences those environments hold for teachers. The qualitative findings provide a context for the discovery (Reichenbach, 1951) of insights that contribute to a theory of job stress. Sachar’s (1991) participant-observer investigation, Younghusband’s (2008) focus groups and interview data, and Schonfeld and Santiago’s (1994) study of teachers’ descriptions of their jobs provide insights into why working in some schools may be normatively stressful. Although there are a number of different models of the stress process (Dohrenwend & Dohrenwend, 1981), a model of the stress

process to emerge from the qualitative findings from both the longitudinal study and from the work of Sachar (1991) and Younghusband (2008) dovetails with Dohrenwend's (1979) pathogenic-triad theory of stress.

Dohrenwend (1979), in reviewing research on extreme situations, found that stressful life events can engender psychopathology in individuals in whom evidence of psychopathology had previously been absent. This is not to argue that teachers are in a position similar to that of combat infantry. Research, however, suggests that combinations of undesirable life events are particularly toxic when such events (a) are unanticipated, unscheduled, and outside the individual's control; (b) lead to physical exhaustion; and (c) reduce social support. The elements of Dohrenwend's (1979) theory of stress are well illustrated by the above examples. Clearly many teachers are affected by a dangerous level of violence in the schools that is a cause for anxiety.

It is unlikely that academically trained individuals seeking entrance into a profession would foresee violence and endemically discourteous and disrespectful behaviors as everyday working conditions. Louis (1980) highlighted the demoralizing effect of the unrealistic expectations many new workers bring to their jobs. By contrast, among individuals entering the teaching profession only to work in the most chaotic and threatening schools, commonplace expectations regarding workplace safety and respect are not met (also see Steggerda, 2003).

Qualitative findings of the longitudinal study, more than the quantitative results, underscore the *shock* and uncontrollability of teachers' encounters with aggressive students (Schonfeld & Santiago, 1994; Smith & Smith, 2006), showing the applicability of hypotheses deriving from Dohrenwend's (1979) theory of stress to teaching. Sachar's (1991) participant-observer findings also highlight this sense of shock in encountering so much violence and disrespect as a normal and, too often, uncontrollable part of a work role. The sense of violence and shock is illustrated by an incident, this time occurring in the neighborhood of Sachar's (1991) school, in which one Walt Whitman student, who began by bullying another Whitman student, set the other student on fire, severely burning, and almost killing, the victim. The appalling event brought to mind the words of the school's namesake, "I mourn'd, and yet shall mourn with ever-returning spring."

Some of the above described qualitative findings highlight another element of the pathogenic triad. Although examples cited earlier suggest that exhaustion can accompany the job, such exhaustion does not betray ill conditioning on the part of the teacher incumbent. One new male teacher, who had contributed qualitative data to a pilot study, had been an intercollegiate trackman and cross-country runner. He obtained a job in a New York City junior high school in which only a small proportion of

students read on grade level. He reported going to sleep just after he got home from work at about four o'clock in the afternoon. He attributed his fatigue to two sources: the energy he expended trying to maintain order within his classes and the piercing noise, as manifest in students' loud talking and yelling, that permeated the school building throughout the day. One of the school's deans, a former starter on a major college football team, evolved into a three-pack-a-day smoker.

As mentioned earlier, teachers in the longitudinal study who reported satisfaction with work often indicated that collegial relations with coworkers and administrators contributed to that sense of satisfaction. By contrast, other beginning teachers who participated in the longitudinal study complained about being cut off from their more senior colleagues. They described administrators who rarely helped them develop the skills required to manage classrooms. Sachar (1991) described a principal who rarely helped new teachers adjust to the classroom, frequently isolating himself in his office, and a dean who seldom helped teachers with the violent students who were his responsibility to discipline. The principal's lack of involvement continued for years after Sachar left the school, ending only when he was relieved of his job owing to his inaction over a case of sexual molestation (Steinberg, 1997). Events and conditions that deny the individual support are part of the pathogenic triad.

Sachar's (1991) insider's description of an urban public school, Young-husband's (2008) Newfoundland work, and qualitative data from the longitudinal study pointedly indicate that many of the difficulties teachers encounter come as a package, if not as a triad. One observes in the same school many troubled and violent students who block effective instruction for all students as well as imperil everyone's safety, administrators who do not extend themselves to help teachers gain skill and competence, and a generally poorly managed, isolating, dirty, and noisy environment, a workplace from which teachers return home drained. Consistent with the longitudinal findings on new teachers (Schonfeld, 2001), the qualitative research paints a picture that suggests that some school environments are quite toxic to any teaching candidate with ordinary expectations about starting out in an honorable profession.

The Strengths and Limitations of Qualitative and Quantitative Research

Qualitative research ordinarily will not help investigators test hypotheses derived from theory, nor of course is it meant to (exceptions are indicated

in Table 1). The history of science, however, indicates that the strength of qualitative observation – we include uncontrolled, practical observation – is in theory development and hypothesis generation. We highlight four examples from diverse areas of medicine to underline this point. We chose medicine because of the value the research has had for human well-being. First, en route to mankind's conquest of smallpox, what might be termed as qualitative observations, often made by ordinary people long before Jenner's discovery of a vaccine, suggested the proto-hypothesis that inoculating susceptible individuals with small amounts of secretion from the pustules of affected individuals affords the inoculees immunity from the disease (Hopkins, 1983; Razzell, 1977). This experience contributed to the development of a theory of contagion, and helped undermine rival humoral theories of smallpox (Miller, 1957).

Similarly, the experience of sailors dating back to the time of Francis Drake suggested that fresh fruit, particularly citrus fruit, prevents and cures scurvy (Carpenter, 1986). Carpenter (1986) showed that from the beginning of the seventeenth century, the men of the Hudson's Bay Company kept scurvy to a minimum by sending small amounts of lime juice with its crews. We can call this an action hypothesis based on qualitative observational data. When fresh vegetables were unavailable, fresh game supplied by Hudson's Bay hunters throughout the year, kept scurvy at bay. In the eighteenth and nineteenth centuries there were a number of ill-conceived theories of the disease (e.g., cold moist climates, potassium deficiencies) that led to ineffective treatments and preventive measures. Carpenter (1986) wrote that:

It is a humbling moral to the story that, after all the attempts to apply new scientific concepts and hypotheses, the final solution came from rejection of theory and a return to the practical experience of previous centuries. [The nineteenth-century, Scottish physician Gilbert] Blane was one who had the necessary humility and could say: "Lemons and oranges ... are the real specifics ... [as] first ascertained and set in a clear light by Dr. Lind [in the eighteenth century]. Upon what principle their superior efficacy depends ... I am at a loss to determine." (p. 96)⁵

Later, highly controlled research, built upon the clues provided by earlier uncontrolled observation, linked vitamin C to the prevention of scurvy.

The discovery of fluorides' protective effects began with uncontrolled observations by dental practitioners who first described brown mottled tooth enamel in children living in a region of the Rocky Mountains (Black & McKay, 1916). Black and McKay (1916) believed they identified a new kind of dental pathology, noting the "general evil effect of the countenance of the individual" (p. 142). They observed that the amount of mottling was directly

related to the age at which each child entered the region and that “as to caries, the teeth of these children compare favorably with those of other communities where endemic mottled enamel is unknown” (p. 145). More than ten years later the mottling was linked to the presence of fluorides in the drinking water as well as to a lower incidence of dental caries (Ainsworth, 1932). These early observations paved the way for controlled hypothesis-based research on the protection from dental caries fluorides afford (Ward & Miller, 1978).

In psychiatry, uncontrolled, clinical observation first identified infantile autism (Kanner, 1943), a syndrome reflecting “the presence of markedly abnormal development in social interaction and communication and a markedly restricted repertoire of activity and interests” (American Psychiatric Association, 1994, p. 66). The syndrome is distinct from other debilitating mental disorders including schizophrenia. Kanner’s case study description of the syndrome has been well supported in the research literature (Rimland, 1964; Rutter & Schopler, 1979). Kanner’s description of the very-early developing and highly unusual behavior associated with the disorder suggested an organic cause (Rimland, 1964).

These examples from the history of science emphasize, albeit in different contexts, an idea underlined by Kidd et al. (1996), namely, that “qualitative methods are preferred to quantitative methods when there is little information known about a phenomenon, the applicability of what is known has not been examined, or when there is reason to doubt the accepted knowledge about a given phenomenon” (p. 225; cf., Goodwin et al., 1997). However, when qualitative methods are employed in a field that has been well explored, it is likely that the theoretical insights that emerge from the data will make contact with existing theories. Qualitative methods, because of the freedom they give to respondents, also provide researchers leverage for overcoming preconceived ideas and cultural myths about stress at work (Firth & Morrison, 1986; Fischer et al., 2007).

Büssing and Glaser (1999) demonstrated that qualitative methods that augment quantitative methods can help produce a cogent explanation of seemingly contradictory findings in quantitative data. Nurses who worked in redesigned, anti-Taylorist, “holistic” wards, with greater responsibility for fewer patients, experienced a reduction in stressors (time pressure, contradictory task goals, and ergonomic stressors) as a result of the job redesign; however, their levels of emotional exhaustion, surprisingly, were elevated compared to that of nurses in traditional wards. The qualitative findings indicated that the holistic nursing system led to an intensification of the nurses’ emotional work and interactional stress because they had no

opportunity to withdraw from difficult patients. In traditional wards, because the work was more piecemeal, exposure to difficult patients was limited.

Popper (1963) was right about the selective nature of observation. It is too unrealistic to hold to the view that theory will emerge from qualitative data untainted by the investigator's prior exposure to existing theory and research findings. For example, in research on stressors affecting farmers, a coding scheme for stressors was based on a coding dictionary developed from the extant literature on agricultural stressors (Kidd et al., 1996). Blase (1986; Blase & Pajak, 1986) in his qualitative research on teachers found that work overload was a prominent stressor although the quantitatively oriented literature viewed overload this way in research antedating his. Despite adhering to the Glaser and Strauss's (1967) canon of letting theoretically important categories emerge from data, Goodwin et al. (1997), in one of the methodologically soundest qualitative studies we reviewed, found emotion-focused coping strategies prominent among salespeople's responses to major account loss, coping strategies long known to the quantitatively oriented investigators. Schonfeld and Santiago (1994) "took care to avoid imposing [existing theory]" on their data, and were aware that they should enter the qualitative phase of the research with open minds and let themes and theory emerge from the data (Glaser & Strauss, 1967). Schonfeld and Santiago were nonetheless aware of the existence of Dohrenwend's (1979) pathogenic triad as well as other models of the stress process. There is thus an unavoidable tension in qualitative research.

There are four other limitations to qualitative research. The first is the problem of reactivity. People who are observed sometimes change in response to the presence of an observer (Shai, 2002). The second limitation reflects Kasl's (1978) observation, based on evidence from research on fighter pilots, air traffic controllers, and individuals in law enforcement, that workers' self-reports on the stressfulness of a work role or the particular way in which the role is stressful may be less dependable than originally believed. For example, Kasl noted that when law enforcement personnel, a group with elevated risk of coronary disease, were questioned about job stressors affecting them, they were more likely to mention administrative duties and contacts with courts than life-threatening aspects of the job. Although Kasl applied the observation to quantitatively oriented job-stress research, the observation is, perhaps, more applicable to qualitative research that is dependent upon workers' self-descriptions. Kasl (1978) recommended that investigators show caution with regard to accepting at face value workers' self-reports on job stressors.

The third is the concern that the researcher may overidentify with the workers being observed. The first author was once a mathematics teacher, and was concerned about the potential for his overidentifying with teachers, which would in turn affect his interpretation of the qualitative findings. One way to partly overcome such a limitation is to deploy multiple observers and multiple interpreters, and to subject hypotheses generated by qualitative data to rigorous testing using quantitative methods.

The fourth is that the Glaser–Strauss enterprise has a Baconian cast. The vigorous hunt for data has no definable stopping point, leading to a piling up of facts (see Bacon, 1620/1960). Bertrand Russell (1945) warned that the Baconian idea that an “orderly arrangement of data would make the right hypothesis obvious” is “seldom the case” (p. 544). Russell went on to write that without some provisional hypothesis to help guide selection, the multiplication of facts can be baffling. The qualitative researcher must be cognizant of this problem.

Qualitative research nonetheless is valuable, even in fields where much is already known. Insights from qualitative research can call attention to new ways of categorizing data when the data are relatively unstructured (Blase & Pajak, 1986). Even in well-trodden avenues of research, qualitative methods can provide surprising new ideas. Qualitative methods can identify important occupational stressors that research has overlooked. For example, incidents involving time wasting among engineers (Keenan & Newton, 1985), difficulties women managers have in motivating subordinates (McDonald & Korabik, 1991), and lack of meaning or ethics in work (Polanyi & Tompa, 2004) are stressors that previous research had missed. Qualitative research has helped to identify coping responses such as self-care activities in nurses (Hutchinson, 1987) that previous research had missed. Whether in well-studied areas or new areas of research, qualitative methods can help investigators understand the meaning and intensity of stressful incidents for workers (Dewe, 1989; Dick, 2000; Isaksen, 2000; Jex et al., 1997; Polanyi & Tompa, 2004; Steggerda, 2003), helping to lay a foundation for hypothesis testing and scale construction in quantitative research.

It should be noted that both quantitative and qualitative data have been misinterpreted. Gould (1981) gives myriad examples of the former happening in his survey of the early research on human intelligence and race. An example of the latter error comes from Kanner (1943, 1949) who described the parents of autistic children as extremely cold and undemonstrative; in the popular press he went as far as to describe them as “just happening to defrost enough to produce a child” (The child is father, 1960, p. 78). Even if Kanner’s observations were accurate, quantitative research

shows that the observations would only apply to Kanner's clinical sample, and would be unrepresentative of the population of parents of autistic children.⁶ A good deal of theorizing followed Kanner's papers suggesting that parental personality and behavior contributed to the etiology of the disorder (Cantwell, Baker, & Rutter, 1979; McAdoo & DeMeyer, 1979). Although the preponderance of evidence from rigorously designed, quantitatively organized studies is much more compatible with biological than psychological causal theories of autism (Dawson & Castelleo, 1992; Dawson & Osterling, 1997; Rutter & Schopler, 1979), an unfortunate effect of psychogenic theories that precipitated out of qualitative observational research is that of adding to the distress of parents of mentally disabled children, by falsely suggesting to the parents that their defective caregiving gave rise to their children's disability (Rimland, 1964).

This chapter advances the view that qualitative observation and quantitative methods in research on occupational stress help investigators push toward a common goal, namely, understanding, and doing something about, the stressors affecting workers. The history of scientific research teaches that uncontrolled, observational inquiry has contributed significantly to theories of the etiology of physical and mental disorder. Teachers' and participant-observers' descriptions of day-to-day work activities have contributed to theories of teacher stress.

It is, however, important to emphasize the limits of both qualitative and quantitative research. Qualitative research should not substitute for appropriate quantitative methods of verification; qualitative research is ill suited for hypothesis testing. Consider the damage done by qualitative researchers (Bettelheim, 1967) who, on the basis of uncontrolled, clinical-observational evidence, wrongly attributed autism to deviant parental behavior (see Pollak, 1997) or mistakenly attributed schizophrenia to "the severe warp and early rejection" of important figures such as the so-called "schizophrenogenic mother" (Fromm-Reichmann, 1948). Qualitative research can be helpful in contexts of discovery; quantitative research is more applicable to understanding measurable differences in discreet phenomena than to "thick descriptions" (Geertz, 1973) of workers in stress-producing settings. At the same time, we stress that it would be unfortunate to write off quantitative methods as a source of theoretical insight. Quantitative methods also play an important role in the context of discovery. For example, Trow (1957) pointed out that Durkheim's (1897/1951) crude quantitative data, data that were far removed from the experiential context, added "much to our understanding of some of the most subtle and complex aspects of social life" (p. 35).

The four themes that emerged from the examination of the qualitative data which the teacher studies produced were incorporated into research questions relevant to the analyses of the quantitative data generated by the longitudinal study (Schonfeld, 2001). Both the contexts of discovery and verification are essential to the research process (Reichenbach, 1951). We advance the view that in occupational-stress research, qualitative methods can be helpful in the context of discovery because such methods can contribute to (a) theory development, (b) hypothesis generation, (c) identification of stressors and coping responses researchers have previously missed, (d) explanations of difficult-to-interpret quantitative findings, and (e) rich descriptions of stressful transactions that humanize what quantitatively oriented researchers endeavor to study.

NOTES

1. We exclude from this brief discussion qualitative research that supplemented or accompanied a quantitatively oriented study (Schonfeld & Santiago, 1994) where (a) the qualitative data were examined separately and without the aid of inferential statistics and (b) the examination of the qualitative data was exploratory, and not hypothesis-driven.

2. Gates classes comprised students who were held back because of poor achievement.

3. The excerpts from Emily Sachar's book *Shut up and let the lady teach: A teacher's year in a public school* were quoted by permission of the publisher.

4. The excerpts from the paper by Lynda Younghusband were quoted by her permission.

5. The excerpt from Kenneth J. Carpenter's book *The history of scurvy and vitamin C* was quoted by permission of the publisher.

6. Berkson's fallacy, a principle from the highly quantitative field of epidemiology, indicates that if all potential research subjects are *not* equally likely to be incepted into a study sample, investigators will have difficulty concluding that an association, found in the sample, between a factor and a disorder applies to the population (Fleiss, 1981). The fallacy explains why it is often difficult to draw firm conclusions when studying factors associated with a disorder in clinical samples. Factors that propel potential research subjects into a clinical setting, where they may be recruited for a study, often differ from factors that increase individuals' risk for a disorder. Studies of clinical samples may result in the investigator misidentifying factors that are associated with subjects' arrival at a clinical setting as factors that increase subjects' risk for a disorder. In the era of the Great Depression, it is likely that families that took their autistic children to see Kanner were mostly patrician in background. Their backgrounds could explain why the families could afford to visit Kanner (1943) at his Baltimore practice – many families traveled considerable distances – and may partly account for the coolness he observed in the parents of the affected children (cf., Wing, 1985).

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