

Perceived Flexibility Requirements at Work and the Entreplooyee-Work-Orientation: Concept and Measurement

Thomas Höge

University of Innsbruck

ABSTRACT

The paper describes the conceptual background and the development of the Flexibility Requirements Scales and the Work Orientation Scales as well as first validity findings. Both measures are based on the entreplooyee concept (e.g., Pongratz & Voß, 2003b). After summarizing the sociological background and content of the entreplooyee concept, distinguishing it from related approaches (intrapreneurship, protean / boundaryless career orientations), and outlining why the entreplooyee concept contributes to quantitative psychological research on flexibility at work, two studies are presented. In Study 1 ($N = 689$) the factor structures of the two measures are tested by confirmatory factory analyses and the relation between flexibility requirements and work orientations are inspected. The results of Study 2 ($N = 441$) give evidence for correlations between flexibility requirements, job control, working time autonomy, and cognitive irritation, as well as associations between the dimensions of the entreplooyee-work orientation, a protean career attitude, personal initiative, and ambiguity tolerance.

Keywords

Flexibility at work – flexibility requirements – entreplooyee – work orientations – work values

1 Introduction

In the last two decades economies of most industrialized countries changed towards increased flexibility. These changes have not only an impact on organizational structures and practices but also on the working conditions and the everyday life conduct of employees in general (e.g., Felstead & Jewson, 1999; Rousseau, 1997).

With their *entreplooyee* concept the German sociologists G. Voß and H. G. Pongratz offered a conceptual framework to describe and analyze this issue (Voß & Pongratz, 1998; Pongratz & Voß, 2003b). Although the entreplooyee concept is broadly discussed within the sociological scientific community in Germany and other European countries, the international research of neighboring scientific disciplines like work and organizational psychology or organizational behavior research has been nearly unaffected by these discussions. Against this background the aim of this article is to introduce the *entreplooyee* concept to a broader scientific community from *organizational behavior research* as well as work and *organizational psychology*,

and to offer quantitative measures to analyze relevant psychological aspects of the concept empirically. First, the concept will be described and distinguished from *intrapreneurship* and the concepts of *boundaryless* and *protean careers*. Second, it will be argued why the entreplooyee concept contributes to a better understanding of the new requirements, risks, and opportunities in the world of flexible work. Third, two questionnaire methods for an analysis of perceived flexibility requirements as well as the dimensions of an entreplooyee-work-orientation are presented. Finally, first empirical findings on the relationships between flexibility requirements, the dimensions of the entreplooyee-work-orientation, and hypothetically related variables are reported.

1.1 From employees to entreplooyees

From their sociological point of view, Voß and Pongratz (1998; see also Pongratz & Voß, 2003b) interpret the development towards increased organizational flexibility mainly in terms of changes in *labor control* (e.g., Braverman, 1974). To reach more flexible organiza-

tions and more flexible production modes, the direct tayloristic ways to control the transformation of employees' latent working capacities into performance seems to be inadequate as tayloristic managerial strategies inhibit workers' motivation, innovation, and competence development as well as organizational flexibility in today's „economies of speed“. Organizations try to cope with this challenge by the use of a new logic of corporate labor control. They apply organizational and managerial practices which reduce direct control and foster employees' *self-organization* and *self-control*. Examples of such strategies are team work, project work, reducing hierarchy levels, and intra-organizational bureaucracy, as well as management by objectives or other managerial practices increasing employees' control in the fulfillment of their everyday work tasks. Additionally, organizations apply work arrangements beyond traditional full-time and permanent contracts to enhance the numerical flexibility of the work force in order to increase possibilities to react on changes in order volumes. The same applies to changes in working time schedules to foster temporal organizational flexibility (for the distinction between numerical and temporal organizational flexibility, see OECD, 1989).

It is argued that these changes of the organization of the labor process demand and concurrently create a new „type“ of employee, the so-called *entrepreneur*. In contrast to the traditional „vocational employee“ (Pongratz & Voß, 2003a), entrepreneurs can be characterized by an increased pressure to (1) *self-control / self-organization*, (2) *self-commercialization*, and (3) *self-rationalization*. Entrepreneurs are not only forced to plan, monitor, and control their daily working activities, as well as to apply strategies of self-motivation (*self-control*) but also to act as „producers“ and „salesmen“ of their own work capacity against the background of an intra-organizational and extra-organizational labor market (*self-commercialization*). They are expected to be strategic actors developing their work capacities continuously and on their own responsibility to secure and prove their value for their current employer as well as to increase their future employability.

Entrepreneurs have also to rationalize their daily work and non-work life against employers' interests (*self-rationalization*). Flexibility requirements challenge the daily routines and aggravate the segmentation of work and private life. Workers have to invest a higher effort to integrate their different life domains (e.g. work, family, social relationships, community related activities, volunteerism, political activities; see also Hochschild, 1997; Putnam, 2000; Sennett, 1998).

Furthermore, Pongratz and Voß (2003a) argue that the described societal and organizational changes effect individuals' *work orientations* by processes of socialization (internalization and adaptation). Work

orientations of entrepreneurs should fundamentally differ from orientations of traditional employees in terms of work-related needs, attitudes, and interpretation patterns. Based on qualitative data, Pongratz and Voß (2003a) identified differences in work orientations between entrepreneurs and traditional employees in three domains corresponding to the „new“ requirements (self-organizations / self-control, self-commercialization, self-rationalization) described above. These differences can be summarized as follows:

First, performance orientations of the entrepreneur can be mainly characterized by the aspiration to *optimize* his or her work performance in terms of efficiency (optimization of input and output). They strive for jobs and work tasks interpreted as personal challenges providing exciting experiences. Moreover, entrepreneurs prefer jobs with a high degree of autonomy and opportunities for personal development. In contrast, the traditional vocational employee mainly strives to fulfill external (e.g., occupational) *standards* of „good work“ in a reliable way.

The second area in which differences between the entrepreneur-work-orientation and the orientation of the traditional vocational employee can be observed is the area of career orientations. Primarily, entrepreneurs aspire careers allowing them to increase their personal autonomy. For some the final goal is to become an entrepreneur establishing their own business. Their need for continuity and security is on a comparably low level and commitment to an organization is high as long as they do not find better opportunities for their personal development in another organization.

The third area in which the work orientation of the entrepreneur differs from the traditional vocational employee concerns the aspired relationship between work- and non-work life. Whereas the typical traditional employee strives for a clearly cut segmentation of life domains, the entrepreneur refuses segmentation and prefers a psychological as well as spatio-temporal integration of work and private life or even a work-centered life conduct. In both cases borders between the life domains should be weak or even non-existing.

Concerning the question of the possible positive or negative consequences for the individual, no unequivocal statements are to be found in the existing literature as the concept claims to be descriptive but not normative. However, Pongratz and Voß (2003b, see also Voß and Pongratz, 1998) argue that the stated changes from employees to entrepreneurs will produce winners and losers depending on individuals' internal and external resources to cope with increased requirements in self-organization / self-control, self-commercialization, and self-rationalization (e.g., qualification, socio-demographic variables like gender, ethnicity, education, as well as personality characteristics).

As noted above, the *entreprenur* concept has been developed against the background of the classical labor process theory (Braverman, 1974; Knights & Willmott, 1990). It shows similarities to ideas from governmentality studies (Bröckling, 2007; Dean, 1999; Rose, 1990), analyzing mechanisms of power beyond direct control but of shaping individuals' mentalities and self-governing capabilities. Empirically, the *entreprenur*-concept has only been validated to some extent in several interview studies, primarily conducted in trend-setting branches like the IT-, media-, and culture-industries (e.g., Haunschild, 2002; Pongratz & Voß, 2004). Another problem of the concept is that the construct is not connected to existing concepts from the psychological or human resource management literature dealing with similar topics. Rooted in industrial sociology, the theoretical background and to some extent also the terminology in which the *entreprenur*-concept is described is sometimes very unfamiliar and likely to be misunderstood by psychologists or scholars from human resource management or organizational behavior research. For example, the term „self-control“ in psychology usually refers to individuals' inhibition of undesired behaviors, habits, and emotions (see, e.g., Baumeister, Heatherton, & Tice, 1994) while within the *entreprenur*-concept „self-control“ means primarily that the individual controls aspects of the environment or his or her own actions internally in contrast to being controlled by others. However, it is evident that these two concepts of „self-control“ are not unrelated, since – from a self-regulation perspective – goal directed, autonomous behavior need to some extent an inhibition of improper or distracting emotions, cognitions and behaviors.

1.2 Differentiating the *entreprenur*-concept from similar constructs: Intrapreneurship, protean, and boundaryless career orientations

Entreprenur is a neologism connecting the terms „entreprenur“ and „employee“ to emphasize the hypothesis of an emerging „self-entreprenurial“ type of employee in the post-tayloristic world of work. *Intrapreneurship* is another widely recognized concept named by a similar neologism but different in its theoretical background and content. Intrapreneurship, fusing the word „intra-corporate“ and „entreprenurship“, is a concept derived from the entrepreneurship literature and very influential in current economic science and practice. Intrapreneurship focuses on antecedents, elements, and effects of entrepreneurship *within existing organizations*. Scholars from the economic sciences as well as practitioners have shown interest in the concept of intrapreneurship since the beginning of the 1980ies due to its beneficial effects on organizations' performances (e.g., Burgelman, 1983; Pinchot, 1985;

Schollhammer, 1982). Initial research focused on the individual intrapreneur (e.g., Pinchot, 1985) and mainly emphasized the intrapreneur's individual characteristics which are very similar to characteristics of entrepreneurs.

Current research on intrapreneurship does not focus primarily on the intrapreneurial personality but on the intrapreneurial organization (e.g., Antoncic & Hisrich, 2001, 2005, 2006). Intrapreneurship in this sense of meaning can be defined as a spirit of entrepreneurship within existing organizations affecting employees' possibilities, competences, intentions, and behaviors with respect to the creation of new business ventures, products and services, or new technologies and administrative strategies (Hisrich & Peters, 1998).

From the description of intrapreneurship presented above similarities but also differences to the *entreprenur*-concept are obvious. As the intrapreneurship-concept is rooted in economics and management research, the focal point is the question how to increase organizational effectiveness and innovation. Therefore, the intrapreneurship concept is much more normative in character than the *entreprenur*-construct focussing on a conceptual description of historical changes in the labor process from tayloristic to post-tayloristic organizational structures as well as managerial strategies and their impact on employees' orientations, mentalities, and conduct of life in general. Another difference is the level of analysis. Whereas current intrapreneurship research mainly deals with intrapreneurship on the corporate level, research on the *entreprenur*-concept focuses on requirements and effects for the individual.

However, it can be argued that there is also a connection of the two concepts. From the standpoint of the *entreprenur*-concept, intrapreneurship is one of several post-tayloristic organizational strategies fostering the development of the „new type“ of employees. It should be evident that organizations that apply an intrapreneurship strategy have to give employees responsible autonomy to behave in an „intrapreneurial“ way, which increases the requirements for self-organization and self-control. Moreover, intrapreneurship needs also employees characterizable by the *entreprenur*-work-orientation described above.

Another line of research dealing with changes in working life towards increased flexibility focuses on changes in the nature of *careers* and the implications for individuals and organizations. Two concepts based on the background of theories on organizational behavior and the research tradition on career management attracted increasing attention in recent years: The concepts of the *protean career* and the *boundaryless career*. Both ways of viewing careers can be understood as a reaction to the decline of traditional (intra-) organizational careers since the late 1970ies (Briscoe, Hall,

& DeMuth, 2006). Arthur and Rousseau (1996) pointed out that boundaryless careers – in contrast to traditional careers – unfold beyond a single employment setting. At least six different aspects shape the meaning of the boundaryless career: They develop across the boundaries of separate employers, draw validation from outside the organization, and are sustained by external networks or information. Moreover, boundaryless careers involve individuals rejecting existing career opportunities for personal or family reasons; further, they are based on individuals' perceptions of a boundaryless future regardless of structural constraints (see also Sullivan & Arthur, 2006).

The concept of the *protean career* (Hall, 2004; Hall & Mirvis, 1996) shows some overlap with the boundaryless career concept. However, there are some differences. The *boundaryless career* focus on physical and psychological mobility and stresses the relation between the individual and organizations, whereas the concept of the *protean career* deals primarily with the subjective perspective of the career actor and identity-related implications. It is argued that individuals who hold protean career attitudes use primarily their own values to guide their career. They shape the career against internal standards instead of adapting to the standards and values of the organization. Moreover, they share the belief that they personally – and not organizations – are in charge to manage their career which includes the readiness to adapt to external conditions by learning and behavior (Briscoe & Hall, 2006).

Similar to intrapreneurship, there are overlaps but also differences between the entrepmployee concept and the boundaryless career mindset and the protean career orientation, respectively. Overlaps are that all three concepts state a decline of the traditional organizationally driven career and therefore an increasing discontinuity in occupational biographies. Moreover, all three concepts stress the importance of an employability-orientation, including monitoring the internal and external labor market, as well as the self-directed and permanent reflexion and development of work-related competences. Psychological and physical mobility, the orientation that careers nowadays are self-directed and that the main criterion is psychological success, are very compatible to parts of the description of the *self-commercialization* facet of the entrepmployee concept as well as the second dimension of the entrepmployee-work-orientation focusing on entrepemployees' needs with regard to career and occupational development. As described above, this includes a strong need for autonomy and personal development, and low needs for security and continuity. However, the main difference between the entrepmployee concept and the two career concepts are their scopes. The protean and the boundaryless career concepts focus exclusively on aspects of personal career development and the re-

lationship between the individual and organizations. The entrepmployee concept is much broader in content. Beneath aspects of requirements and individual needs with regard to occupational development it includes also requirements and needs with respect to characteristics of work tasks and the relationship between working and non-working life. Moreover, compared to the protean career concept, the entrepmployee concept is more descriptive in nature. The protean career concept includes not only a description of changes in careers since the 1980ies. Literature on this concept also provides strategies how individuals are able to cope with these changes (e.g., Hall, 1996).

In sum, it is concluded that the entrepmployee concept shows some overlap with intrapreneurship, protean career orientation and boundaryless career orientation. However, the short overview of related concepts gave evidence that none of the described constructs is identical to the entrepmployee concept. From the perspective taken here, the entrepmployee concept can serve as a framework in which the described concepts can be embedded as the entrepmployee concept integrates „new“ requirements in different behavioral domains (task fulfillment, career development, overall conduct of life) with a specific syndrome of work orientations against the background of historical changes of the labor process and managerial strategies in developed economies. The width of the concept is surely a strength as no single and isolated construct is picked up which would increase the danger of a reductionist view. In contrast, the entrepmployee-work-orientation approach sketches a new work orientation type characterized by a specific interplay of several work- and non-work related needs and motives. On the other hand, the entrepmployee concept shows in some parts a lack of psychological precision mixing external requirements, traits, motives, attitudes, and behaviors.

Another problem is that the entrepmployee concept is only investigated by qualitative studies. One reason is the non-existence of quantitative measures based on the entrepmployee concept. In the following sections, two studies will be described dealing with this problem. The first study reports the development and factor structures of scales for the measurement of perceived flexibility requirements and individuals' work orientations based on the entrepmployee concept. The second study investigates relationships between the measured constructs with hypothetically related constructs.

2 Study 1

2.1 Participants of Study 1

The study has been conducted in Austria. In the context of six diploma theses on different aspects of flexi-

bility at work students handed out 920 questionnaires including the flexibility requirements scales and the work orientation scales to employees from a large variety of occupations, branches, and organizations. Thus, large variance of work orientations and flexibility requirements could be ensured. $N = 689$ questionnaires have been returned (response rate: 75 %). 52.5 % of participants were female, 47.5 % were male. The mean age of participants was 33 years, 6 months (range: 17 to 65 years), and average job tenure was 2 years, four months. 79.4 % of participants worked in full-time arrangements, 20.6 % in part-time arrangements. 39.6 % were (applied-) university graduates, 60.4 % did not receive a higher education. Therefore, employees with higher education were over-represented in the sample. Participants worked in the following branches: 13.4 % in craft, manufacturing, or production; 5.8 % in public administration; 27.9 % in private administration; 29.1 % in health services, education, social work; 6 % in consulting, IT, media, culture; 11.9 % in „classical“ service branches (e.g., retail, gastronomy); 7.9 % in others.

2.2 Measures of Study 1

Flexibility Requirements Scales. Based on the idea of Voß and Pongratz (1998; see also Pongratz & Voß, 2003a, 2003b) that in a new world of work employees are faced with increased requirements for self-organization / self-control, self-commercialization, and self-rationalization a pool of 21 items was generated measuring individual perceptions of the level of requirements from the organization in these three domains. For the item development, the theoretical descriptions of self-control, self commercialization, and self rationalization by Voß and Pongratz (1998, 2003) were inspected as well as typical interviewees' responses in their qualitative study with 60 employees from different branches (insurance, manufacturing, IT). The content of constructs and interview responses were „translated“ into statements broaching the issue of employees' perceptions of employers' expectations regarding work and career related behaviors. Answers have to be given on a six-point Likert scale from 1 = „disagree strongly“ to 6 = „agree strongly“. In a former study ($N = 407$; see Höge, 2006), the psychometric properties of the items were analyzed and an exploratory factor analysis (EFA) over all items was computed. After eliminating seven items due to factor loadings $< .40$ on any factor and loadings above $.40$ on more than one factor in the EFA, a four factor structure resulted. The final version consists of 14 items. The four factors could be easily interpreted as (1) *requirements for self-organization* (5 items; e.g., „In my work, my employer expects from me to make my own decisions without asking my superior first“), (2) *requirements for a self-*

directed career development (2 items; e.g., „In my work, my employer expects from me to take responsibility for my own professional advancement“), (3) *requirements for self-directed learning* (2 items; e.g., „In my work, my employer expects from me to attend in-service training courses“, and (4) requirements for temporal flexibility (5 items; e.g., „In my work, my employer expects from me to be flexible as far as my working hours are concerned“).

Work Orientation Scales. The Work Orientation Scales are based on the description of the entreploeoyee-work-orientation and interviewees' responses in the qualitative study by Pongratz and Voß (2003a; see above). From their sociological point of view Pongratz and Voß (2003a, p. 41) defined *work orientations* as a *syndrome* of interpretation patterns, subjective interests, expectations, needs or preferences, as well as behavioral strategies with respect to individuals work' and employment situation. From a psychological point of view, this definition is very broad, fuzzy and therefore difficult to translate in consistent and coherent quantitative measures. Due to this problem we decided to narrow the content and focused on work orientations in terms of *personal needs or preferences* regarding work. At a first step, a pool of 48 items was developed. Respondents were asked to indicate to which extent several aspects of work *in general* are personally *important* to them, not dependent upon whether these aspects are realized in their actual job or not. The items covered needs related to the three domains in which the entreploeoyee-work orientation should differ from the work orientations of traditional „vocational“ employees (Pongratz & Voß, 2003a; see above): The domain of (1) performance orientations, (2) career orientations, and (3) personal preference regarding the relationship between the work and the non-work life domains. Based on the results of several pilot studies (see Höge, 2006, 2007), the number of items was successively reduced from 48 items to a shorter version with 25 items. During this process, several EFAs were computed and items with high double loadings or low factor loadings below $.40$ in general, as well as items with a item-total correlation below $.30$ were excluded. EFAs over the 25 items gave evidence for a nine factor solution (based on the Kaiser-criterion; Eigenvalues > 1) or a seven factor solution (based on a Scree-Test). The seven scale version consists of the following scales: (1) *need for performance optimization* (4 items; e.g., „With reference to my work, it is particularly important for me that ... I get the best out of myself“), (2) *need for role clarity* (2 items; e.g., „With reference to my work, it is particularly important for me that ... I am assigned clear and unambiguous tasks“), (3) *need for an opportunity-optimizing career development* (5 items; e.g., „With reference to my work, it is particularly important for me that ... I collect as much diverse

experience with various employers as possible“), (4) *need for autonomy* (5 items; e.g., „With reference to my work, it is particularly important for me that ... I can decide for myself how I do my work“), (5) *need for security* (4 items; e.g., „With reference to my work, it is particularly important for me that ... I have a secure income rather than a fascinating job“), (6) *need for spatio-temporal flexibility* (4 items; e.g., „With reference to my work, it is particularly important for me that ... I am totally free to choose when I work“), and (7) *need for segmentation between the work- and life-domain* (3 items; e.g., „With reference to my work, it is particularly important for me that ... it is possible to clearly separate my work from my private life“). The response format ranges from 1 = „completely unimportant“ to 6 = „very important“.

High values on the scales (1), (3), (4), and (6), and low values on the scales (2), (5), and (7) should be indicators of a strong employee-work-orientation. In the nine scales version, the scale (1) *need for performance optimization* is splitted into the scales (1a) *need for efficiency* (2 items), and (1b) *need for challenge* (2 items), and the scale (6) *need for spatio-temporal flexibility* is splitted into (6a) *need for spatial flexibility*, and (6b) *need for temporal flexibility*.

2.3 Results of Study 1

First, several Confirmatory Factor Analyses (CFAs) were computed to test and compare different factor models for the items of the Flexibility Requirements Scales and the Work Orientation Scales.

For the items of the Flexibility Requirements Scales, a one-factor model, a three-factor model (based on the rationale of item construction, see above), and a four-factor model based on the results of the EFAs of our pilot study were tested. To evaluate the models, an established set of goodness-of-fit indices and common cut-off values was used (e.g., Byrne, 2001): Relative chi-square (χ^2/df), Incremental Fit Index (IFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). The results (Table 1) show that the one-factor model and the three-factor model did yield a bad fit.

The four-factor model shows an acceptable fit, as indicated by IFI, TFI, and CFI above .90 and RMSEA below .08. Therefore, it is concluded that the results presented here confirm the four-factor structure of the measure identified in the pilot studies, and contradict the original three dimensions which formed the theoretical basis of scale development.

Table 1: Confirmatory Factor Analysis: Flexibility Demands Scales (Study 1).

Model	χ^2	<i>df</i>	χ^2/df	IFI	TLI	CFI	RMSEA
1 factor	1469.66	65	22.61	.52	.42	.52	.177
3 factor	527.16	62	8.50	.84	.80	.84	.104
4 factor	228.66	59	3.88	.94	.92	.94	.065

Note. χ^2 = chi-square discrepancy; *df* = degrees of freedom; χ^2/df = relative chi-square discrepancy; IFI = Incremental Fit Index; TLI = Tucker Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.

Table 2: Confirmatory Factor Analysis: Work Orientation Scales (Study 1).

Models	χ^2	<i>df</i>	χ^2/df	IFI	TLI	CFI	RMSEA
1 factor	4955.86	275	18.02	.26	.19	.26	.157
7 factor	972.86	254	3.83	.89	.87	.89	.064
9 factor	617.04	239	2.58	.94	.93	.94	.048

Note. χ^2 = chi-square discrepancy; *df* = degrees of freedom; χ^2/df = relative chi-square discrepancy; IFI = Incremental Fit Index; TLI = Tucker Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.

With respect to the Work Orientation Scales, a one-factor model, a seven-factor model (based on the Scree-Test within our pilot study), and a nine-factor model (based on the Kaiser-Criterion within our pilot study) were tested. The results of the CFAs are depicted in Table 2. The nine-factor model shows the best fit with IFI, TLI, and CFI above .90 and RMSEA below .05.

Based on the results of the CFAs, the Flexibility Demand Scales were scaled according to the four-factor model, and the Work Orientation Scales according to the nine-factor model. Table 3 shows the descriptive results for the scales, their internal consistencies (Cronbach's Alpha), and the intercorrelations.

The reliability (Cronbach's Alpha) of all scales is sufficient ($\alpha > .60$). However, the scales *need for role clarity* (2 items) and *need for spatial flexibility* (2 items) reach only values of .68 and .65.

All four flexibility requirements are significantly interrelated. Correlation coefficients range from $r = .25$ ($p < .01$) between requirements for self-directed career development and requirements for temporal flexibility to $r = .59$ ($p < .01$) between requirements for self-directed career development and requirements for self-directed learning.

The interrelationship between the work orientation scales is more complex. Need for efficiency and challenge are significantly associated ($r = .59$; $p < .01$), and both scales correlate with the need for an opportunity-optimizing career development and need for autonomy (from $r = .27$; $p < .01$ to $r = .52$; $p < .01$). Need for autonomy is also significantly associated with needs for spatial and temporal flexibility.

Need for security and need for role clarity are also interrelated ($r = .56$; $p < .01$). The need for segmentation between the work- and the non-work life domains shows only very weak associations to the other work-orientation subscales. It is only weakly associated with the need for security ($r = .12$; $p < .01$) and the need for an opportunity-optimizing career development ($r = .09$; $p < .05$).

Summarizing the intercorrelations between the several facets of work orientations, it can be concluded that there are approximately two bundles of orientations which show only a very weak interrelation between each other. The first bundle includes scales functioning as positive indicators for the employee-work-orientation (needs for efficiency, challenge, opportunity-optimizing career development, spatial flexibility, temporal flexibility), whereas the second bundle consists of scales which can serve as negative indicators of the employee-work-orientation focusing on individuals' needs for a well-structured work environment (needs for security and role clarity). The wish to segregate work and private life (need for segmentation) belongs neither to the first nor to the

second „bundle“ and shows none or only very weak relations to other scales.

Derived from the idea that flexibility requirements enhance the development of an employee-work-orientation by mechanisms of adaption and internalization (Pongratz & Voß, 2005), the canonical correlations (see, e.g., Tabachnik & Fidell, 2007) between the Flexibility Requirements Scales and the Work Orientation Scales were computed.

The canonical correlation analysis identified three significant canonical correlations or „roots“. The first canonical correlation between the two variable sets is $r_{c1} = .48$; (Wilk's $\lambda = .64$; $F(36, 2535) = 8.89$, $p < .01$). The first canonical variate for the flexibility requirements variables explains 23% of the variance of the work orientation variables. The second significant canonical correlation is $r_{c2} = .52$ (Wilk's $\lambda = .82$; $F(24, 1964) = 5.50$, $p < .01$) explaining 10% of variance, and the third significant canonical correlation is $r_{c3} = .26$ (Wilk's $\lambda = .92$; $F(14, 1356) = 3.99$, $p < .01$) explaining 7% of variance. An inspection of the standardized canonical loadings of variables on the canonical variates (see Table 4) shows that only the first canonical correlation is easily to interpret. We followed the common rule of thumb that variables with loadings of .50 and above should be interpreted as part of the variate (Tabachnik & Fidell, p. 587). With such a cutoff all variables of the flexibility requirements set were (negatively) related to the corresponding first canonical variate. In the work orientation variables set, need for efficiency, need for challenge, need for an opportunity optimizing career development, need for autonomy, and need for spatial flexibility correlate (also negatively) with the first canonical variate of the work orientation set. Thus, the first canonical correlation reflects that higher scores of perceived flexibility requirements are associated with higher scores on the positively poled dimensions of the employee work orientations. The only exception is the work orientation dimension *need for temporal flexibility*. Table 4 gives also evidence that the negatively poled work orientation dimensions are almost unrelated to flexibility requirements. Need for role clarity, need for security and need for segmentation between the work- and non-work life domains, shows only low loadings under .50 on any of the three canonical variates. Therefore, we conclude that flexibility requirements are related to the more *proactive* work orientations and not to the dimensions focusing on strivings for *external structure* like role clarity, security and a clear segmentation between life domains.

In summary, the results of Study 1 show that the Flexibility Demand Scales and the Work Orientation Scales show sufficient psychometric properties. Furthermore, it could be shown that flexibility requirements and work orientations are interrelated sup-

Table 3: Descriptive statistics and intercorrelations (Study 1).

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Flexibility Demands Scales</i>															
1	4.81	0.73	.76	.29**	.57**	.27**	.52**	.24**	-.05	.27**	.51**	.08*	.06	.08*	.02
2	4.06	1.22	.85	.25**	.59**	.25**	.15**	.14**	-.01	.26**	.14**	.00	.15**	.05	-.02
3	3.93	1.30	.76	.29**	.76	.29**	.18**	.24**	-.04	.17**	.13**	.05	.22**	-.07	.00
4	3.89	1.05	.76	.76	.19**	.76	.19**	.12**	.01	.26**	.11**	-.01	.25**	.17**	.01
<i>Work Orientation Scales</i>															
5	4.74	0.90	.71	.71	.59**	.59**	.05	.52**	.05	.52**	.52**	.06	.15**	.05	.07
6	4.70	0.91	.84	.84	.84	.84	-.09*	.27**	-.09*	.29**	.27**	-.05	.06	-.02	.01
7	3.13	1.15	.68	.68	.68	.68	.68	.08*	.68	.08*	-.06	.36**	-.09*	-.00	.06
8	4.04	0.97	.81	.81	.81	.81	.24**	.81	.81	.81	.24**	.01	.10**	.10**	.09*
9	5.17	0.74	.75	.75	.75	.75	.75	.75	.75	.75	.75	.05	.22**	.24**	.07
10	4.10	0.96	.81	.81	.81	.81	.81	.81	.81	.81	.81	.81	-.14**	-.15**	.12**
11	5.27	1.31	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.39**	-.01
12	3.91	1.16	.73	.73	.73	.73	.73	.73	.73	.73	.73	.73	.73	.73	.00
13	4.13	1.47	.89	.89	.89	.89	.89	.89	.89	.89	.89	.89	.89	.89	.89

Note. * $p < .05$, ** $p < .01$; matrix diagonal: Cronbach's Alpha (scale reliability); *M* = Mean; *SD* = Standard Deviation.

Table 4: Canonical loadings of flexibility demand variables, work orientation on their corresponding canonical variates. (Study 1).

		1 st Canonical Variates	2 nd Canonical Variates	3 rd Canonical Variates
<i>Flexibility Demands Scales</i>				
1	Requirements for self-organization	-.85	-.46	-.29
2	Requirements for a self-directed career development	-.59	.12	.16
3	Requirements for self-directed learning	-.62	.62	-.48
4	Requirements for temporal flexibility	-.65	.30	.61
<i>Work Orientation Scales</i>				
5	Need for efficiency	-.69	-.20	.40
6	Need for challenge	-.57	.09	.04
7	Need for role clarity	.05	-.01	.07
8	Need for opportunity optimizing career development	-.74	-.04	-.49
9	Need for autonomy	-.59	-.37	-.03
10	Need for security	-.11	-.06	.21
11	Need for spatial flexibility	-.43	.64	.28
12	Need for temporal flexibility	-.23	-.25	.68
13	Need for segmentation (work- and life-domain)	-.02	-.02	-.01

porting the propositions by Pongratz and Voß (2003a). However, this is not the case for all dimensions of the measured work orientation dimension: Need for role clarity, social security, and a clear cut segmentation of the life domains are almost unrelated to perceived flexibility requirements.

5 Study 2

The aim of the second questionnaire study was (1) to inspect the relationship between flexibility requirements, flexibility related job resources (job control, working time autonomy), and the strain variable *cognitive irritation*, as well as (2) the relationship between the dimensions of the Work Orientation Scales and constructs which should be related to an entremployee-work-orientation (personal initiative, protean career attitude, and ambiguity tolerance). The results should give some information about the convergent validity of the measures.

With regard to flexibility requirements, it is hypothesized that employees perceiving higher organizational demands to adapt to flexible environments and to organize their tasks completion, their competence development, and their career by themselves should also

have higher job control and working time autonomy than employees with low flexibility requirements. This assumption is based on the idea that giving autonomy to workers is – from the organizations' point of view – an important condition to enable employees to cope with organizational flexibility requirements *proactively* (see, e.g., Parker, Williams, & Turner, 2006). Therefore, an empirical correlation between flexibility demands and work related autonomy is expected as most organizations should recognize that flexibility requirements and autonomy should be two sides of one coin.

Moreover, it is proposed that the flexibility requirements scales are positively related to cognitive irritation. As Mohr (1991) pointed out, cognitive irritation is a psychological stress reaction at a medium level of intensity and covers cognitive rumination of problems at work in employees' leisure time. According to Pongratz and Voß (2003b), it is assumed that flexibility requirements can weaken the border between working life and private life as well as increase the probability that employees cannot „switch off“ thinking about problems at work after a working day.

Concerning the Work Orientation Scales, correlations with constructs showing some conceptual overlap with the entremployee-work-orientation were hypo-

thesized. Based on the argumentation in the introduction (see above), it is assumed that the dimensions of the Work Orientation Scale are significantly related to the protean career attitude.

Furthermore, we hypothesize that the dimensions of the entrepreneur work orientation are also positively related to the individual disposition to show personal initiative. Personal initiative (PI) can be defined as the co-occurrence of a set of different behaviors resulting in taking a proactive, self-starting approach to work goals and tasks as well as persisting in overcoming barriers and setbacks (Fay & Frese, 2001; Frese, Fay, Hillburger, Leng, & Tag, 1997; Frese, Kring, Soose, & Zempel, 1996). Individuals high on PI anticipate future demands, attempt to receive feedback, set long term goals independently from others (e.g., supervisors), and pursue goals persistently even in the face of barriers without giving up quickly. In comparison to the entrepreneur concept, PI is much more focused. It focuses on individual differences – and their antecedents and consequences – in self-starting, proactive, and persisting work behavior. It can be assumed that PI is a helpful behavioral pattern to cope with requirements for self-organization / self-control as well as self-commercialization as components of the entrepreneur concept as both requirements include requirements for proactivity with respect to the work process and the development of the work capability or employability. It can also be proposed that individuals with an entrepreneur-work-orientation are higher on PI than employees with a more „traditional“ mentality. For example, Fay and Frese (2001) report a negative correlation between PI and control rejection, and a positive correlation between PI and readiness for change at work. Fay and Frese (2000) found also a negative relation between PI and psychological conservatism which means a preference for environmental stability and predictability. Therefore, it is proposed that entrepreneurs should be characterized also by high PI.

Moreover, significant correlations with the personality characteristic *ambiguity tolerance* (Frenkel-Brunswick, 1949) are proposed. Ambiguity tolerance refers to the extent individuals evaluate ambiguous or *uncertain* stimuli or situations desirable, challenging, or interesting but not threatening (e.g., Furnham, 1995). As the entrepreneur-work-orientation can be characterized by a low need for security and external structure of the work situation (Pongratz & Voß, 2003a), it is assumed that the entrepreneur-work-orientation is positively related to ambiguity tolerance.

3.1 Participants of Study 2

As in the first study, a convenience sample by a dispersion of 700 questionnaires to employees from different occupations and with different levels of education was

gathered. Data collection was realized in the course of two students' teaching projects supervised by the author. The response rate was 63 %. Accordingly, our sample consists of $N = 441$ participants.

52.4 % of participants were female, 47.6 % were male. The mean age was 35 years, eight months (range: 16 to 65 years). The average job tenure was 4 years, four months. 71.2 % worked full-time, 28.8 % part-time. 15.9 % were (applied-) university graduates, 84.1 % were without a higher education. The distribution of educational levels of Study 2 is more representative for the Austrian workforce than the distribution in Study 1 (see Schönberger, 2007). Participants worked in the following branches: 15.2 % in craft, manufacturing, or production; 5.6 % in public administration; 23.7 % in private administration; 26.5 % in health services, education, or social work; 4.7 % in consulting, IT, media, or culture; 20.8 % in „classical“ service branches (e.g., retail, gastronomy); 5.5 % in others.

3.2 Measures of Study 2

Flexibility requirements and work orientations were measured by the scales described in the Methods section of Study 1.

Moreover, *job control* was included with a 5-item scale by Semmer, Zapf, and Dunckel (1999). The measure uses a five-point Likert scale (e.g., „Are you allowed to decide the way of fulfilling your work tasks?“).

Working time autonomy was measured by an 11-item scale by Büssing (1996) with a five-point Likert scale. The items do not ask about the flexibility of formal work schedules but actual personal control over location, duration, and distribution of working time (e.g., „I can decide by myself how many hours I work on a working day“).

Cognitive irritation was assessed by a scale from Mohr et al. (2004). The measure consists of three items (e.g., „Even at home I cannot stop thinking about problems from work“). We used a five-point Likert scale. The irritation scale is well validated in many studies in nine different languages and cultures (Mohr, Müller, Rigotti, Aycan, & Tschan, 2006).

The *protean career attitude* was measured by the Protean Career Attitude Scale by Briscoe, Hall, and Frautschy DeMuth (2006; German translation: Gasteiger, 2007). The scale measures the two dimensions of the Protean Career Attitude: *Self-directed* and *value-driven*. The dimension *self-directed* consists of eight items. (e.g., „When development opportunities have not been offered by my company, I've sought them out on my own“). The dimension *value-driven* covers six items (e.g., „I'll follow my own conscience if my company asks me to do something that goes against my values“). Answers are to be given on a five-point Likert scale.

Personal initiative was assessed via a seven-item scale (German version) by Frese et al. (1997) using also a five-point Likert scale (e.g., „Whenever there is a chance to get actively involved, I take it“).

Ambiguity tolerance was measured by the eight-item scale from Dalbert (1999). Participants respond on a six-point scale (e.g. „I like unpredictable situations“). The scale usually shows good psychometric properties (Bardi, Guerra, & Ramdeny, 2009)

All scales show sufficient internal consistencies (see Table 5 and 6).

3.5 Results of Study 2

Table 4 depicts the correlations between flexibility requirements and job control, working time autonomy, and cognitive irritation. Requirements for self-control / self-organization as well as requirements for a self-directed career development are significantly related to job control ($r = .56, p < .01$; $r = .27, p < .01$) and working time autonomy ($r = .18, p < .01$; $r = .15, p < .01$). Requirements for self-directed learning are significantly related to job control ($r = .26; p < .01$) but not to working time autonomy, and requirements for temporal flexibility are neither related to job control nor to working time autonomy. All four dimensions of flexibility show significant correlations to experiences of cognitive irritation. The correlations range from $r = .26$ ($p < .01$) for requirements for temporal flexibility to $r = .10$ ($p < .05$) for requirements for a self-directed career development. The higher the level of flexibility requirements, the higher is the probability to ruminate about problems at work in the leisure time.

On the whole, the expected relationships between the dimensions of the Work Orientation Scales and personal initiative, the protean career attitude, and ambi-

guity tolerance (see Table 5) could also be detected. As described above, the Entrepmployee-work-orientation should be indicated by high scores of the scales measuring employees' needs for efficiency, challenge, opportunity-optimizing career development, autonomy, and spatial / temporal flexibility. Aside from needs for spatial and temporal flexibility, all the other variables correlate significantly and positively with personal initiative, ambiguity tolerance, and a protean career attitude „self directed“. The strongest correlations with personal initiative, the „self directed“ dimension of the protean career attitude, and ambiguity tolerance were found for the need for autonomy ($r = .41$; $r = .44$; $r = .51$, for all $p < .01$) and the need for challenge ($r = .40$; $r = .58$; $r = .42$; for all $p < .01$). However, there was no significant relationship between the need for spatial flexibility and ambiguity tolerance, and between the need for temporal flexibility and the “self-directed” dimension of the protean career attitude.

For the three reversed coded scales (needs for role clarity, security, and segmentation of the life domains), the results are more ambiguous. Only need for role clarity showed the expected negative correlations with personal initiative ($r = -.18$; $p < .01$), protean career attitude “self directed” ($r = -.15$; $p < .01$), and ambiguity tolerance ($r = -.51$; $p < .01$). Need for security correlates negatively with the “self-directed” dimension of the protean career attitude ($r = -.24$; $p < .01$), and ambiguity tolerance ($r = -.53$; $p < .01$) but not with personal initiative. Need for segmentation is only significantly related to ambiguity tolerance ($r = -.16$; $p < .01$) but not to personal initiative and the protean career attitude dimension „self-directed“.

The „value-driven“ dimension of the protean career attitude shows only very weak or non-significant correlations with all sub-scales.

Table 5: Correlations between flexibility demands, job control, working time autonomy, and cognitive irritation (Study 2).

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1	Requirements for self-organization	4.83	0.74	.75	.35**	.44**	.19**	.56**	.18**	.24**
2	Requirements for a self-directed career development	4.10	1.27		.88	.45**	.15**	.27**	.15**	.10*
3	Requirements for self-directed learning	3.81	1.38			.79	.09*	.26**	.05	.18**
4	Requirements for temporal flexibility	4.06	0.95				.67	-.05	-.00	.26**
5	Job Control	3.66	0.79					.83	.52**	.09
6	Working time autonomy	3.06	0.88						.88	-.01
7	Cognitive irritation	2.52	1.02							.89

Note. * $p < .05$, ** $p < .01$; matrix diagonal: Cronbach's Alpha (scale reliability); *M* = Mean; *SD* = Standard Deviation.

Table 6: Correlations between Work Orientations, Personal Initiative, Protean Career Attitude, and Ambiguity Tolerance (Study 2).

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Need for efficiency	4.64	0.84	.77	.48**	-.09	.50**	.44**	.00	.07	.05	-.05	.54**	.53**	.10	.25**
2 Need for challenge	4.40	1.02	.89	.51**	-.19*	.43**	-.16**	-.16**	.01	.01	-.08	.40**	.58**	.14*	.42**
3 Need for role clarity	3.51	1.09	.68	.01	.68	-.17**	.27**	.27**	-.07	-.02	.24**	-.18**	-.15**	-.08	-.51**
4 Need for opportunity optimizing career development	3.96	0.98	.82	.51**	-.11*	.15**	.25**	.10*	.15**	.25**	.10*	.26**	.27**	.10	.29**
5 Need for autonomy	4.92	0.84	.81	-.05	.24**	.25**	-.02	.28**	.00	-.02	.28**	-.00	-.24**	-.01	-.35**
6 Need for security	4.29	0.77	.70	.70	.00	.70	.00	.70	.53**	.53**	-.00	.10*	.19**	.09	.08
7 Need for spatial flexibility	5.00	1.21	.70	.70	.70	.70	.70	.70	.73	.73	.15**	.15**	.09	.08	.13**
8 Need for temporal flexibility	3.72	1.11	.80	.80	.80	.80	.80	.80	.80	.80	.80	.80	.06	-.01	-.16**
9 Need for segmentation	4.89	0.89	.81	.81	.81	.81	.81	.81	.81	.81	.81	.81	.47**	.27**	.50**
10 Personal initiative	3.82	0.56	.77	.77	.77	.77	.77	.77	.77	.77	.77	.77	.77	.59**	.50**
11 Protean career attitude: Self directed	3.79	0.55	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.14*
12 Protean career attitude: Value driven	3.55	0.65	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78
13 Ambiguity tolerance	3.40	0.75	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78	.78

Note. * $p < .05$, ** $p < .01$; matrix diagonal: Cronbach's Alpha (scale reliability); M = Mean; SD = Standard Deviation.

4 Discussion

The present paper aimed at (1) describing the sociological entrepreneur concept developed by Voß and Pongratz (1998, 2005), (2) distinguishing it from intrapreneurship, and boundaryless / protean career, (3) presenting multi-dimensional psychological measures for flexibility requirements and employees' work orientation against the theoretical background of the entrepreneur-concept, and (4) reporting correlations with psychological constructs which were expected to show contentual overlap.

Study 1 gave evidence for a four-factor structure of the Flexibility Requirements Scales and a nine-factor structure of the Work Orientation Scales. Thus, our *empirical* results on the dimensionality of measures do not converge with the three „dimensional“ *theoretical* conceptualization of the original entrepreneur construct (self control, self commercialization, and self rationalization) as well as the three original domains in which work orientations between entrepreneurs and traditional employees should differ (performance orientations, career or biographical orientations, and relationship between work and private life). However, this result is not surprising since, from a *psychological* and *quantitative* perspective, the original conceptualizations of the entrepreneur concept and the entrepreneur work orientations are very broad and the „dimensions“ are comparative coarse classification categories and do not aim at a hypothesizing of selective latent constructs in a factor-analytical sense of meaning. Nevertheless, the factor analytical dimensions identified in the present study can easily be assigned to the original three domains in which, against the background of the entrepreneur concept, flexibility requirements and work orientations should have changed in the last decades: The domain of everyday work tasks, the domain of occupational biographies and career development, and the domain of the relationship between work and private life. Therefore, we interpret our results on the factor structures as empirical hint that the entrepreneur concept is empirically more differentiated than proposed in the original conceptualization.

Additionally, the results of Study 1 gave evidence that perceived flexibility requirements and individuals work orientation are significantly related. Employees reporting high organizational flexibility requirements in terms of high requirements for self-organization at work, for a self-directed career management, self-directed learning activities, and temporal flexibility report also needs with regard to work in general, which fit better the flexibility-oriented entrepreneur-work-orientation than more traditional work orientations. However, the cross-sectional design does not allow an answer to the question whether this relation is caused

by occupational socialization, (self-)selection into jobs, or both.

The results of Study 2 showed that with the exception of the demand for temporal flexibility all the other measured dimensions of flexibility requirements covariate with job control and with exception of requirements for temporal flexibility and self-directed learning with working time autonomy. This leads to the conclusion that, in practice, the flexibility requirements for self-organization and for a self-directed career development – and to a lesser extent requirements for self-directed learning – are in reality often combined with important resources to cope with such requirements. The fact that this is not the case for requirements for temporal flexibility may be due to a different character of this dimension compared to the others. Requirements for self-organization, requirements for self-directed career management, and requirements for self-directed learning focus on perceived organizational expectations towards a flexible but simultaneously *proactive* behavior of employees. Employees are only able to show such a proactive behavior if they also have control (see above). In contrast, requirements for temporal flexibility focus more on a reactive adaptation to varying organizational requirements with regard to working time schedules. In this case, control is not a necessary condition to show this reactive behavior.

However, for both cases it would be interesting to test for interaction effects between flexibility requirements and flexibility-related resources with respect to employees' performance as well as well-being or stress reactions. Therefore, future research should focus on the questions whether or under which conditions flexibility requirements are beneficial or detrimental. The results presented here give no conclusive answer to this question. However, it was shown that all dimensions of flexibility requirements correlate significantly with cognitive irritation. Employees perceiving high flexibility requirements are more likely to ruminate about problems at work in their leisure time. Cognitive rumination is able to increase the risk for impaired recovery and higher levels of work-family conflicts and can – on the long run – increase more severe stress reactions like burnout or psychosomatic complaints (e.g., Dormann & Zapf, 2002; Höge, 2009).

Furthermore, in Study 2 the relationships between different dimensions of work orientations with personal initiative, the protean career attitude, and ambiguity tolerance were analyzed. In sum, the results gave evidence that individuals with work orientations which are more in accordance with the entrepreneur-work-orientations tend to show higher levels of personal initiative, higher levels on the self-directed dimension of the protean career attitude (but not on

the value-driven dimension), and ambiguity tolerance. However, the bivariate results on the level of the single scales are not entirely in line with the previously proposed expectations as the results are not totally consistent. For example, the need for security shows no (negative) relation to personal initiative but to the self-directed dimension of the protean career attitude, and the need for segmentation shows only a very weak relation to (low) ambiguity tolerance but no relation to the other variables. Future research should therefore leave the focus on single dimensions but compare different *types, patterns, or configurations* of the dimensions with respect to dependent variables, by applying cluster analytical procedures, for example. This argumentation is also supported by the results of Study 1 on the intercorrelation of the dimensions of the Work Orientation Scales and their relation to flexibility requirements. Study 1 showed that the needs for role clarity, security, and a segmentation of life domains („negative indicators“) are unrelated to the other dimensions of the Work Orientation Scales, as well as to flexibility requirements. It would be interesting to compare employees showing a structure of work orientation characterized by high scores on the „positive“ indicators of the Work-Orientation Scales and low levels on the „negative“ indicators („entreployee“) with employees with a more *ambivalent* structure of work orientations, e.g. characterized by high scores on the positive indicators but also high scores on the negative indicators.

On the whole, it can be concluded that the presented results support the validity of the entreployee concept as well as the convergent validity of the work orientation scales. However, more research is needed to analyze antecedents (e.g. personality, sociodemographics, working conditions, aspects of work arrangements) and effects of different patterns of flexibility requirements and work orientations (e.g. health and well-being, work-home interference, performance).

The entreployee concept can serve as a theoretical framework not only for sociologists but also for I/O psychologists and researchers in organizational behavior to analyze chances as well as risks of the transformation towards increased organizational flexibility for employees with the superordinate aim to develop a concept of *human-oriented flexibility* at work.

References

- Antoncic, B. & Hisrich, R. D. (2005). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10, 7-24.
- Antoncic, B. & Hisrich, R. D. (2006). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16, 495-527.
- Arthur, M. B. & Rousseau, D. M. (Eds.) (1996). *The boundaryless career: A new employment principle for a new organizational era*. New York: Oxford University Press.
- Bardi, A., Guerra, V. M., & Ramdeny, G. S. D. (2009). Openness and ambiguity intolerance: Their differential relations to well-being in the context of an academic life transition. *Personality and Individual Differences*, 47, 219-223.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego: Academic Press.
- Braverman, H. (1974). *Labor and monopoly capital*. New York: Monthly Review Press.
- Briscoe, J. P. & Hall, D. T. (2006). The interplay of boundaryless and protean careers: Combinations and implications. *Journal of Vocational Behavior*, 69, 4-18.
- Briscoe, J. P., Hall, D. T., & Frautschy De Muth, R. L. (2006). Protean and boundaryless careers: An empirical exploration. *Journal of Vocational Behavior*, 69, 30-47.
- Brockhaus, R. H. (1982). The psychology of the entrepreneur. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 39-71). Englewood Cliffs, NJ: Prentice Hall.
- Bröckling, U. (2006). *Das unternehmerische Selbst. Soziologie einer Subjektivierungsform*. Frankfurt/M.: Suhrkamp.
- Burgelman, R. A. (1983). Corporate entrepreneurship and strategic management. Insights from a process study. *Management Science*, 29, 1349-1364.
- Büssing, A. (1996). Social tolerance of working time scheduling in nursing. *Work and Stress*, 10, 238-250.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.
- Dean, M. M. (1999). *Governmentality: Power and rule in modern society*. London: Sage.
- Dalbert, C. (1999). *Die Ungewißheitstoleranzskala: Skaleneigenschaften und Validierungsbefunde*. Halle: Martin-Luther-Universität Halle-Wittenberg, FB Erziehungswissenschaften.
- Dormann, C., & Zapf, D. (2002). Social stressors at work, irritation, and depression: Accounting for unmeasured third variables in a multi-wave study. *Journal of Occupational and Organizational Psychology*, 75, 33-58.
- Fay, D. & Frese, M. (2000). Conservative at work: Less prepared for future work demands? *Journal of Applied Social Psychology*, 30, 171-195.
- Fay, D. & Frese, M. (2001). The concept of personal initiative (PI). An overview of validity studies. *Human Performance*, 14, 97-124.

- Felstead, A. & Jewson, N. (1999). *Global trends in flexible labour*. London: Macmillan.
- Frenkel-Brunswik, E. (1949). Intolerance of ambiguity as an emotional and perceptual personality variable. *Journal of Personality*, 18, 108-145.
- Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology*, 70, 159-161.
- Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). PI at work: Differences between East and West Germany. *Academy of Management Journal*, 39, 57-65.
- Furnham, A. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current Psychology*, 14, 179-199.
- Gartner, W.B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10, 4, 696-706.
- Gasteiger, R. M. (2007). *Selbstverantwortliches Laufbahnmanagement. Das proteische Erfolgsrezept*. Göttingen: Hogrefe.
- Hall, D. T. (1996). Implications: The new role of the career practitioner. In D. T. Hall (Ed.), *The career is dead – long live the career. A relational approach to careers* (pp. 314-336). San Francisco: Jossey-Bass.
- Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65, 1-15.
- Hall, D. T., & Mirvis, P. H. (1996). The new protean career: Psychological success and the path with a heart. In D. T. Hall (Ed.), *The career is dead – long live the career. A relational approach to careers* (pp. 15-45). San Francisco: Jossey-Bass.
- Haunschild, A. (2002). Das Beschäftigungssystem Theater – Bretter, die die neue Arbeitswelt bedeuten? *Zeitschrift für Personalforschung*, 16, 577-598.
- Hisrich, R. D. & Peters, M. P. (1998). *Entrepreneurship: Starting, developing, and managing a new enterprise*. Chicago: Irwin.
- Hochschild, A. R. (1997). *The time bind. When work becomes home and home becomes work*. New York: Henry Holt.
- Höge, T. (2006). *Analyse individueller Erwerbsorientierungen und subjektiver Flexibilisierungsanforderungen vor dem Hintergrund der Arbeitskraftunternehmer-These*. Poster presented on the 45th Congress of the German Psychological Association, Nürnberg, 17. -21.09.2006.
- Höge, T. (2007). *Innsbrucker Fragebogen zur Erwerbsorientierung (IFEÖ) und Skalen zur Analyse subjektiver Flexibilitätsanforderungen (FLEX-AN)*. Unpublished Working Paper: University of Innsbruck, Institute of Psychology.
- Höge, T. (2009). When work strain transcends psychological boundaries. An inquiry into the relationship between time pressure, irritation, work-family conflict and psychosomatic complaints. *Stress and Health*, 25, 41-51.
- Knights, D. & Willmott, H. (Eds.) (1990). *Labour Process Theory*. London: Macmillan.
- Mohr, G. (1991). Fünf Subkonstrukte psychischer Befindensbeeinträchtigungen bei Industriearbeitern: Auswahl und Entwicklung. In S. Greif, E. Bamberg & N. Semmer (Eds.), *Psychischer Streß am Arbeitsplatz* (pp. 91-119). Göttingen: Hogrefe.
- Mohr, G., Müller, A., Rigotti, T., Aycan, Z. & Tschann, F. (2006). The assessment of psychological strain in work contexts. Concerning the structural equivalency of nine language adaptations of the Irritation scale. *European Journal of Psychological Assessment*, 22, 198-206.
- Mohr, G., Rigotti, T., & Müller, A. (2004). Irritation – ein Instrument zur Erfassung psychischer Beanspruchung im Arbeitskontext. Skalen- und Itemparameter aus 15 Studien. *Zeitschrift für Arbeits- und Organisationspsychologie*, 49, 44-48.
- OECD. (1989). *Labour market flexibility: Trends in enterprises*. Paris: OECD.
- Parker, S. K., Williams, H. M. & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, 91, 636-652.
- Pinchot, G. (1985). *Intrapreneuring*. New York: Harper & Row.
- Pongratz, H. J. & Voß, G. (2005a). *Arbeitskraftunternehmer. Erwerbsorientierungen in entgrenzten Arbeitsformen*. Berlin: sigma.
- Pongratz, H. J. & Voß, G. G. (2005b). From employee to „entreprenuer“: Towards a „self-entreprenuerial“ work force? *Concepts and Transformation*, 8, 239-254.
- Pongratz, H. J. & Voß, G. G. (2004). *Typisch Arbeitskraftunternehmer? Befunde zur empirischen Arbeitsforschung*. Berlin: sigma.
- Putnam, R. D. (2000). *Bowling alone. The collapse and revival of American community*. New York: Simon & Schuster.
- Rauch, A., & Frese, M. (2000). Psychological approaches to entrepreneurial success. A general model and an overview of findings. In C.L. Cooper & I.T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (pp. 101-142). Chichester: Wiley.

- Rose, N. (1990). *Governing the soul. The shaping the private self*. London: Routledge.
- Rousseau, D. M. (1997). Organizational behavior in the new organizational era. *Annual Review of Psychology*, 48, 515-546.
- Schollhammer, H. (1981). Internal corporate entrepreneurship. In C. A. Kent, D. L. Sexton, D. L. & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 209-229). Englewood-Cliffs: Prentice-Hall.
- Schönberger, A. (2007). *Rückstand in der Akademiker/-innenquote in Österreich: Realität oder statistisches Artefakt*. *ibw-Mitteilungen*, 2. Quartal 2007. Wien: Institut für Bildungsforschung der Wirtschaft.
- Semmer, N. K., Zapf, D., & Dunckel, H. (1999). Instrument zur streßbezogenen Tätigkeitsanalyse ISTA. In H. Dunckel (Eds.), *Handbuch psychologischer Arbeitsanalyseverfahren* (pp. 179-204). Zürich: VdF Hochschulverlag.
- Sennett, R. (1998). *The corrosion of character*. New York: Norton.
- Sullivan, S. E. & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior*, 69, 19-29.
- Tabachnik, B. G. & Fidell, L. S. (2007). *Using multivariate statistics* (5th edition). Boston: Pearson.
- Voß, G. G. & Pongratz, H. J. (1998). Der Arbeitskraftunternehmer. Eine neue Grundform der "Ware Arbeitskraft"? *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 50, 131-158.

Correspondence to:

Dr. Thomas Höge
 Institute of Psychology
 University of Innsbruck
 Innrain 52
 A-6020 Innsbruck
 Thomas.Hoege@uibk.ac.at

Acknowledgement

The author thanks Cornelia Hulwa, Eva Mirwald, Christina Nussbaumer, Verena Schmid, Christina Weyerer, and Christine Zotz for collecting the data of Study 1.

Appendix

Flexibility Demands Scales

In my work, my employer expects from me ...

1. ... to show a high degree of personal responsibility
2. ... to constantly optimise my working methods
3. ... to work very independently
4. ... to make suggestions to make my work even more efficient
5. ... to make my own decisions without asking my superior first
6. ... to take responsibility for my own professional advancement
7. ... to take personal responsibility for my career development
8. ... to further my continuing education in my free time as well
9. ... to attend in-service training courses
10. ... to be flexible as far as my working hours are concerned
11. ... to work overtime
12. ... to work in the evenings, at night and at weekends
13. ... to help out when colleagues are absent
14. ... not to allow my family life to affect my work

Response format:

Strongly disagree (1); disagree (2); slightly disagree (3); slightly agree (4); agree (5); strongly agree (6)

Sub-scales:

Requirements for self-organization: Items 1, 2, 3, 4, 5,

Requirements for a self-directed career development: Items 6, 7

Requirements for self-directed learning: Items 8, 9

Requirements for temporal flexibility: Items 10, 11, 12, 13, 14

German items:

In Bezug auf meine Arbeit erwartet mein Arbeitgeber von mir, dass ...

1. ... ich bei meiner Arbeit ein hohes Maß an Eigenverantwortung zeige
2. ... ich meine Arbeitsweise ständig optimiere
3. ... ich sehr selbständig arbeite
4. ... ich Verbesserungsvorschläge vorbringe, um die Arbeit noch effizienter zu machen
5. ... ich Entscheidungen selbst treffe und nicht erst meinen Vorgesetzten frage
6. ... ich mich selbst um mein berufliches Fortkommen kümmere
7. ... ich meine berufliche Zukunft selbst in die Hand nehme
8. ... ich mich auch privat weiterbilde
9. ... ich Fort- und Weiterbildungen besuche
10. ... ich in Bezug auf meine Arbeitszeit flexibel bin
11. ... ich Überstunden mache
12. ... ich auch am Abend, in der Nacht oder an Wochenenden arbeite
13. ... ich immer bereit bin, wenn Not am Mann ist
14. ... mein Familienleben meine Arbeit in keiner Weise beeinträchtigt

Work Orientation Scales

With reference to my work it is particularly important for me that ...

1. ... I constantly optimise my working methods
2. ... I get the best out of myself
3. ... it presents a challenge every day
4. ... it constantly throws up new and interesting tasks
5. ... I am assigned clear and unambiguous tasks
6. ... I am told clearly how I am to do my work
7. ... I keep open as many chances as possible for my future work (e.g. self-employment)
8. ... I make myself attractive to other employers as well
9. ... I also have the chance to get to know people who might be of help for my future
10. ... I constantly improve my labour market chances (e.g. through in-service training courses)
11. ... I collect as much diverse experience with various employers as possible
12. ... I can decide for myself how I do my work
13. ... I can be creative in my work
14. ... I can work on my own initiative
15. ... I have a secure job rather than good career prospects
16. ... my employer offers me primarily social security
17. ... I can maintain the professional status I have achieved so far
18. ... I have a secure income rather than a fascinating job
19. ... I can also work at home
20. ... the achievement of my working aims is all that counts and not when and where I work
21. ... my working hours are flexible
22. ... I am totally free to choose when I work
23. ... it is possible to clearly separate my work from my private life
24. ... in my private life I can shut myself off completely from my work
25. ... my private life is not restricted by my work

Response format:

Completely unimportant (1); unimportant (2); rather unimportant (3); quite important (4); important (5); very important (6)

Sub-scales:

Need for efficiency: Items 1, 2

Need for challenge: Items 3, 4

Need for role clarity: Items 5, 6

Need for opportunity optimizing career development: Items 7, 8, 9, 10, 11

Need for autonomy: Items 12, 13, 14

Need for security: Items 15, 16, 17, 18

Need for spatial flexibility: Items 19, 20

Need for temporal flexibility: Items 21, 22

Need for segmentation: Items 23, 24, 25

German items:

In Bezug auf meine Arbeit ist es mir besonders wichtig, dass ...

1. ... ich meine Arbeitsweisen ständig optimiere
2. ... ich aus mir das Beste heraushole
3. ... sie jeden Tag eine Herausforderung darstellt
4. ... sich mir immer wieder neue und spannende Aufgaben stellen
5. ... mir klare und eindeutige Aufgaben zugewiesen werden
6. ... ich klare Anweisungen erhalte, wie ich meine Arbeit erledigen soll
7. ... ich mir möglichst viele Chancen für meine zukünftige Arbeitstätigkeit offen halte (z.B. Selbständigkeit)
8. ... ich mich auch für andere Arbeitgeber interessant mache
9. ... ich die Möglichkeit habe, Leute kennen zu lernen, die mir vielleicht für meine Zukunft noch hilfreich sein können
10. ... ich meine Chancen auf dem Arbeitsmarkt ständig verbessere (z.B. durch Weiterbildung)
11. ... ich möglichst viele unterschiedliche Erfahrungen bei verschiedenen Arbeitgebern sammle
12. ... ich selbst entscheiden kann, wie ich meine Arbeit erledige
13. ... ich bei meiner Arbeit kreativ sein kann
14. ... ich eigeninitiativ handeln kann
15. ... ich eher über einen sicheren Arbeitsplatz als über Karrierechancen verfüge
16. ... mein Arbeitgeber mir in erster Linie soziale Sicherheit bietet
17. ... ich meinen bisher erreichten beruflichen Status erhalten kann
18. ... ich eher ein gesichertes Einkommen habe, als eine spannende Tätigkeit
19. ... ich auch zu Hause arbeiten kann
20. ... nur die Erreichung des Arbeitszieles zählt und nicht wann ich arbeite
21. ... die Arbeitszeiten flexibel sind
22. ... ich vollkommen frei darüber entscheiden kann, wann ich arbeite
23. ... zwischen Arbeit und Privatleben eine klare Trennung möglich ist
24. ich in meinem Privatleben völlig von der Arbeit abschalten kann
25. ... mein Privatleben nicht durch die Anforderungen aus meinem Arbeitsleben eingeschränkt wird