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Working conditions, well-being, and job-related attitudes among call centre agents

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A comparison of 234 call centre agents with 572 workers in traditional jobs with long lasting training revealed lower job control and task complexity/variety and higher uncertainty among call agents. However, time pressure, concentration demands, and work interruptions were lower in call agents. Within the call agent sample, controlling for negative affectivity and other working conditions, job control predicted intention to quit, and job complexity/variety predicted job satisfaction and affective commitment. Social stressors and task-related stressors predicted uniquely indicators of well-being and job-related attitudes. Furthermore, data confirm the role of emotional dissonance as a stressor in its own right, as it explained variance in irritated reactions and psychosomatic complaints beyond other working conditions. Results indicate that strong division of labour may be a rather general phenomenon in call centres. Therefore, working conditions of call agents require a redesign by means of job enrichment or—better—organization development. Moreover, measures of social stressors and emotional dissonance should be integrated routinely into stress-related job analyses in service jobs.

Call centres that execute customer care by phone, represent a new form of work organization, which often is designed "from scratch". This might offer a unique opportunity to design jobs according to established principles of job design, creating work that is motivating, and enhances productivity (Parker & Wall, 1998). Typically, however, when new jobs are designed, such principles tend not to play a major role (Clegg et al., 1997). Rather, work is designed around technical solutions or existing organizational principles, and this may imply unfavourable working conditions for employees (Parker & Wall, 1998). This seems to apply to call centres as

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well. Of course, one cannot lump together all call centre jobs in an undifferentiated way. Nevertheless, there are indications that, at present, many call centre agents predominantly carry out tasks that are rather specialized and often simplified (cf. Isic, Dormann, & Zapf, 1999; Taylor, Mulvey, Hyman, & Bain, 2002). This can be attributed to a very high degree of *structural division of labour*. For instance call agents mainly answer incoming calls (inbound) or call customers (outbound), whereas back office employees often execute post-processing of requests (cf. Isic et al., 1999; Moltzen & van Dick, 2002). High-grade division of labour certainly promises some obvious *microeconomic advantages*. As it simplifies tasks, only a relatively short period of vocational training is required (e.g., 4–6 weeks of training, cf. Baumgartner, Good, & Udris, 2002; Toomingas et al., 2001). Also, simplified tasks do not require specialized personnel. Altogether this might serve to keep personnel costs low.

However, *possible disadvantages* are easily overlooked. Several studies have shown that job simplification by division of labour comes along with routine work (low task variety, i.e., repetition of the same task over extended periods), low task complexity (i.e., only few necessities of own decisions; Frese & Zapf, 1994), and consequential low utilization of qualification (knowledge, skills, and abilities). Moreover, many call agents have low influence on one's own work in terms of work-related resources such as job control, not only over *work pace* (i.e., decision possibilities over *time frame* of task conduct such as time point, succession, and duration of actions), but also with regard to *planning and organizing* one's own work (cf. Deery, Iverson, & Walsh, 2002; Isic et al., 1999; Metz, Rothe, & Degener, 2001). This is in conflict with the fact that the majority of call agents in Switzerland are skilled workers (cf. Baumgartner et al., 2002).

Thus, in comparison with more traditional jobs that require extensive job-specific vocational training (e.g., several years), the work of call agents that are employed in front line jobs is often characterized by elements of Taylorism, with its emphasis on strict division of labour, and consequential *limited job demands* in terms of low complexity, low variability, and low control, in particular with regard to inbound jobs (Isic et al., 1999).

Although there are not many studies concerning call centres, supporting evidence is growing. A German study involving 250 call agents from 14 call centres (mostly inbound) found that call agents had poorer working conditions in terms of task variability and complexity and lower job control as well as higher psychosomatic complaints than people in comparable, but more traditional work places (administrative clerks, bank clerks; cf. Isic et al., 1999) controlling for age, sex, and education level. A Swiss study among 242 call agents from 14 call centres (primarily inbound) showed that task variety predicted psychosocial well-being, qualification requirements predicted job satisfaction, and lack of complexity was related to low

organizational commitment (Baumgartner et al., 2002). Moreover, a recent study by Holman and Wall (2002) found that low job control predicted depression among inbound call agents of a national UK bank in cross-sectional as well as in longitudinal data. Furthermore, in a study among US teleservice centre representatives, lack of job control was associated with musculoskeletal disorders (Hoekstra, Hurrell, Swanson, & Tepper, 1995). Finally, there is some evidence that many call centres suffer from *high turnover rates* of agents. Baumgartner et al. (2002) report turnover rates of 8 – 50%. They found that *experienced monotony* is one of the most frequent reasons that call agents cite for quitting their job. In line with this, low complexity and variety predicted intention to quit and were negatively related to actual job tenure.

It seems, therefore, that there is a tendency in the design of many call centre jobs to show low control (i.e., limited resources) as well as low complexity and variety (i.e., limited job demands), that have not only been associated with poor outcomes in terms of well-being and turnover both in call centre studies but also in the general literature (e.g., Kahn & Byosiere, 1992; Sonnentag & Frese, 2003).

From these considerations we derive two *hypotheses*, which ask about the *working conditions of call agents* as compared to employees in more traditional jobs that require a longer vocational training period (e.g., several years). We expect that due to the high division of labour in call centres and the short training period *job control* and *task complexity and variety* of call agents are lower than among employees in traditional jobs with a long training period (Hypothesis 1).

With regard to call centre studies, the picture is less clear for *stressors*, such as task-related stressors (e.g., work overload, concentration demands, and uncertainty in terms of role ambiguity) and social stressors (e.g., conflicts with supervisors and colleagues). However, there are reports that high call volumes often lead to a fast pace of work (cf. Moltzen & van Dick, 2002). Isic et al. (1999) found, controlling for age, sex, and educational level, rather high levels of time pressure, concentration demands, and uncertainty among call agents, and two of those were significantly higher among call agents than among administrative clerks; the task-related stressors of bank clerks were, however, comparable to those of the call agents. From our point of view it seems plausible that the picture is less clear for stressors: In contrast to *limited job resources and job demands* (i.e., low control, low complexity, and limited variety), which seem to reflect a general tendency for job design in call centres, the level of some *task-related stressors* (work interruptions, problems of work organization, uncertainty, and concentration demands), and *social stressors* is in any organization likely to depend more on *specific circumstances* within that organization (e.g., organization structure, information flow, leadership behaviour, etc.) than on job demands

and resources, and therefore is not built in the tasks of call agents as strongly as control, variety, and complexity of tasks. Therefore, we do not expect differences between call agents and employees in more traditional jobs concerning work interruptions and problems of work organization (i.e., regulation obstacles such as lack of updated information and deficient tools; cf. Frese & Zapf, 1994; Semmer, 2003), uncertainty (unclear or conflicting goals), concentration demands, and social stressors (Hypothesis 2a). However, we expect call agents to have higher workload respectively time pressure than employees in traditional jobs because of paced work, as reported in the literature (Hypothesis 2b).

Moreover, because of limited job demands and resources we expect call agents to report worse well-being (e.g., context-free well-being such as irritation and psychosomatic complaints, and job-specific well-being like work–home spillover), and impaired job-related attitudes in terms of lower job satisfaction, less affective commitment, more resigned attitude towards the job, and higher intention to quit than among employees in traditional jobs (Hypothesis 3). It is important to note that job satisfaction might be classified as an indicator of well-being (cf. Warr, 1999) as well as a job attitude. We classified it as an attitude because of its clear attitudinal component.

Hypotheses 1–3 intend primarily to replicate earlier findings (Isic et al., 1999). However, in two respects they go beyond a mere replication. First, they include problems of work organization and work interruptions in terms of *regulation obstacles*, a category of task-related stressors that is not often employed in occupational stress research, but that is interesting from many perspectives. *Obstacles* impede or even thwart to pursue and reach a goal. From this point of view, obstacles underscore the importance of goals (Frese & Zapf, 1994; Semmer, 2003), and they also underscore that people are motivated to do good work—that is—to reach their goals, and they are stressed if they do not find the conditions for doing so. Moreover, coping with regulation obstacles requires additional effort (e.g., to start again, to repeat parts of the action process or to enhance physical strength, etc.), or even the use of more risky actions in order to reach the goal despite the obstacles (e.g., Frese & Zapf, 1994). This type of task-related stressor has been proposed in the 1980s (Keenan & Newton, 1984; O'Connor, Peters, Pooynan, Weekley, Frank, & Erenkrantz, 1984; Peters & O'Connor, 1980; Semmer, 1984), and its relationships to a number of outcomes (e.g., psychosomatic complaints, cf. Semmer, 1984; Semmer, Zapf, & Greif, 1996b) have been demonstrated in these and some following studies (Dormann, Zapf, & Isic, 2002; Greiner, Ragland, Krause, Syme, & Fisher, 1997; Isic et al., 1999; Leitner, 1993; Semmer, Zapf, & Dunckel, 1995; Spector & Jex, 1998).

Secondly, Hypotheses 1–3 go beyond a simple replication because negative affectivity is controlled, which is a stable affective disposition or personality trait, predisposing to negative perceptions of the world and leading to experiences of distress and negative emotions. Negative affectivity (NA) might not only influence self-reports of working conditions and strain, but may also lead to inflated correlations of stressors and strains (common method variance, e.g., Brief et al., 1988). The influence of NA should be controlled in studies that use exclusively self-reports and cross-sectional data (cf. Spector, Zapf, Chen, & Frese, 2000).

For the assessment of job design in call centres it is not only important to compare working conditions and strain of call agents with working conditions and strain of other samples. It is also important to know what effects working conditions have on strain.

Numerous studies have investigated effects of working conditions on strain (cf. Kahn & Byosiere, 1992; Sonnentag & Frese, 2003). For instance, *resources at work* such as *job control* are in general positively related to well-being, health and job-related attitudes (e.g., Semmer, 1998; Terry & Jimmieson, 1999). Moreover, *job demands* like job complexity and variety have the same effects on well-being and job-related attitudes as resources at work as long as they do not overtax a person's capabilities, and as long as they allow to utilize one's skills, knowledge, and abilities and, therefore, promote learning. Positive relationships of job complexity and variety with well-being and job-related attitudes have been reported both in the literature on stress at work in general (e.g., Kahn & Byosiere, 1992; Sonnentag & Frese, 2003; Warr, 1999) and specifically for call agents (Baumgartner et al., 2002; Isic et al., 1999). While control, complexity, and variety are associated with well-being, good health, and positive job-related attitudes, the opposite applies to *stressors at work*. In general, stressors are a possible source for chronic stress, such as impaired well-being and health (e.g., irritation, psychosomatic complaints; cf. Kahn & Byosiere, 1992; Sonnentag & Frese, 2003) and negatively affect job-related attitudes, too. For instance they might reduce job satisfaction and affective commitment over time, and, in turn, enhance intentions to quit a job (e.g., Sonnentag & Frese, 2003).

However, although many studies have investigated stressor–strain relations, only a few studies tested *unique effects* of specific working conditions (e.g., job control) controlling at the same time for other types of working conditions (e.g., task-related and social stressors). From our point of view this is important because—although they are theoretically clearly distinguishable—different types of working conditions are usually moderately correlated and might contain redundant information. Therefore, it would be important to study the conceptual independence of specific types of working conditions in their effect on strain. Moreover, from a practical point of view, if the unique contribution of specific types of working

conditions to strain is known job design could be tailored to improve that specific working conditions and therefore, to prevent systematically detrimental effects. For instance, Dormann et al. (2002) found an independent contribution of problems of work organization to psychosomatic complaints beyond other task-related stressors (time pressure, uncertainty), social stressors, job control, complexity, variety, emotion work scales (e.g., emotional dissonance), and NA.

Hence, we expect negative relations between job control, job complexity, and variety on the one hand and measures of impaired well-being and impaired job-related attitudes on the other, which go *beyond other influences* including task-related stressors, social stressors, and emotional dissonance (Hypothesis 4).

Moreover, we expect positive relations between *task-related stressors* (time pressure, concentration demands, uncertainty, problems of work organization, work interruptions) and measures of impaired well-being and lowered job attitudes beyond other influences (Hypothesis 5a).

There exist many studies that investigated the effect of stressors at work on strain. However, most of them concentrated on task-related stressors. In general there exists not much evidence with regard to the effect of *social stressors at work* (e.g., conflicts with supervisors and colleagues, social animosities at work, negative group climate, and unfair behaviour) on strain, although available evidence suggests that social stressors may have a strong impact on well-being and health (e.g., Dormann & Zapf, 2002; Semmer, McGrath, & Beehr, in press). A possible explanation is that social stress situations involve *attributions of blame* (Reicherts & Pihet, 2000)—which increases stress—as well as *negative social evaluations*, which also are particularly stressful (Leary & Kowalski, 1995) because they offend self-worth. Hence, even if social stressors might share variance with task-related stressors (e.g., an impatient supervisor might not only cause time pressure but also conflicts) they might contribute uniquely to strain beyond task-related stressors because they involve negative social evaluations. Therefore, we expect social stressors to predict positively impaired well-being and impaired job-related attitudes beyond other influences (Hypothesis 5b).

Social situations that require to control one's owns emotions do not only occur in interactions with supervisors and colleagues (e.g., conflict with a co-worker), but are likely to occur in interactions with clients (e.g., customers). Call agents communicate most of the time voice-to-voice with customers (cf. Dormann et al., 2002; Holman & Wall, 2002; Moltzen & van Dick, 2002). Therefore, they have to deal with a variety of emotions of customers (e.g., anger, frustration). In such situations call agents have to display emotions as required by the organization (e.g., to show empathy and friendliness)—regardless of their real emotions (e.g., anger), in order to influence customers emotions in a goal-oriented manner. Therefore, their job involves *emotion*

work according to Hochschild (1983) and Morris and Feldman (1996). Emotion work implies a stressor—*emotional dissonance*—that occurs when an employee has to display emotions that are appropriate for customer contact (e.g., friendliness), but differ from emotions he or she might feel actually (e.g., anger; cf. Zapf, 2002).

It is important to note that in the literature emotional dissonance is seen either as a dependent variable (i.e., a state of tension that results when emotional expressions are actually different from internal feelings, e.g., Ashforth & Humphrey, 1993), or as a stressor that results when the organizationally desired emotion is not felt spontaneously (e.g., Grandey, 1998), or as a stressor located in the social environment in terms of a job demand (Zapf, 2002). We rely on the latter definition, according to the multidimensional concept of emotion work (Zapf, Vogt, Seifert, Mertini, & Isic, 1999) where emotional dissonance is defined as the demand to display emotions that are not truly felt, such as being friendly to disrespectful customers, even though the feeling that is experienced might be anger (Zapf et al., 1999). Research has shown that *emotional dissonance* is in general associated with impaired well-being (e.g., emotional exhaustion, depersonalization, irritation, psychosomatic complaints, reduced job satisfaction; cf. Dormann et al., 2002; Zapf, 2002; Zapf et al., 1999; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). Moreover, Dormann et al. (2002) have shown that emotional dissonance explains variance in emotional exhaustion and depersonalization beyond other working conditions (e.g., task-related and social stressors) and, therefore is considered as a stressor in its own right. However, these authors did not control for NA. From our point of view this seems to be important in particular with regard to emotional dissonance, because people high in NA are more likely to report high levels of emotional dissonance.

Therefore, we expect that emotional dissonance is a task characteristic that is uniquely associated with impaired well-being and impaired job-related attitudes beyond other influences including NA (Hypothesis 5c).

METHOD

Samples

Call centre sample

The analyses are based on a field study of 339 male and female call centre employees from a company located in the French and German speaking area of Switzerland, corresponding to a response rate of 93%. Data collection took place in spring 2001. Overall, 163 employees in the French-speaking and 176 in the German-speaking area filled in questionnaires. The

sample consists of 234 call centre agents, 40 team leaders, and 65 back office clerks. Mean age was 27.6 years ($SD = 7.2$, range 18 – 59), and 52.8% were female. The vast majority of the participants were employed full time (93.8%). Most of them (53.1%) had completed an apprenticeship or technical or secondary school. Another 30.6% had a college or university degree. Mean job tenure in the call centre of the present organization was 15 months ($SD = 7.6$, range 1 – 36), and 64.5% reported an overall job experience in customer care between 1 and 10 years, only 16% less than 6 months. Because team leaders and back office employees do not have personal contact with customers on a regular basis, data analyses are based on the subsample of $n = 234$ call agents who exclusively carried out inbound tasks.

Work tasks and division of labour. Most of the time call agents are occupied by inbound calls. Primarily they provide information (i.e., concerning new products and services) and execute orders of customers (e.g., cancellation of contracts). The mean duration of calls is 3 min ($SD = 42.3$ s) and the mean duration of reworking per call 5 min ($SD = 71.2$ s). Remaining activities (13.5% of work time) concern team meetings and processing of information (i.e., updating own knowledge). The training period lasts few weeks, as usual for call agents in Switzerland (Baumgartner et al., 2002).

However, follow-up tasks arising from inbound calls, such as processing of contracts, bills, and letters by mail, are handled by back-office employees.

Comparison sample

A sample of $N = 572$ young workers from five traditional occupations (cooks, sales assistants, nurses, bank clerks, and electronic technicians) was used as a comparison sample. These jobs require extensive vocational training between 2 and 4 years. All of them had 2 years' job experience after finishing vocational trainings. Their mean age was 22.7 years ($SD = 3.15$). Slightly more than half of the sample was female (57.7%), and a similar percentage (55%) was working in the German-speaking and the others in the French-speaking area of Switzerland. The sample emanates from the third wave of the longitudinal research project "Work experiences and quality of life in Switzerland" (AEQUAS; cf. Kälin et al., 2000). The first wave took place in spring 1997, before participants completed their last year of vocational training. For the first wave, questionnaires were handed out in classrooms, in vocational schools. For waves two and three, they were sent out by mail. A stratified sample was drawn with the aim of having an equal representation of French- and German-speaking apprentices within each occupation, of both sexes in the overall sample, and in all selected

occupations except nursing and electronics, where we simply targeted all participants of the minority gender that were available. Service and high-tech occupations were chosen because they characterize the ongoing economic development in Switzerland. Therefore, the comparison sample represents a heterogeneous spectrum of job characteristics and traditional tasks (people work including service work, nursing, sales, and technical tasks, for instance programming and maintenance).

Comparability of the samples

Both samples are comparable in their proportion of females and French-speaking participants. Furthermore, both samples are on average in their twenties, even though the comparison sample is somewhat younger. Moreover, the overall education level is comparable. The crucial difference is that call agents are working in jobs requiring a few weeks' training, whereas jobs in the comparison sample require longer training periods.

Measures

Working conditions. Working conditions (job control, job complexity/variety, and task-related stressors) were measured through a short version of the Instrument for Stress Oriented Task Analysis (ISTA; Semmer et al., 1995). The instrument shows satisfying reliabilities with Cronbach's alpha between .68 and .82 except uncertainty ($\alpha = .62$; see Table 1; $N = 572$). All ISTA-scales consist of items that have a 5-point Likert format, reflecting either intensity or frequency. Job control captures aspects of method control (e.g., independently plan and organize one's own work) and time control (e.g., influence on work pace and schedule). Moreover, job complexity/variety measures complexity of tasks (e.g., necessity of complex decisions) and task variety (e.g., number of tasks). There were five task stressors: time pressure, concentration demands, problems of work organization (e.g., having to work with obsolete information), uncertainty (e.g., unclear instructions), and work interruptions. For some analyses, these five stressors were combined into a single index of task-related stressors by averaging the five scale means (cf. Frese, 1985, or Grebner, 2001, for a similar procedure).

Moreover, social stressors were measured by an instrument of Frese and Zapf (1987), which captures personal animosities, poor group climate, and conflicts based on problems within the relationship to supervisor(s) and colleagues (5-point scale).

Furthermore, emotional dissonance from the FEWS (Frankfurt Emotion Work Scales, Version 3.0; Zapf et al., 1999) was used to assess the frequency of the necessity to display emotions that are not genuinely felt (e.g., "How often do you have to suppress your feelings in your job in order to appear

TABLE 1
Descriptive statistics and internal consistencies (Cronbach's alpha) for all study variables, multivariate (MANCOVA) and univariate analysis of variance (ANCOVA) for effects of group (call agents vs. comparison sample) on working conditions, well-being, and job-related attitudes

		Call centre agents				*Comparison sample*				*Multivariate* [f]		*Univariate* [f]	
Variable	*No. of items*	*M*	*SD*	*N*	α	*M*	*SD*	*N*	α	*F*	*df*	*F*	*df*
Demands/resources													
Complexity/variety [b]	5	2.74	0.53	233	.65	3.42	0.66	568	.80	124.32***	2, 767	155.30 ***	1, 768
Job control [b]	5	2.56	0.85	231	.85	3.45	0.80	572	.82			144.55 ***	1, 768
Task stressors										39.50***	6, 750		
Task Stressor Index	5 scales	2.72	0.46	229	—	2.95	0.55	556	—			42.23 ***	1, 756
Time pressure [b]	4	2.87	0.73	233	.68	3.29	0.84	568	.81			33.63 ***	1, 755
Work organization [b]	4	2.24	0.63	234	.59	2.26	0.70	569	.68			0.38	1, 755
Interruptions [b]	4	2.58	0.78	231	.67	3.43	0.88	568	.76			163.63 ***	1, 755
Concentration [b]	4	3.11	0.77	233	.68	3.31	0.85	571	.81			28.95 ***	1, 755
Uncertainty [b]	4	2.79	0.75	234	.62	2.44	0.66	566	.62			14.95 ***	1, 755
Emotional dissonance [b]	5	3.37	0.84	233	.80								
Social stressors [a]	8	1.87	0.59	234	.75	1.92	0.68	570	.81			0.06	1, 755
Well-being/attitudes										24.77***	6, 720		
Irritation/strain [d]	8	2.45	1.03	233	.86	3.09	1.11	571	.84			15.06 ***	1, 725
Irritated reactions	4	2.36	1.13	233	.85								
Inability to switch off	4	2.54	1.17	233	.78								
Psychosomatic complaints [b]	14 (13) [e]	2.35	0.78	233	.88	1.95	0.58	571	.83			70.41 ***	1, 725
Job satisfaction [d]	4	4.46	1.11	219	.64	4.21	1.18	556	.68			1.26	1, 725
Resigned attitude [d]	4	2.63	1.09	233	.65	2.69	1.14	566	.61			7.62 **	1, 725
Affective commitment [c]	7	4.62	1.16	233	.82	4.24	1.10	569	.82			2.20	1, 725
Intention to quit [b]	2	2.44	1.21	227	.83	2.83	1.33	567	.79			11.31 ***	1, 725
Control variable													
NA [c]	6	2.62	0.69	230	.70	2.92	0.73	564	.74			11.44 **	1, 777

Means shown are not corrected. Significances are related to estimated marginal means. Dashes indicate calculation of internal consistency is not appropriate because a mean is used. [a] scored from 1 to 4; [b]scored from 1 to 5; [c]scored from 1 to 6; [d]scored from 1 to 7; [e] In the call agents sample a 14-item version and in the comparison sample a 13-item version was used. Emotional dissonance was measured only among call agents. [f]Multivariate and univariate analyses of covariance (MANCOVAs) with age, sex, neuroticism, education level, and language region as covariates. Sample size: Call agents: $N = 234$. Comparison sample: $N = 572$. $^{**}p < .01$; $^{***}p < .001$.

neutral?''; 5-point Likert scale). This scale was employed exclusively in the call centre sample.

Well-being. Well-being was assessed in terms of context-free and job-related well-being (Warr, 1999). As an indicator for context-free well-being, psychosomatic complaints were measured with a scale developed by Mohr (1986, 1991; 5-point scale) on the basis of Fahrenberg (1975), asking for frequency of headaches, stomachaches, nervousness, etc. during the preceding year. The scale is comparable to many similar ones used in this type of research (e.g., the Physical Symptoms Inventory by Spector & Jex, 1998) and might be considered as a psychological long-term stress response. It has been used in a variety of studies on stress at work in German-speaking countries (e.g., Büssing, 1999; Frese, 1985; Garst, Frese, & Molenaar, 2000).

Furthermore, well-being was measured by a scale on irritation/strain (Mohr, 1986, 1991; 8 items, 7-point Likert scale). This scale captures aspects of context-free well-being as well as aspects of job-related well-being. Therefore some of the analyses are based on two subscales of the Irritation/Strain scale that differentiate both aspects.

One subscale refers to the inability to ''switch off'' after work and to ruminate about work problems instead in terms of spillover from work to private life (e.g., ''It is hard for me to switch off my mind after work''; 4 items) and, therefore measures job-related well-being. Garst et al. (2000) call this subscale ''worrying''. The other subscale refers to context-free well-being and measures irritated reactions (e.g., ''I am easily annoyed''; 4 items).

Job-related attitudes. Job satisfaction was assessed by a scale that contains three items developed by Oegerli (1984) plus a Kunin Faces. It has been shown to be a good predictor of turnover (Baillod & Semmer, 1994; Semmer, Baillod, Stadler, & Gail, 1996a). Resigned attitude towards one's job is based on Bruggemann's (1974; for an English description see Büssing, 1992) concept of ''resigned job satisfaction''. Items are again from Oegerli, and ask how often one has thoughts like ''my job is not ideal, but it could be worse'', aiming at a defensive, or resentful, adaptation to working conditions that are not optimal (cf. Semmer, 2003; see also Kälin et al., 2000). Affective commitment in terms of strong positive attitudes towards the organization manifested by emotional attachment to, identification with, and involvement in the organization was measured by a scale of Dunham, Grube, and Castaneda (1994; 7-point scale, e.g., ''I enjoy discussing my organization with people outside of it''). Intention to quit was measured with two items (5-point Likert scale), which ask for the subjective probability of staying in the same organization for 6 months or 2 years, respectively (cf. Bluedorn, 1982).

Control variable. As an indicator for negative affectivity (NA) neuroticism was measured, based on the five-factor model of personality (McCrae & Costa, 1985). The short version of the bipolar adjective rating list was used (Ostendorf, 1990; Schallberger & Venetz, 1999).

Data analysis

In order to test Hypotheses 1, 2a, 2b, and 3, comparisons between call agents and the comparison sample with regard to working conditions, well-being, and job-related attitudes were conducted by analysis of covariance (ANCOVA), with gender (dummy coded), language area (dummy coded), level of education (dummy coded), and NA as covariates.

Additionally, in order to consider existing correlations within categories of dependent variables three multivariate analyses of covariance (MANCOVA) were calculated separately for three categories of dependent variables: (1) job control and job complexity/variety, (2) time pressure, work interruptions, problems of work organization, concentration demands, uncertainty, and social stressors, and (3) all measures of well-being and job-related attitudes.

Within the call centre sample, hierarchical regression analyses were performed to predict indicators of well-being, as well as job-related attitudes by working conditions (Hypotheses 4, 5a, 5b, and 5c). In all regression analyses, control variables—NA, gender, language area, level of education, and age—were entered in a first step. Task-related stressors (time pressure, uncertainty, problems of work organization, concentration demands, and work interruptions) were entered in a second step. In order to determine the amount of additional variance explained by social stressors, emotional dissonance, job demands (complexity/variety) and resources (job control), these predictors were entered each in separate steps. Therefore, in a third step social stressors were entered. Emotional dissonance was added in the fourth step. In the fifth step job complexity/variety was added. Finally in the last sixth step job control was entered. Due to entering all types of working conditions in each regression model, each effect of a specific working condition on a dependent variable is not only controlled for ''control variables'' but also for all other types of working conditions.

RESULTS

Table 1 presents descriptive statistics and reliability of all study variables for the call agents and the comparison sample. All measures in both samples indicate mostly satisfying levels of reliability in terms of internal consistency (coefficient α).

Comparison of working conditions, well-being, and job-related attitudes between call agents and the comparison sample

Working conditions. In Table 1, the means of working conditions, indicators of well-being, and job-related attitudes are shown for call agents and the comparison sample. In analyses of covariance, the means are controlled for age, sex, level of education, language area, and NA. As expected (Hypothesis 1), call agents showed significantly lower job control and job complexity/variety compared to employees in traditional jobs. The multivariate term was also significant indicating that the differences are not due to shared variance. Hypothesis 1 is therefore supported.

Unexpectedly, the comparison sample showed higher values in task-related stressors. This applies to the index of task-related stressors as well as to three of the five underlying scales (time pressure, work interruptions, and concentration demands). Call agents had higher values only with regard to uncertainty. The multivariate term was significant, indicating again that the differences are not due to shared variance of dependent variables. However, with regard to organizational problems and social stressors no group differences were found as expected. Hypothesis 2a is not supported with regard to work interruptions, concentration demands, and uncertainty. However, Hypothesis 2a reveals some support concerning social stressors and problems of work organization. Hypothesis 2b is not supported.

Well-being and job-related attitudes. In line with expectations, call agents reported higher psychosomatic complaints and resigned attitude towards the job (corrected means). However, they were also lower on the irritation/strain scale than the comparison sample. For job satisfaction, and affective commitment no difference was found between the samples. Moreover, call agents reported *lower* intention to quit than the comparison sample. Altogether Hypothesis 3 is hardly supported. The multivariate term was significant indicating again that differences are not due to shared variance of well-being and job-related attitudes.

Moreover, it is important to note that the comparison sample showed a higher mean in NA. However, group differences in working conditions, well-being, and job-related attitudes remain the same if neuroticism is controlled, indicating that group differences are not based on NA.

Correlations between working conditions, well-being, and job-related attitudes among call agents

Intercorrelations of all study variables within the call centre sample are shown in Table 2. In line with expectations, task-related stressors, social

TABLE 2
Intercorrelations of all study variables within the call agents sample

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*
1 Age																			
2 Sex	.02																		
3 NA	−.11	.03																	
4 Complexity/variety	.17	−.03	.04																
5 Job control	.22	−.08	−.15	.39															
6 Task stressors (index)	.09	.08	.03	.21	−.06														
7 Time pressure	−.02	.12	.06	.15	−.17	.67													
8 Work organization	.02	.06	.03	.00	−.14	.54	.17												
9 Interruptions	.05	−.02	.06	.16	.05	.68	.34	.22											
10 Concentration	.14	.04	−.06	.32	.21	.57	.29	.03	.26										
11 Uncertainty	.05	.03	.00	−.01	−.19	.66	.31	.38	.24	.14									
12 Social stressors	−.08	−.02	.01	−.17	−.21	.34	.25	.26	.29	−.05	.32								
13 Emotional dissonance	−.07	.16	.15	−.14	−.32	.29	.25	.20	.06	.12	.33	.13							
14 Irritation/strain	−.10	.13	.27	.00	−.14	.21	.18	.19	.14	.05	.12	.18	.28						
15 Inability to switch off	.07	.03	.31	.12	−.02	.20	.22	.07	.10	.12	.12	.12	.17	.60					
16 Psychosomatic complaints	−.10	.20	.29	−.05	−.19	.36	.31	.30	.23	.11	.21	.25	.38	.53	.45				
17 Job satisfaction	.08	.03	−.06	.30	.32	−.21	−.08	−.31	−.11	.13	−.31	−.36	−.21	−.12	.01	−.20			
18 Resigned attitude	−.02	.10	.19	−.07	−.17	.26	.13	.24	.07	.12	.28	.27	.22	.20	.22	−.31	−.38		
19 Affective commitment	.13	−.11	−.14	.30	.36	−.17	−.02	−.32	−.09	.14	−.24	−.31	−.19	−.16	.07	−.23	.66	−.26	
20 Intention to quit	−.17	.12	.09	−.31	−.39	.09	.04	.25	.04	−.26	.22	.35	.15	.19	−.04	.21	−.59	.24	−.68

Sample size $N = 212–234$. Coefficients above $r = .12$ are significant at $p < .05$; above $r = .16$ at $p < .01$; and above $r = .22$ at $p < .001$.

stressors, and emotional dissonance showed a pattern of positive associations with psychosomatic complaints, irritated reactions, inability to switch off, resigned attitude towards the job and intention to quit, as well as negative associations with job satisfaction and affective commitment. Against expectations, positive relationships with concentration demands were found for job satisfaction, and affective commitment and a negative relationship was found with intention to quit.

For job control, the pattern was similar as for the stressors but with a reversed sign. Job control was positively related to job satisfaction and affective commitment and negatively associated with irritated reactions, psychosomatic complaints, resigned attitude towards the job, and intention to quit.

For job complexity/variety, the pattern is similar as for control, with regard to job-related attitudes. Job complexity/variety has clear positive associations with job satisfaction and affective commitment and a negative association with intention to quit. However, we found no associations for the well-being variables.

Working conditions predicting well-being and job-related attitudes

Table 3 shows the prediction of well-being and job-related attitudes by working conditions, controlling for age, sex, language area, education level, and NA.

Control variables predicting well-being, and job-related attitudes. Control variables are important for all dependent variables except for job satisfaction, affective commitment and intention to quit. Typically, it is NA and language region that are responsible for this. Positive associations of both variables are found with inability to switch off, irritated reactions, psychosomatic complaints, and resigned attitude towards the job. Moreover, women show higher psychosomatic complaints.

Job control and job complexity/variety predicting well-being, and job-related attitudes. Controlling for demographic variables (age, sex, educational level, and language area) and NA, job control predicts negatively intention to quit *beyond* other working conditions (i.e., task-related stressors, social stressors, emotional dissonance, and job complexity/variety) ($\Delta R^2 = .02$, $p < .05$). Job complexity/variety predicts job satisfaction ($\Delta R^2 = .04$, $p < .01$) and affective commitment ($\Delta R^2 = .04$, $p < .01$), beyond control variables and other working conditions. Therefore, support for Hypothesis 4 is limited to job-related attitudes concerning job control and job complexity/variety. Altogether, Hypothesis 4 is not very well supported.

TABLE 3
Prediction of well-being and job attitudes by working conditions within the call agents sample

	Irritated reactions		*Inability to switch off*		*Psychosomatic complaints*		*Job satisfaction*		*Resigned attitude*		*Affective commitment*		*Intention to quit*	
Step variable	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
1 Control variables [a]		.13***		.18***		.20***		.04		.11**		.09*		.11**
NA	.23**		.34***		.28***		-.01		.21**		-.11		.05	
2 Task stressors		.06*		.05*		.13***		.17***		.10***		.13***		.10***
Time pressure	.04		.17*		.11		.06		− .02		.10		− .05	
Organizational problems	.12		.00		.14*		− .20**		.16*		− .24***		.13	
Work interruptions	.09		.01		.09		− .01		− .08		− .01		.01	
Concentration demands	.01		− .03		.09		.09		.10		− .02		− .10	
Uncertainty	− .06		− .02		− .05		− .18*		.08		− .09		.09	
3 Social stressors	.14	.01	.18*	.02*	.15*	.02*	− .22***	.06***	.27***	.06***	− .13	.02*	.19**	.04**
4 Emotional dissonance	.21**	.04**	.09	.01	.28***	.07***	− .03	.01	.07	.01	− .04	.01	.02	.01
5 Complexity and variety	.00	.00	.04	.00	− .05	.00	.20**	.04**	− .07	.01	.19**	.04**	− .14	.03**
6 Control	− .03	.00	.01	.00	− .02	.00	.11	.01	− .05	.00	.14	.01	− .19*	.02*
R^2		.24		.26		.42		.32		.28		.30		.31
R^2 adj.		.17		.19		.37		.25		.22		.24		.25

[a]Age, sex, language region, and level of education were included in Step 1 but are not shown. Sample sizes: $N = 209-222$ call agents. Standardized regression coefficients (beta-weights) are from the final model. *$p < .05$; **$p < .01$; ***$p < .001$.

Task-related and social stressors predicting well-being and job-related attitudes. Some task-related stressors explain additional variance beyond job control, and job complexity/variety and each of the dependent variables is affected by at least one type of task-related stressors (see Table 3).

Problems of work organization explain variance in psychosomatic complaints, job satisfaction, resigned attitude towards the job, and affective commitment. Time pressure explains variance in inability to switch off, and uncertainty predicts negatively job satisfaction. Altogether, Hypothesis 5a is moderately supported.

Altogether social stressors are the most consistent predictor among stressors showing unique effects on inability to switch off ($\Delta R^2 = .02$, $p < .05$), psychosomatic complaints ($\Delta R^2 = .02$, $p < .05$), job satisfaction ($\Delta R^2 = .06$, $p < .001$), resigned attitude towards the job ($\Delta R^2 = .06$, $p < .001$), and intention to quit ($\Delta R^2 = .02$, $p < .05$) beyond task-related stressors, emotional dissonance, job control, and complexity/variety. Altogether we revealed satisfying support for Hypothesis 5b with regard to context-free well-being, job-related well-being, and job-related attitudes.

In Hypothesis 5c, we expected emotional dissonance to predict well-being and job-related attitudes over and above the types of stressors that are more established and more often employed in occupational stress research (task-related stressors and social stressors), and controlling for job control and job complexity/variety. For irritated reactions ($\Delta R^2 = .04$, $p < .01$), and psychosomatic complaints ($\Delta R^2 = .07$, $p < .001$), emotional dissonance yields a unique contribution. For job satisfaction, resigned attitude, personal accomplishment, and intention to quit, however, this is not the case, although bivariate relationships were statistically significant for all these variables. Altogether, Hypothesis 5c receives support with regard to context-free well-being, but not for job-related attitudes.

In general, it should be noted that, in all analyses, regression coefficients hardly changed when NA was removed as predictor.

DISCUSSION

This article had two major objectives. First, we wanted to investigate if working conditions of call agents are characterized by low control and low complexity and variety, as has been reported in the literature. Moreover, we wanted to study whether task-related stressors (except time pressure) and social stressors do not differ from other occupations. Moreover we tested if time pressure was higher among call agents.

Second, we wanted to investigate the prediction of various indicators of well-being by aspects of the work situation of call agents, with a special emphasis on (1) the unique role of social stressors, (2) the unique

role of emotional dissonance as a stressor, and (3) the specific outcome variables that are linked to particular aspects of the work situation. Therefore, one general aim of this article is to replicate previous findings concerning (1) differences in working conditions and well-being between call agents and traditional jobs and (2) associations of working conditions with well-being and job-related attitudes among call agents. Beyond the mere replication it contributes to occupational stress research firstly because a broad variety of dependent variables is used (context-free well-being, job-specific well-being, and job-related attitudes). Moreover a unique contribution is, that sample comparisons as well as predictions are controlled for negative affectivity, and that predictions of well-being and job related attitudes by stressors are also controlled for other working conditions.

Job design

With regard to the first issue, we do, indeed, find significantly lower control and lower complexity and variety for call agents as compared to a sample of employees in more traditional jobs that require long lasting vocational training, thus confirming the general trend reported in the literature that reports overly simplified and repetitive tasks with low control among call centre agents. With regard to task-related stressors, however, the picture for our sample of call agents is more favourable than for the comparison sample. This suggests that, apart from initial design decisions, which seem to have been taken according to the usual pattern of strong labour division, the investigated organization had undertaken respectable efforts to install acceptable working conditions. The combination of less control and complexity/fewer variety but also lower task-related stressors are likely to be responsible for the finding that, overall, well-being among call-agents is at a similar level as it is in the comparison sample, which we had not expected. Specifically, call agents have higher values on psychosomatic complaints but lower ones on irritation, with no difference in job satisfaction, resigned attitude towards one's work, and affective commitment. Interestingly, intention to quit is even lower among call agents. This may be due to the fact that the comparison sample is younger, and therefore might anticipate changes more than would be true for an older sample. Nevertheless, given the rather high turnover rates sometimes reported for call agents (Baumgartner et al., 2002), this result seems surprising. It could also be that call agents plan their changes less actively but rather react more spontaneously to opportunities that arise, which might imply that their threshold to quit their job is lower, and thus would explain why a low mean intention to quit might still be associated with a rather high

actual turnover rate. Moreover, this seems plausible because call agents did not invest much in their current job in terms of training and if they quit their job they do not lose much in terms of job demands and resources.

That job control and complexity and variety are rather low, and that both predict intention to quit, certainly has implications for job design. Increasing job control (job enrichment) seems to be the most urgent need. Reducing computer control, for instance by making decisions about breaks, or even planning their shifts, by themselves, would increase time control (and also help to guard against fatigue—Matthews, Davies, Westerman, & Stammers, 2000). Deciding on how to deal with questions that one cannot answer immediately (or *may* not answer immediately even if one knew the answer, because they are outside of one's competences), rather than being required to refer them to a specialist, could be examples of how method control could be improved. Combining direct customer contact with post-processing tasks, rather than having these executed by back-office people, could be a good way of improving complexity and variety (see Isic et al., 1999, for similar suggestions).

On the stressor side, social stressors and problems in work organization are the two aspects most consistently linked to well-being. With regard to the latter, qualitative results revealed that many of these problems are related to poor information flow. For instance, it can happen that a new product is introduced and heavily advertised, but call agents are not informed in advance, and thus are confronted with customer questions that take them by surprise.

Furthermore, if call agents were not only informed in advance, but also consulted, they could be very helpful in avoiding problems, as their customer contacts often enable them to anticipate typical difficulties. This would also improve complexity and variety and increase overall control through participation in product design. However, to rebind call agents, for instance, into product development and development of marketing strategies, would even offend against the principle of division of labour respectively task sharing—the basic idea of call centres. In fact, sufficient improvement of job control, complexity, and variety might require organization development, for instance, in terms of systematically reintegrating customer care into preliminary departments.

Reducing social stressors would probably require specific training, supervision, or coaching for supervisors and/or teams. However, since social stressors often may arise from difficulties at work (Euler, 1977), social aspects may well profit from being treated in conjunction with problems of work organization—for instance, in the context of a quality circle (Cordery, 1996).

Working conditions, well-being, and the specific role of emotional dissonance

Task-related and social stressors. Overall, our results with regard to stressors and well-being confirm our expectations: Task-related stressors predict well-being, and so do social stressors. This conforms to the picture that is generally reported in the literature, and thus does not require much additional comment. A few aspects do, however, deserve to be mentioned. First, these relationships are found even when controlling for NA, thus countering an often-heard criticism (see Spector et al., 2000). Second, social stressors are especially powerful in predicting well-being, and this is important given that, over many years, this type of stressors has received less attention than seems warranted. Only in recent years can one observe an increased focus on this variable, and this research also demonstrated its powerful effects (Dormann & Zapf, 2002; Spector & Jex, 1998). Note that these are social stressors arising within the organization, that is, with colleagues and supervisors, not with customers! Third, the role of "Problems in Work Organization" (barriers to task fulfilment respectively regulation obstacles, cf. Frese & Zapf, 1994) should also be stressed. Our results concerning this variable underscore its importance, as do the findings in call centre samples by Zapf and colleagues (Isic et al., 1999; Zapf et al., 2001).

Emotional dissonance. Based on previous findings (e.g., Zapf et al., 2001) we hypothesized that emotional dissonance would explain variance over and above the other investigated stress factors (job control, job complexity/variety, time pressure, concentration demands, work interruptions, problems of work organization uncertainty, and social stressors; Hypothesis 5), and this was confirmed for irritated reactions and psychosomatic complaints (context-free well-being). This adds further evidence to the role of emotion work in service occupations and underscores the role of emotional dissonance as a stressor in its own right.

Strengths and limitations

The greatest weaknesses of this study are certainly its cross-sectional design and exclusive use of self-reports. Furthermore, the focus on one organization limits the generalizability of our results to other populations, both within and beyond call centres. On the strong side of our study is the fact that we could demonstrate unique relationships between work characteristics and well-being after controlling for NA and other working conditions, and that we employed a broad set of well-being measures, including job-specific well-being and context-free indicators. It should also be mentioned that our results in many respect resemble those obtained by Dormann et al.

(2002) and by Zapf et al. (1999), thus lending additional credibility to both studies.

However, our approach of testing the influence of working conditions on well-being and job-related attitudes by controlling each of the tested effects for numerous other work-related variables has advantages and disadvantages. The advantage of that kind of simultaneous testing is, that results show which working condition contributes independently (uniquely) of other working conditions to well-being and job-related attitudes. However, a disadvantage is, that several effects that would appear by testing less comprehensively using for instance only task-related and social stressors as predictors, are hidden because of overlapping variance of the numerous predictor variables. For instance, using exclusively job control and job complexity/variety as work-related predictors, job control predicts beyond the above-described effects also psychosomatic complaints, job satisfaction, and resigned attitude towards the job, whereas job complexity/variety predicts beyond the above-described effects also intention to quit (all effects in the expected direction).

CONCLUSIONS

In sum, our study shows, once again, the tendency for a strong division of labour in call agent jobs, and it documents again the relationship of these work characteristics with lower levels of well-being and impaired job-related attitudes. This calls for efforts to redesign such jobs, yielding more autonomy, variety, and complexity for instance by job enrichment. At the same time, our data show comparatively low levels in terms of task-related stressors, indicating that job design in the organization we investigated acts more strongly on stressors, and this is, in our sample, in a positive direction.

Furthermore, our study shows relationships between complexity and variety, control, and task-related stressors on well-being and intention to quit. It replicates findings that emotional dissonance is a stress factor in its own right. Moreover, it suggests that social stressors should be measured on a regular basis in addition to task-related stressors.

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