Societal transitions of work and health from the perspective of subjectification – Critical synthesis of selected studies from Applied Psychology[1]

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ABSTRACT

Synthesized are seven studies on work and health, conducted in an interdisciplinary collaboration between applied psychology and occupational medicine. Based on thematic analysis, this critical interpretive integration operationalizes the *„subjectification of work"* as complementary trends of *intensification* (performance focus), *internalization* (goal adoption), and *individualization* (job personalization), embedded in broader contexts of employment insecurity (employee self-reliance). Applied structuring schemes include: a) focus primarily on *work task* (activity) or *work setting* (context); b) references to (or connections with) aspects of subjectification (primary and secondary); and c) theoretical and empirical relationships with negative and positive short-, medium-, and longer-term *health outcomes*. Work tasks are investigated in four studies; three focus on contextual factors of the work setting; work intensification is examined in four; internalization processes in five; individualization of work in three. Identified are tensions between motivational effects of individualizing work and internalization of organizational goals, coupled with inherent tendencies of work intensification. Associated structural and psychological dynamics are discussed as risks factors for dysfunctional self-management, reflecting internalized incompatibilities between work and health. Outlined are implications for reevaluating assumptions of voluntariness, personal choice, and agency in psychological research on work and organizations. Lastly, discussed are broader paradigm shifts, necessary for the discipline to address the most challenging social and ecological issues.

Keywords

Work and health – neoliberal transformation – work systems analysis – subjectification of work – research synthesis – meta-study – paradigm shifts

1 Introduction

Fundamental transitions in the world of work require integrated conceptual frameworks of currently evolving challenges that face applied psychology and related disciplines within social science, medicine, and adjacent fields (e.g., Bliese, Edwards & Sonnentag, 2017; Korunka & Kubicek, 2017; López-Andreu, 2019; Moscone, Tosetti & Vittadini, 2016; Seubert, Hopfgartner & Glaser, 2019). Importantly, public, oc-cupational, and individual health and well-being need to be understood, protected, and promoted not only at the workplace-level, but within broader political-economic and socio-cultural contexts and developments. This article seeks to contribute to a called-for, integrated and reflexive, interdisciplinary, and explicitly humanization-oriented perspective (Bal & Dóci, 2018; Hornung & Sachse, 2020; McDonald & Bubna-Litic, 2012; Weber, Höge & Hornung, 2020). It presents a meta-study of seven empirical investigations within

applied (work and organizational) psychology. Each study addresses health-relevant aspects of work and employment in contemporary organizations compiled as part of an interdisciplinary research collaboration with occupational medicine (Glaser & Hornung, 2007; Seubert, Hornung & Glaser, 2015). The presented synthesis aims to show how these topics are interconnected and complementary from a meta-perspective, which takes into account broader societal changes and trajectories. This undertaking is based on identifying prototypical trends in the ongoing transition of work and assessing their relevance for complex dialectical relationships between work and health, characterized by simultaneous conflicts, synergies, and trade-offs (Glaser, Hornung & Höge, 2019). Subsequently, efforts are made to explore, evaluate, and explain how these transitional tendencies are reflected in topics, constructs, and results of reviewed studies. Methodologically, this qualitative meta-study uses a narrative and hermeneutic approach. It adapts elements of thematic analysis, as an iterative content-analytical (deductive-inductive) process of theory-based and exploratory structuring, categorization, and synthesis, with the stated goal of building and applying a suitable framework for „problematizing" current challenges in the transition of work and health.

Derived from the interdisciplinary literature and suggested as dominant tendencies in transitional patterns of work, organizations, and employment in advanced neoliberal economies are processes of intensification, internalization, and individualization (e.g., Allvin, Aronsson, Hagström, Johansson & Lundberg, 2011; Burchell, Ladipo & Wilkinson, 2002; Farrugia, 2019; Greene, 2008; Korunka & Kubicek, 2017; Weiskopf & Loacker, 2006). These interdependent, yet conceptually distinct trends are outlined and illustrated by embedding reviewed studies into the broader sociocultural and historical dynamics of societal, economic, and workplace change. Tripartite tension fields among and within each of the identified trends toward intensification, internalization, and individualization are suggested as building blocks of a dynamic framework for analyzing work in transition. This approach aims to better reconcile research in psychology with critical analyses in other social science disciplines, such as history, anthropology, sociology, and critical management studies. These disciplines have developed sophisticated theories and concepts, addressing issues connected to the „subjectification" of work (e.g., Becke, 2017; Moldaschl & Voß, 2002), „advanced neoliberal governmentality" (e.g., Munro, 2012; Pyysiäinen, Halpin & Guilfoyle, 2017), „biopower and biopolitics" (e.g., Moisander, Groß & Eräranta, 2018), and post- or meta-disciplinary work regimes (e.g., Weiskopf & Loacker, 2006; Welsh, 2018). The stated goal here is to critically reflect and reinterpret the reviewed psycho-

logical research and its obtained results in light of the latter interdisciplinary body of theories, concepts, and observations (e.g., Hornung & Höge, 2021).

Against this background, the presented synthesis is oriented towards critical reflexivity, focusing on how tendencies associated with subjectification of work, specifically, dynamics of a) *intensification* (escalating performance requirement), b) *internalization* (employee identification and goal adoption), and c) *individualization* (personalization of work tasks and setting) are represented and reproduced in different degrees in the examined research topics, contexts, and results. To structure this research overview, three main content-analytical schemes (taxonomies or categorizations) were applied, which aspired to integrate core theories and assumptions of work psychology relevant to occupational health as examined in the presented studies: 1) focus on work task (activity) versus work setting (context); 2) references to, indication for, or connection with identified tendencies (facets or dimensions) of subjectification, operationalized in terms of primary (proximal, direct, explicit) versus secondary (distal, indirect, implied) relevance for the respective aspects; and 3) theoretical and empirical relationships with positive and negative short-, medium-, and long-term motivational, health, and socializing (personality-shaping) work effects. The resulting framework will be introduced next, followed by short descriptions and thematic classification of empirical studies, the aggregated presentation of results, and a concluding discussion.

2 Subjectification of work

Developing the thematic analysis scheme, i.e., the interconnected tripartite content-analytical framework of categorizations described above, involved scoping and extracting trends from the interdisciplinary psychological, sociological, economic, and management literature on the contemporary transformation of employment, work, and organizations. Explicitly aiming to assimilate a critical perspective, sources were selected to represent social criticism of the dominating political-economic system in the post-industrial (also post-Fordist, post-Taylorist, post-modern, post-disciplinary) era of advanced neoliberal capitalism and its manifestation in contemporary workplace regimes (e.g., Farrugia, 2019; Munro, 2012; Welsh, 2018). The literature review generated major themes or tendencies, subsumed under the framework of the „subjectification of work" (e.g., Becke, 2017; Pongratz & Voss, 2003; Weiskopf & Loacker, 2006). Based on their significance and applicability for synthesizing the present research, relevant themes were sorted into three categories, reflecting processes associated with the a)

intensification; b) *internalization*; and c) *individual-ization* of work as three interdependent dimensions capturing tendencies of subjectification at work, embedded in a broader, overarching theme of increased insecurity and uncertainty at work, holding individual employees responsible for systemic problems and societal risks. A central meta-dimension, energizing or „driving" identified tendencies of subjectification, is job insecurity (personal risk), associated with rising precariousness in employment practices (e.g., Seubert et al., 2019), cultivated in neoliberal management ideologies of employee self-reliance (e.g., Edwards, Rust, McKinley & Moon, 2003; Greene, 2008). Building a conceptual bridge between these critical analyses and the applied psychological literature is a *paradox perspective*, based around the core notion that dynamics in organizations are best understood in terms of conflicts of interests, tensions, dialectics, and double-binds (e.g., Putnam, Fairhurst & Banghart, 2016). The present summary emphasizes conflictual dynamics and challenges arising for individual well-being and health in the context of the above identified aspects of the intensification, internalization, and individualization of work, which are further elaborated on below. Table 1 summarizes the framework used to study subjectification of work, including a description of the core themes for the three dimensions, resulting in paradoxical tensions for employees, managerial func-tions of subjectification, relationships with insecurity at work, and relevant exemplary constructs in applied psychology.

2.1 Work intensification

Work intensification is a widely observable and generalizable consequence of the economic primacy in employed work, exemplified in organizational interests to maximize operational efficiency, to increase production or service outcomes, and to reduce costs (e.g., Burchell et al., 2002). From a critical perspective, work intensification is an inherent property of capitalist economies, reflecting the systemic necessity of employer and managerial efforts to generate and extract additional (surplus) value with the same or less inputs to compete with alternative investments in the perpetual drive for capital accumulation (e.g., Sayers, 2007; Thompson, 2010). From a managerial view, intensification refers to desirable performance „improvements", achieved by increasing the quantitative amount of work and/or qualitative work requirements. For employees, work intensification results in excessive work pressure and overload, that is, the need to work harder, faster, or longer hours (e.g., Burchell et al., 2002; Korunka & Kubicek, 2017). Theoretically and empirically related yet distinct, the temporal prolongation or extensification of work, is also subsumed under

Table 1:   Summary of framework to study subjectification of work.

Dimensions of subjectification	Work intensification	Work internalization	Work individualization
Description of core theme	Continuous or intermittent performance increases through higher quantitative amount of prescribed work and/or extended qualitative or behavioral work requirements	Employee endorsement, identification with, and psychological integration of organizational or managerial work-related performance-oriented norms, goals and values	De-formalization, de-standardization, flexibilization, and personalization or person-specific customization of jobs, organizational structures, and human resource practices
Paradoxical tensions for employees	Activating occupational challenges and learning opportunities vs. Performance pressure and work overload	Intrinsic motivation and autonomous regulation vs. Overcommitment, self-endangering work behavior, and self-exploitation	Self-determination and need-based job personalization vs. Divisiveness, social isolation and precarization of work arrangements
Managerial function of subjectification	Externalization of negative work-health impacts on individuals and society	Indirect control through employee responsibilization and self-management	Erosion of standards for labor protection, broad benefits, and collective bargaining
Relationships with insecurity	Insecurity as driver to enforce intensification	Internalization as coping to reduce insecurity	Individualization as structural enabler of insecurity
Exemplary constructs in applied psychology	Work stressors (e.g., time pressure, quantitative and qualitative work overload), work-family conflict and work-life or work-home interference	Affective commitment, job involvement, work engagement, organizational and occupational identification, self-actualization, meaning	Individual negotiation of work and employment conditions (idiosyncratic deals), self-enacted changes through job crafting, proactive work behavior

intensification here (e.g., Allvin et al., 2011; Kubicek & Tement, 2016). For employees in contemporary, progressive high-involvement workplaces, intensification manifests itself in tensions between positive challenges and occupational learning opportunities versus work overload and stressors (e.g., Pérez-Zapata, Pascual, Álvarez-Hernández & Collado, 2016; Pongratz & Voss, 2003). As part of the responsibility-shift inherent in regimes of subjectification, this increasingly includes organizationally „externalized" long-term healthcare costs in flexible and precarious employment arrangements (e.g., Moscone et al., 2016; Pedaci, 2010; Seubert et al., 2019), and individually „internalized" behavioral and attitudinal work requirements and performance pressure. Strategically implemented uncertainty, in turn, ensures ongoing self-directed (subjectified) work intensification (e.g., Höge, 2019), as a form of psychological governance, reinforced by mobilizing employees to compete against each other for „high quality" work and developmental assignments, a typical feature of market-oriented neoliberal workplaces.

2.2   Work internalization

Traditionally in the core disciplinary focus of research in work and organizational psychology, processes of internalization are often examined with regard to employee endorsement, adoption, identification with, and cognitive integration of organizational or managerial (typically performance-relevant) goals, norms, and values (e.g., Brown, 2017; Miscenko & Day, 2016; cf. Hornung & Höge, 2021). However, internalization is not only at the core of instrumental „managerial" constructs, such as organizational commitment, involvement, and identification, but also plays a central role in (quasi-intrinsic) autonomous work motivation and psychological regulation of work activities (e.g., Ryan & Deci, 2000). From the perspective of subjectification, tensions between tendencies of psychological internalization and systemic work intensification manifest as paradoxes between motivation and self-regulation at work versus „pseudo-intrinsically" motivated and „self-executed" behavioral tendencies in the form of self-endangering and „overcommitted" work behavior and dysfunctional coping strategies, potentially causing erosion of medium- to long-term psychological and physiological health and work ability (e.g., Deci, Dettmers, Krause & Berset, 2016; Dettmers, Deci, Baeriswyl, Berset & Krause, 2016; Höge, 2019; Laurence, Fried & Raub, 2016; Pérez-Zapata et al., 2016). These ambiguities are reinforced by or seen as a consequence of indirect and individualizing organizational (managerial) control practices, such as delegation of responsibility, goal setting, and self-management, eliciting self-directed and autonomously regulated increases in work performance, i.e., self-enacted or sub-

jectified work intensification. A particularly instructive analysis and critical assessment of these „progressive" management practices as technologies of subjectification is provided by Weiskopf and Loacker (2006), including the underlying subtle shifts towards indirect coordination and internalized control.

2.3   Work individualization

In the context of work and employment, individualization refers to de-formalization, de-standardization and flexibilization, and personalization or person-specific customization of jobs or positions, organizational structures, and human resource practices (e.g., Bal & Hornung, 2019; Hornung & Höge, 2019; Hornung & Sachse, 2020). Although research typically focusses on the advantages of these developments (e.g., increased opportunities for self-actualization at work) over conventional rule-bound and formalistically „impersonal", rigid bureaucracies, the downsides of the individualization of work are seen in the erosion of employment standards, collective agreements, and other protective labor policy mechanisms (e.g., Allvin et al., 2011; López-Andreu, 2019). For employees, in general, individualization opens up conflictual areas of tension between self-determination and self-design of work tasks versus increasing uncertainty and insecurity, social isolation and loneliness, and stressful coping behavior, required for the self-responsible fulfillment of expansive and/or unpredictable performance and behavioral demands in increasingly precarious work arrangements (e.g., Weiskopf & Loacker, 2006). Increasing importance of such inherent tensions, contradictions, and paradoxes of individual self-control and self-exploitation has been identified as a central characteristic of employment under the post-disciplinary regimes of progressive flexible work systems, as discussed, for instance, by Deci et al. (2016), Dettmers et al. (2016), and Glaser et al. (2019).

3   Psychology of work and health

The second applied thematic frame draws on the core mission and responsibility of work psychology as the human-centered and humanization-oriented analysis, evaluation, and design of work systems, tasks, and processes (e.g., Oesterreich & Volpert, 1986; Glaser & Hornung, 2007; Seubert et al., 2015). A conceptual framework informing this meta-study is the Organization–Task/activity–Individual (OTI) approach (Büssing, 1992), which is a theoretically elaborated, empirically tested, and practically applicable model of work systems based on sociotechnical design (e.g., Ulich, 2013), forming the basis of psychological work and activity analysis, assessment, consulting, and in-

terventions (Glaser, Hornung, Höge & Strecker, 2020). The OTI approach positions the work activity as the nexus of interdependent pathways of reciprocal (bi-directional) influence between the organizational structure (division of labor, supervision, discretion) and the working individual (occupational health, skills, abilities, attitudes, motivation). Thus, it builds on and extends notions of reciprocal determination in activity theory, social cognitive theory (Weber & Jeppesen, 2017), and interactional psychology (Terborg, 1981). The three distinguished core domains of analysis are the work activity, the individual, and organizational structure. Each of these domains appears to entail a particular relevance for the identified trends of inten-

sification (activity), internalization (individual), and individualization (organization), and is likely affected in specific or differential ways by the respective trajectories. In the following, some theoretical considerations on work systems and health impacts of work are summarized, drawing on the psychological literature, specifically the OTI approach and related socio-technical models. Figure 1 offers an overview of the broader framework applied here, its central concepts and distinctions, as well as some core results regarding the allocation of the seven studies to categories of the qualitative synthesis, details of which are provided further below.
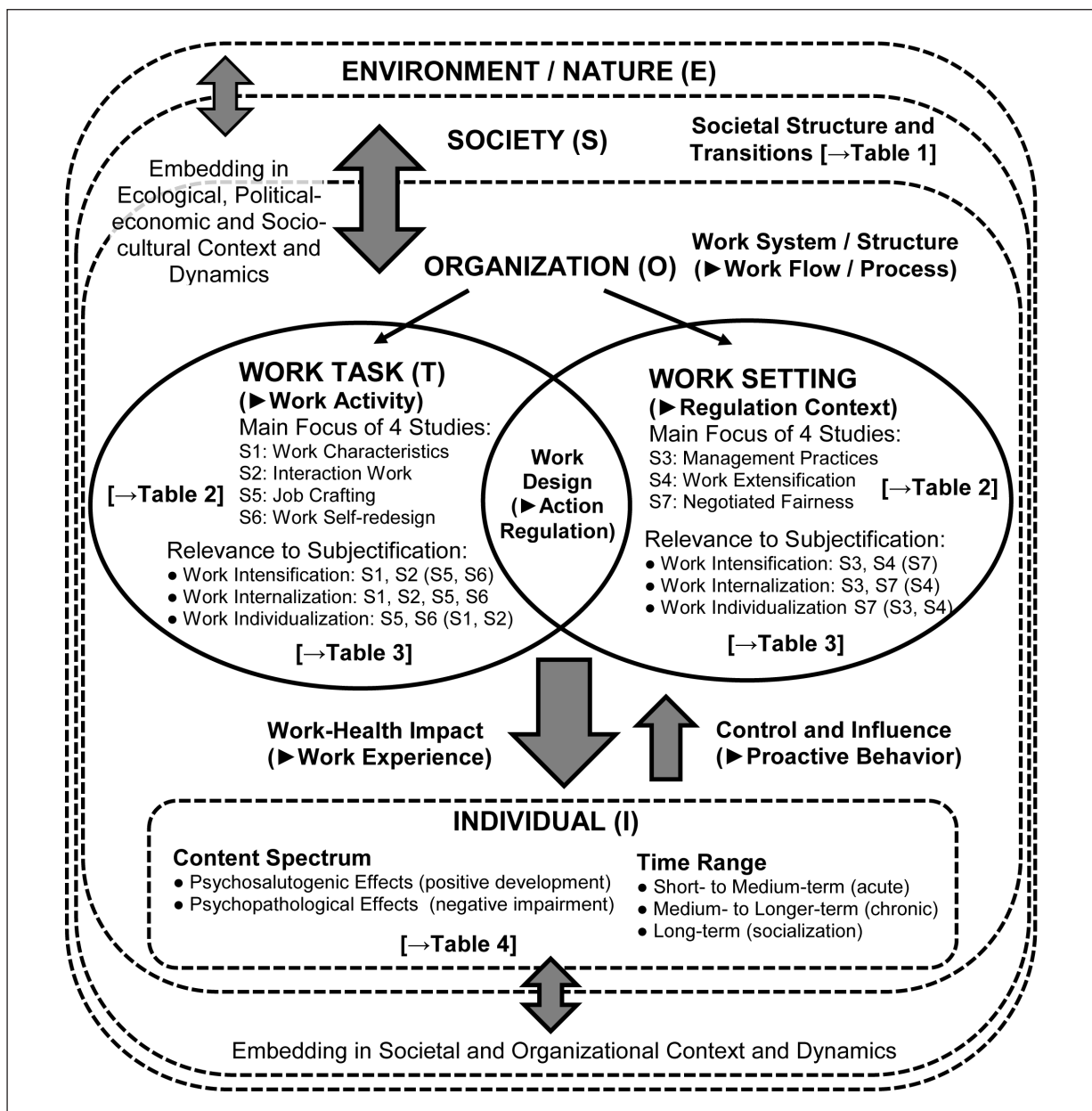

Figure 1: Overview of developed framework for synthesizing studies and organizing core results.

3.1 Work system structure and work process

As a framework for change, a systems-theory perspective posits dialectic relationships between work system structure and its dynamics, manifesting in antagonisms, tensions, interdependencies, and emergent properties, both within and across levels of analysis (e.g., Levins, 1998; Putnam et al., 2016; Glaser et al., 2019). The organizational-level work system (structure) and work flow (process) partly determine individual-level job features, which can be partitioned into work tasks (activity) and work setting (context). The „primacy of the work task" puts the focus of psychological action regulation on the work activity, as distinguished from the surrounding setting, situation, or context within which these actions are performed (e,g., Büssing, 1992; Ulich, 2013). The work task–setting (activity–context) separation bears similarities with the common distinction of intrinsic (task-inherent) versus extrinsic (situation-related) job characteristics (e.g., Ryan & Deci, 2000), but carries more far-reaching activity- and systems-theoretical assumptions on dynamic interactions between work activity, acting individual, and socio-technical embedding in organizational structures (e.g., Seubert et al., 2015; Weber & Jeppesen, 2017). The task-setting (activity-context) distinction was used as an initial structuring element, based on theoretical considerations regarding possibly differential impacts of identified transitions on structure and dynamics of work systems.

3.2 Spectrum and range of work-health impacts

Representing a core segment of the interdisciplinary intersection between work psychology and occupational medicine, work–health impacts were conceptualized broadly and divided into psychosalutogenic (motivational, health-preserving, personality-promoting) aspects and psychopathological health impairments (e.g., Harvey et al., 2017; Huppert, 2009; Stansfeld & Candy, 2006). This spectral categorization was combined with assumptions regarding the temporal horizon to yield a matrix of positive (psychosalutogenic) and negative (psychopathological) manifestations of personal health, in the: a) short- to medium-term (acute), b) medium- to longer-term (chronic), and c) long-term (socialization) perspective of personality-shaping occupational impacts on the working person (e.g. Frese, 1982; Frese, Kring, Soose & Zempel, 1996; Woods, Wille, Wu, Lievens & De Fruyt, 2019). Including this frequently neglected perspective of occupational socialization corresponds with an important paradigmatic position in work psychology, owing to its humanistic roots (e.g., Weber & Jeppesen, 2017). Although relatively stable in the short to medium term, individual orientations and predispositions are as-

sumed to develop over longer periods in processes of adaptation and habitualization, eventually resulting in changes in attitudes, values, orientations and personality traits (e.g., Roberts, 2006; Weber, Unterrainer & Schmid, 2009). Some implications of this perspective become evident in the evaluation of individual differences, such as the need for autonomy and personal growth as well as trait components of depression and anxiety.

4   Study series (S1-S7)

Presented is a thematic analysis and conceptual integration of a series of studies, based on a developed framework of work and health in transition (see Figure 1), incorporating assumptions on tendencies towards the subjectification of work (Hornung, Weigl, Herbig & Glaser, 2021). Included are $n = 7$ collaborative studies (S1-S7), conducted between 2015 and 2019 at university institutes of occupational medicine and psychology in Germany and Austria. All were presented as oral (S1, S3, S5, S6) or poster (S2, S4, S7) reports at the Annual Scientific Congress of the German Association of Environmental Medicine and Occupational Medicine (55th-59th DGAUM, 2015-2019; conference proceedings in German referred to in Appendix Table A1). Further, internationally presented and published were English-language versions of all studies (two in this journal), which are referred to in the following (these studies are marked with an *asterisk in the references section of this article). The range of investigated topics is reflected in short titles, specifically, work characteristis (S1), interaction work (S2), management practices (S3), work extensification (S4), job crafting (S5), work self-redesign (S6), and negotiated fairness (S7). Short study descriptions are provided below, followed by summaries on methods and results. Table 2 gives an overview of studies, samples, and investigated constructs.

4.1 Study 1: Work characteristics

The first study (S1) examines the roles of selected work characteristics as stressors and resources for action regulation (Hornung, Seubert, Weigl & Glaser, 2015). For this, it draws on action regulation theory as a framework for the conceptual–empirical integration of core assumptions of the job demands–resources model of work design and the self-determination theory of motivation. Analyses are based on path modeling, using a sample of $N = 1,008$ tenured civil servants in a state financial administration. Independent variables are adverse and supportive work characteristics (work stressors, work-related resources) as well as individual differences in autonomy orientation. Two types

Table 2:   Overview of studies and investigated constructs.

Study: Short title (sample / setting)	Independent variables	Mediating variables	Dependent variables
S1: Work characteristics (N = 1,008 public administration clerks)	- Work demands / stressors - Work-related resources - Autonomy orientation	- Intrinsic work motivation - Psychological irritation	Organizational involvement: - Identification - Alienation Psychosomatic complaints
S2: Interaction work (N = 1,848 geriatric nurses)	- Patient aggression - Interaction control - Interaction competence - Quantitative work overload - Qualitative work overload - Social support supervisors - Social support colleagues	Negative emotions toward patients; Forms of emotion regulation: - Identified - Introjected - Integrated - Incongruent	Burnout syndrome: - Emotional exhaustion - Depersonalization - Impaired performance
S3: Management practices (N = 14,372 city employees)	Employee-oriented management practices: - High-investment employment practices - High-involvement management practices	- Organizational and occupational identification	Work Ability Index (WAI): - Subjective WAI aspects - Objective WAI aspects
S4: Work extensification (N = 334 hospital physicians, longitudinal, 4 measurement points)	Social role conflicts: - Work-to-family conflict - Family-to-work conflict Personality dispositions: - Depression as trait - Anxiety as trait	---	Affective disorders: - Depression as state - Anxiety as state
S5: Job crafting (N = 1,196 Chinese telecommunications employees)	Individual, interpersonal, organizational antecedents: - Growth need strength - Transformational leadership - Situational constraints	Job crafting: - Task crafting - Cognitive crafting	Psychological empowerment: - Self-determination - Influence - Meaningfulness - Competence
S6: Work self-design (N = 279 employees in heterogeneous occupations)	Work self-redesign: - Task autonomy - Task crafting - Task negotiation Work characteristics: - Task complexity - Task interdependence - Work overload	---	- Organizational identification - Meaning in work - General well-being - Work-life conflict - Work-life enrichment - Emotional exhaustion - Psychosomatic complaints
S7: Negotiated fairness (N = 111 employees in heterogeneous occupations)	Individual negotiation: - Own personalization - Observed prevalence Employment relationship: - Procedural justice - Distributive justice	---	- Fairness of individual negotiation as management practice

of organizational involvement (identification, alienation) and psychosomatic complaints were examined as longer-term (second-order) work outcomes. Confirmed as mediating (first-order) outcomes of work design were intrinsic work motivation and work strain (psychological irritation), reflecting short- to medium-

term positive and negative health effects. Workplace alienation was confirmed as a correlate of low motivation and high strain. As expected, autonomy orientation influenced employee responses positively. Overall, this study illustrates possibilities and potentials for a stronger integration of different theories and models

of applied psychology. Practical implications include work design interventions for removing obstacles and strengthening potentials for satisfying needs for autonomy, competence, and relatedness. Developing and applying such an integrative approach aimed at ensuring freedom of mental health impairment and positive personality development corresponds with long-standing demands of work and organizational psychology.

4.2 Study 2: Interaction work

The second study was designed to theoretically and empirically integrate broader concepts of interaction work and professional burnout in human-oriented services (Hornung, Lampert, Weigl & Glaser, 2018). Drawing on self-determination theory, the study develops and tests an elaborate multi-phase model (interaction work, emotion regulation, support, and coping) incorporating assumptions of work psychology on influencing factors in the emotional labor process and development of occupational burnout. The sample consists of $N = 1,848$ nursing staff working in 111 geriatric care facilities within the State of Bavaria. Independent variables in the model included patient aggression, interaction control and competence, quantitative and qualitative work overload, and social support by supervisors and colleagues. Mediating constructs were experienced negative emotions toward patients and forms of emotion regulation, classified as identified, introjected, integrated, and incongruent. Outcomes were the burnout dimensions of emotional exhaustion, depersonalization, and impaired performance. Empirical results testing this integrated model suggest that major causes of burnout are rooted in dysfunctional interaction situations, characterized by quantitative and qualitative work overload, patient conflicts, and experienced negative emotions. Functional emotion regulation strategies and social support were identified as protective factors or coping resources, relevant mostly in subsequent phases of the emotional labor process. Overall, this study provides insights into the processes of mental regulation of emotional demands and stress of interaction work—and their health effects. Practical implications include work organization to support successful interaction work, functional emotion regulation, and coping emphasizing the prevention of burnout through socio-technical design of work systems in health care.

4.3 Study 3: Management practices

The aim of the third study was to explore paradoxical tensions between employee-oriented (progressive) management practices and work-related health (Hornung, Weigl, Höge & Glaser, 2016; see also: Hornung, Höge, Glaser & Weigl, 2017). Specifically, direct,

mediated, and interactive relationships are examined between two types of employee-oriented management practices (high-investment practices and high-involvement) and occupational health. The latter was operationalized with the work ability index, distinguishing between subjective (e.g., personal estimate, psychological resources) and objective (e.g., sick days, diagnosed diseases) aspects of work-related health. Included as a partial mediator were positive psychological states of organizational and occupational identification (operationalized broadly in terms of involvement, commitment, significance, and satisfaction). The sample was based on a large-scale employee attitude survey of public (city) employees ($N = 14,372$), comprising various occupational groups, such as administrative and technical staff, educators, social and healthcare workers. Results suggest that motivational benefits of progressive management practices are also associated with intensified utilization of work capacity, confirming suspected ambivalent or paradoxical dialectic effect of employee-oriented management practices on occupational health in performance-oriented work systems. These results are interpreted as evidence for increasing relevance of self-enacted (subjectified) forms of work intensification, based on processes of occupational and organizational identification and internalization.

4.4 Study 4: Work extensification

The fourth study investigates extensification or „boundarylessness" of work in terms of time-based social role conflicts and their cumulative impact on mental health (Hornung, Weigl, Glaser & Angerer, 2016). The research report presents results of a long-term cohort study examining the prevalence of social role conflicts between work and family and their longitudinal relationships with self-reported symptoms of depression and anxiety in the occupational socialization of junior hospital doctors. The analyzed sample included $N = 334$ hospital physicians, providing complete data across four measurement points over a period of almost 10 years. Independent variables included the two commonly distinguished types of (time-based) work-to-family and family-to-work conflict as well as personality (trait) dispositions towards depression and anxiety. Dependent constructs were the state components of depression and anxiety. Analyses included psychometric assessment, general and gender-specific descriptive trends, as well as longitudinal relationships between social role conflicts, measured at various points during the study, and self-reported symptoms of assessed mental health problems at the end of the investigation period. Results indicated prospective („causal") effects of role conflicts between work and family on states of depression and anxiety over time,

notably, above and beyond the variance explained by personality dispositions (trait components) towards these mental health problems. Overall, this study underscores the need for measures and interventions to contain the work role extensification in early phases of medical careers. Efforts to increase compatibility between physician work and their personal life specifically need to address an occupational culture of excessively long working hours, widespread gender inequality, and tolerance of reduced opportunities for women to participate in the workforce according to their qualifications.

4.5 Study 5: Job crafting

The fifth study operationalizes and examines the construct of job crafting as a form of proactive coping and self-empowerment at work (Hornung, 2020). Empirically tested in this study is a model of individual (growth need strength), interpersonal (transformational leadership), and organizational (situational constraints) antecedents and motivational consequences of two types of job crafting, namely, task (situation-directed) and cognitive (self-directed) modifications of work boundaries, including their differential effects on established dimensions of psychological empowerment. The sample consisted of $N = 1,196$ employees of a telecommunications company in China, gathered in the context of an expatriate assignment. With the exception of a lacking significant path from situational constraints to cognitive job crafting, common antecedents of both task crafting (external) and cognitive crafting (internal) were confirmed. Also supported were differential motivational effects with task crafting predominantly related to control-oriented empowerment dimensions of self-determination and influence, whereas cognitive crafting was more proximal to person-oriented aspects of experienced meaningfulness and competence. Discussed theoretical and practical implications concern the active and partly ambivalent role of individuals in shaping motivational processes and conditions to fulfill work-related needs and support their psychological well-being at work.

4.6 Study 6: Work self-design

The sixth study examined processes of work self-design as the exercise of individual task-related control towards improving personal quality of working life (Hornung, Höge & Rousseau, 2019). Explored are main and interactive effects of three distinct aspects of flexibility in work design and potential sources of worker control: (1) task autonomy, (2) task-directed job crafting and (3) individual task renegotiation (idiosyncratic deals). Additionally, task characteristics were investigated as controls (complexity, interdependence, over-

load). Outcomes are a battery of positive and negative indicators for the quality of working life and employee well-being and health, namely, organizational identification, meaning in work, general well-being, work-life conflict and enrichment, emotional exhaustion, and psychosomatic complaints. The sample comprised $N = 279$ employees in different organizations and professional groups, recruited via the personal networks of students participating in a research seminar in occupational psychology. Core results indicated that task autonomy, task-directed job crafting and task idiosyncratic deals play distinct yet synergistic roles for improvement of working life. Task autonomy was the most important aspects, both in terms of main and interactive effects with task crafting and negotiation of idiosyncratic deals, specifically with respect to positive indicators of the quality of working life, such as meaning in work, organizational identification, and work-home enrichment. Based on recent conceptual developments, this study provides impulses for a broadening of perspectives in work design research with regard to the psychosocial effects of the interplay of organizational, self-enacted, and individually negotiated degrees of freedom for personalizing work activities.

4.7 Study 7: Negotiated fairness

The focus of the last study was on employee attitudes regarding perceived fairness and social acceptance of individually negotiated personalized work arrangements, also called *idiosyncratic deals*, as an increasingly common and advocated management practice (Hornung, Doenz & Glaser, 2016). The reported pilot study explores influences on fairness-related attitudes towards the personalization of working conditions via individual negotiation as a post-disciplinary management practice in the context of organizational justice. The purposive convenience sample consists of $N = 111$ employees in different organizations and occupations, gathered in a student research project. Examined as predictors were the extent of own negotiation and observed prevalence of time-based and task-based negotiated special arrangements, procedural and distributive organizational justice, and interactive effects of these factors on fairness perceptions. Overall, fairness of individualized working conditions was rated higher for developmental (task-based) idiosyncratic arrangements, especially when their occurrence is common (widespread or egalitarian). This normative influence exceeded (mediated) positive influences of own individualization and was accentuated (moderated) by procedural justice, i.e., in the context of considered, transparent, and ethical management practices. In contrast, distributive justice related inversely to fairness perceptions, suggesting that idiosyncratic deals are less accepted and legitimate when the emphasis

is on economic principles of equitable allocation of resources according to individual contributions. Theoretical and practical implications concern the analysis, evaluation, and design of potentially employee-oriented management practices in increasingly flexible work structures and individualized organizations.

5   Methods

Studies share common features regarding methods and contents, which facilitates aggregation, specifically, quantitative survey methodology, correlational analysis, focus on employee well-being and health, and partly overlapping theories and constructs. Next, a brief overview of the samples, measures, and statistical analyses is provided, followed by a description of the approach for the presented qualitative aggregation and interpretation.

5.1   Samples

All reviewed studies employed self-report survey methods, six are cross-sectional. The exception, S4 draws on a long-term longitudinal study with four measurement points; the Munich cohort study on working conditions of resident hospital physicians (Weigl, Hornung, Petru, Glaser & Angerer, 2012). S1 and S3 were conducted in different branches of the German public administration (state tax department, city employees) in connection with academic consulting projects. The occupational context of S2 is geriatric care, including nursing staff from a representative sample of elderly care homes in the State of Bavaria, gathered in a project funded by the Federal Institute for Occupational Safety and Health. Adding diversity in national and cultural settings, S5 was conducted in a telecommunications company in China, a collaboration project during an expatriate assignment. Studies S6 and S7 analyze heterogeneous convenience samples, recruited though the personal contacts and networks of research students in psychology at the University of Innsbruck.

5.2   Analyses

All studied constructs were measured with multi-item self-report questionnaires, psychometrically assessed for structural validity (factor structure) and reliability (internal consistency) prior to hypothesis testing. Typically, this involved combinations of exploratory and confirmatory factor analysis and examination of Cronbach's alpha coefficients (in S7, for instance, analyses were limited by sample size). All scales showed acceptable measurement properties (some of which had not been previously established). Correlational hypotheses between predictors and outcomes were

mostly tested in path or structural equation models (S1-S5). In two cases (S6, S7), multiple moderated linear regressions were used, involving tests for interaction effects (S6, S7). Statistical approaches range from manifest-variable (scale-level) path models (S1) to complete (item-level) latent-variable structural equation models (S5), including a combination of these (S2) and item parceling techniques to aggregate manifest indicators (S2, S3, S4). One of the latter studies (S3) tested interaction effects with latent variables; one (S4) used a longitudinal design with latent variables aggregating constructs across measurement points.

5.3   Integration

The presented summary documents a final integrating research step, based on qualitative aggregation and interpretation. In some cases, analyses were repeated or extended and arguments or theorizing were integrated. Some construct labels were changed for consistency or emphasis of parallels across studies (e.g., identification and commitment). Themed analysis involved an iterative process of theory-guided (deductive) categorizations and explorative (inductive) analyses to identify recurring topics, concepts, issues, and explanatory processes (e.g., Alvesson & Sandberg, 2020; Munro, 2012). Initially, studies were reviewed and structured according to chronological order, similarities in theories, constructs, methods, samples, outcomes, etc. Short titles, brief summaries, and content-descriptors were developed or refined. Subsequently, three thematic structuring schemes were applied: a) Work system focus distinguishes between the central role of the work task (activity) versus work setting (context); b) Subjectification of work is operationalized as primary (more proximal, direct, explicit) versus secondary (more distal, indirect, implicit) connections with identified tendencies of intensification, internalization, and individualization of work; c) Work-health impact postulates theoretical and empirical relationships with positive and negative short, medium, and long-term motivational, health-related, and personality-shaping socializing work effects. Synthesized results are reported below, structured along these categories.

6   Results

As outlined above, an initial distinction was made regarding the structure (process) of the work system (work flow) between the domains of work tasks (work activity) and work setting (regulation context). Directly focusing on work tasks and their psychological regulation are four studies (S1, S2, S5, S6). The other three examine broader and more general working conditions and practices, constituting the surrounding

context of action regulation (S3, S4, S7). Conceptual and empirical indications for trends of work intensification, internalization, and individualization were analyzed in both domains, considering their somewhat different perspectives. To distinguish primary from secondary references (relevance or connections) with respect to examined aspects of subjectification, a set of criteria was applied, including initial study aims and hypotheses, explicitly investigated empirical relationships, and the extent of interpretation and critical-theoretical reframing of constructs and findings. For instance, inclusion of time pressure, work overload, or work-family conflict in a study was taken as a strong indication for work intensification; constructs of occupational, professional or organizational identification were counted as internalization, and a focus on proactive job changes as direct reference to individualization. Accordingly, primary or direct references to intensification were found in four studies; five studies explicitly examine internalization processes; three emphasize the individualization of work organization. All share more or less pronounced secondary (indirect, distal, theoretically construed) implications for the other respective aspects of subjectification. Secondary

Table 3:   Relationships of studies to subjectification aspects.

Study# (focus): Short title – extension	Work intensification	Work internalization	Work individualization
S1 (T): Work characteristics – as stressors and resources for action regulation	X = work stressors (overload) as predictors; psychological irritation, and psychosomatic complaints as outcomes	X = core internalization constructs as outcomes; intrinsic work motivation, organizational identification / alienation	(x) = includes differences in individual autonomy orientation as interaction of personality and occupational socialization
S2 (T): Interaction work – and professional burnout in human-oriented services	X = quantitative and qualitative work overload as predictors of dysfunctional emotion regulation and impaired mental health	X = forms of emotion regulation based on degree of psychological internalization of occupational and organizational norms	(x) = individual differences in interaction competence and control, and coping based on person-specific emotion regulation patterns and resources
S3 (S): Management practices – and paradoxical tensions with employee health	X = ambiguous positive (mediated) and direct (negative) effects of high-involvement management on work ability suggest intensification	X = organizational and occupational identification as mediator between perceived management practices and work ability	(x) = progressive high-involvement management practices support individualization; customized benefits in high-investment practices
S4 (S): Work extensification – as social role conflicts and mental health impact	X = focus on long-term effects of work-to-family and family-to-work conflict on affective disorders	(x) = prioritization of work over family; conflicts typically at expense of obligations activities in non-work domain	(x) = inclusion of gender-specific patterns and trends in individual use of part-time work arrangements over time
S5 (T): Job crafting – as proactive coping and self-empowerment at work	(x) = situational constraints as antecedents of crafting as coping; performance-orientation in transformational leadership as antecedent	X = cognitive and task job crafting as psychological strategies of active self-motivation; empowerment examined as outcome	X = focus on task and cognitive job crafting as self-enacted individual modifications of external and internal work boundaries
S6 (T): Work self-design – as exercise of control to improve quality of working life	(x) = work overload included as control variable; work-life conflict and psychosomatic complaints as outcomes	X = organizational identification, meaning in work, well-being, and-work-life enrichment as core outcomes	X = focus on interplay of work design-based, crafted, and negotiated forms of personalizing of work tasks
S7 (S): Negotiated fairness – of personalized work arrangements as management practice	(x) = performance-orientation and rationalization aspect of individual negotiation as management practice	(x) = normative and justice-related predictors of social acceptance of management practice as aspects of internalization	X = managerial focus on individual negotiation (idiosyncratic deals); fairness of individualization as outcome

Notes: T = focus on work task / activity; S = focus on work setting / context; X = classified as primary (proximal, direct, explicit) references / connection to the respective aspect of subjectification; (x) = classified as secondary (distal, indirect, implicit) references / connections.

connections entail more intensive critical re-interpretation and conjectures and should be viewed cautiously and tentatively. Primary and secondary references of studies to subjectification aspects are summarized in Table 3. Short-, medium- and long-term work-health impacts are presented below in Table 4.

6.1   Subjectification focus on work task

Two core studies focusing on the work activity and its psychological regulation are: a) the investigation of positive and negative effects of work characteristics as supportive or hindering factors in action regulation according to the job demands-resources model in S1; b) the modeling of factors influencing emotional regulation and work-related health in interactive work in human services in S2. Both emphasized work intensification (time pressure, excessive demands) and internalization processes (organizational and professional identification). Two other studies directly refer to work tasks (S5, S6), examining processes of psychological internalization (work motivation, identification, meaning) from an individualization perspective: c) influencing factors and motivational effects (psychological empowerment) of processes of self-regulation and task modification are the focus of S5; d) as follow-up, S6 examines proactive self-design of work and implications for the quality of working life, focusing on interactive effects of different forms of task-related control and influence.

6.2   Subjectification focus on work setting

Altogether three studies focus on the work setting as the situational context of action regulation, emphasizing intensification, internalization, and individualization to different degrees. In S3, in investigating ambiguous effects of employee-oriented management practices on work ability, both internalization and intensification processes were hypothesized and supported. In S4, the focus was also on processes of work intensification (or extensification) with long-term effects of social role conflicts between work and family on affective disorders (depression, anxiety). Part-time work introduced an individualization aspect, prioritizing work an internalization component. Individualization was the theme of S7, examining determinants of fairness perceptions of personalized working conditions. Indirectly this study also concerns internalization (attitudes towards individualization, social acceptance) and intensification (increased demands and efforts), constituting potential side-effects of individual negotiation as management practice, which implies performance-orientation and rationalization aspects.

6.3   Psychosalutogenic work-health impact

The matrix model differentiating spectrum and range of work-health impacts is shown in Table 4 and includes an exemplary structuring of study outcomes along these categories. In theory, positive (psycho-)

Table 4:   Matrix of spectrum and range of work-health impacts.

	Short- to medium-term (acute)	Medium- to longer-term (chronic)	Long-term (socialization)
Psychosalutogenic work-health impact	Intrinsic work motivation (S1) Work-life enrichment (S6) Fairness perceptions (S7) (e.g., positive affect / joy)	Organizational identification (S1, S3, S6) Work ability (S3) Psychological empowerment (S5) Meaning in work (S6) General well-being (S6)	Autonomy orientation (S1) Interaction competence (S2) Functional emotion regulation (S2) Growth need strength (S5)
Psychopathological work-health impact	Psychological irritation (S1) Negative emotions (S2) Work-life conflict (S6) (e.g., job dissatisfaction) (e.g., perceived injustice)	Organizational alienation (S1) Occupational burnout / Emotional exhaustion (S2, S6) Psychosomatic complaints (S1, S6) State depression / anxiety (S4)	Dysfunctional emotion regulation (S2) Trait depression / anxiety (S4) (e.g., external causality orientation / locus of control) (e.g., learned helplessness)

Notes. Exemplary structuring of study outcomes along spectrum (positive / negative) and time range (acute, chronic, socialization) of work-health impacts; S1-S7 = Study including the respective outcome; constructs in parentheses not included in the studies, but added only for illustrative purposes.

salutogenic effects on well-being and health are connected to processes of psychological identification with one's work, internalization of work-related norms and goals, and opportunities for the need-based personalization of work arrangements. Reviewed studies generally support these assumptions. Among the short- to medium term acute responses are positive affect, intrinsic work motivation (S1), but also episodes of work-life enrichment (S6), and fairness perceptions (S7). More chronic responses in the medium- to longer term include organizational and occupational identification (S1, S3, S6), psychological empowerment (S5), meaning in work, general well-being (S6) and work ability (S3). Long-term socializing developments apply to personality constructs, which were included as independent variables, such as autonomy orientation and growth need strength (S1, S5), as well as interaction competence and functional emotion regulation patterns (S2).

6.4 Psychopathological work-health impact

Psychopathological work effects impairing occupational well-being and health are widely acknowledged to be associated with intensification processes, manifesting, for instance, in increased demands and performance pressure, contributing towards quantitative or qualitative work overload. In the short to medium term, typical employee responses include the experience of negative emotions (S2), psychological (cognitive and emotional) irritation (S1), as well as, for instance, job dissatisfaction and perceptions of injustice (not included in the summarized studies). Prototypical medium-term effects are the occupational burnout syndrome (S2), respectively its core component emotional exhaustion (S6), but also psychosomatic complaints (S1, S6) and affective disorders, such as symptoms of depression and anxiety (S4). Long-term negative socialization effects can be exemplified by patterns of reduced autonomy orientation (control rejection, learned helplessness) and chronic work and organizational alienation (S1), dysfunctional emotional regulation (S2), and trait components of depression and anxiety (S4). Although some indication was found for potential psychopathological side-effects of organizationally desirable employee involvement and proactivity, this perspective emerged during the course of the study series and its integration and was not systematically developed in all studies a priori, thus, mandating cautious interpretation and additional future research.

7 Discussion

This critically themed research summary contributes to previous and broader efforts to systematically integrate the sociological perspective of the subjectification of work with theorizing and results in applied psychological research, specifically with regard to more comprehensive approaches to occupational well-being, health, and socialization (Höge, 2011; 2019; Höge & Hornung, 2015; Hornung & Höge, 2019). It was designed as an integrative, critical-theoretical re-interpretation, specifically, a qualitative meta-study emphasizing tendencies of work intensification, individualization, and internalization as important facets of subjectification. A series of quantitative studies, conducted collaboratively between research institutions in applied psychology and occupational medicine over a period of five years, was structured and re-interpreted in an iterative deductive-inductive analytic approach. In addition to distinguishing different domains, structures, and dynamics of work systems and processes, the developed framework draws on and builds connections with the sociological and interdisciplinary literature on the subjectification of work, advanced neoliberal governmentality, and new forms of indirect control through responsibilization and self-management (e.g., Bredehöft, Dettmers, Hoppe & Janneck, 2015; Moldaschl & Voß, 2002; Rose, O'Malley & Valverde, 2006). Interpreted against the backdrop of theorizing on organizational paradoxes (e.g., Glaser et al., 2019; Putnam et al., 2016), identified tensions point toward somewhat ambiguous implications of motivational work design and the personalization of work tasks and contextual factors. Arguably, these are aggravated when employees simultaneously internalize progressively expansive and intrusive organizational (occupational, societal) expectations, requirements, and norms. Specifically, this points to the potentially health-damaging effects of self-directed forms of work intensification (e.g., Burchell et al., 2002; Dettmers et al, 2016; Höge, 2019; Korunka & Kubicek, 2017). Theoretically plausible and sporadically observed empirical links between internalization of organizational (performance-related) goals and behavior-based (self-directed) intensification correspond with the subjectification-proposition in work sociology. This perspective stresses the relevance of self-endangering work behavior as harmful, interest-based „self-exploitation", facilitated through manipulative instruments and technologies of indirect control (e.g., goal setting,

incentives), energized in the broader context of increasing job and income insecurity, as well as „externalization" of social costs and risks into the individual sphere of responsibility (e.g., Pedaci, 2010; Pongratz & Voß, 2003; Wacquant, 2009; Weiskopf & Loacker, 2006). From a systemic perspective, it is understood that identified tendencies of the subjectification of work are not independent, but interdependent, intersecting, and interacting in „synergistic" ways towards their observed psychological impacts (e.g., Levins, 1998; Terborg, 1981).

Psychological tensions or force-fields of the three subjectification tendencies of intensification, internalization, and individualization were analyzed initially on a conceptual basis and synthesized study results were subsequently explored for indications (e.g., paradoxical effects of employee-oriented management on work ability in S3; a positive correlation between task crafting and work-life conflict in S6). The dialectics between intensification and internalization in particular, are arguably most common and controversial, relating to issues of conflict and convergence of interests in employment (i.e., unitarism vs. pluralistic perspectives) that are underemphasized, neglected or even repressed „blind spots" in applied psychology as well as in occupational medicine (e.g., McDonald & Bubna Litic, 2012). Work intensification, in the form of externally mandated increases in performance demands, would likely trigger resistance and thus possibly be counterproductive to employee commitment or identification with the organization. Internalized (subjectified) work intensification and flexibility, however, are exercised in more „organic" ways through self-control, thus bypassing protective mechanisms of (individual and collective) employee reactance or resistance (e.g., Hornung & Höge, 2021; Pérez-Zapata et al., 2016; Pongratz & Voss, 2003). Thus, integrating theory and data, this review suggests the need for increased attention to tensions between the (intrinsically motivating) personalization of work, associated employee identification with inherently expansive organizational and occupational performance requirements and the potentially health-damaging effects of resulting self-enacted work stressors. Importantly, this perspective was not systematically incorporated a priori in the reviewed study series, but was developed and inferred post-hoc, and is hereby recommended as a framework for further exploration, application, and elaboration.

To keep up to date and adequately represent the complex and dynamic interrelationships between work and health, applied psychology and related disciplines, such as occupational medicine, need to revisit and revise some basic assumptions on the motivational basis of work behavior (e.g., Ryan & Deci, 2000). Specifically, considering research in the social sciences on processes of subjectification and governmentality in post-disciplinary work regimes, this concerns issues of voluntariness, freedom of choice, and individual agency (e.g., Becke, 2017; Moldaschl & Voß, 2002; Pyysiäinen et al., 2017). Increasingly relevant and „at work" here, are modes of indirect control through internalized performance norms and psychologically coercive or harmful forms of self-management (e.g., Bredehöft et al., 2015; Laurence et al., 2016; Pérez-Zapata et al., 2016). The „subjectified intensification" of work is contextualized within a systematic erosion of institutional and social protective factors (e.g., employee rights, labor unions) through tendencies of flexibilization, individualization, and precarization at the level of organizations and employment relationships, as well as through the neoliberal deconstruction of public social and healthcare systems more broadly (e.g., Pedaci, 2010; López-Andreu, 2019; Moscone et al., 2016; Wacquant, 2009). Against the „background pressure" of high insecurity, tendencies of work intensification, internalization, and individualization need to be critically evaluated as logics underlying workplace regimes of indirect control through the individualization and subjectification of risks and responsibilities in employment (e.g., Hornung & Höge, 2021). Theoretical implications of the above discussed developments include the need for a more systematic and encompassing (holistic) integration of socio-cultural influences and trends into psychological models of work. For instance, to better contextualize and embed the study of workplace phenomena within broader, overarching developments, the OTI framework (Büssing, 1992), drawn on in this study, needs to be conceptually elaborated. Such an extension should not only account for societal embeddedness in political-economic and socio-cultural structures and transitions (e.g., Bliese et al., 2017), and associated interactions among society, organizations, work tasks and activities, and the working individuals, but it further needs to include ecological embeddedness in the natural environment, crucial to addressing some of the most pressing problems threatening human civilization today. Future research devising and applying such an extended (i.e., Environmentally [E] and Societally [S] integrated or embedded, „ES-OTI") approach, systematically including interactions among the work system, society, and environment, seems timely and called for, evidenced for instance, by a growing literature on critical sustainability and related concepts in other fields (e.g., Fuchs, 2017; Rose & Cachelin, 2018). For research in applied psychology, the framework sketched out here (summarized in Figure 1) can serve as a platform for such broader theoretical and empirical undertakings, necessary to further develop the fundamentally socially critical, profoundly humanization-oriented, epistemologically reflexive, and interdisciplinary approach suggested and exemplarily explored here.

At present, the prospects for such a critical perspective may be improving, partly due to proliferation of disillusionment with the increasingly unconvincing ideological accounts and interest-guided interpretations dominating the mainstream. A recent case in point, Ergene, Banerjee, and Hoffman (2021) have forcefully argued that necessary changes in academia require no less than a fundamental reform of consciousness, mandating paradigm shifts in several domains of organizational scholarship. Specifically, according to these authors, called-for paradigm shifts involve (1) transitioning from the system-justifying managerialist mainstream to socially critical and transformational perspectives; (2) from narrow, discipline-focused, and abstract to integrative, interdisciplinary, and applied research: (3) from realist and reductionist to more relational and holistic theories of knowledge; and (4) from a counterfactual and unreflected pretense of objectivity and value-neutrality to a more transparent and openly stated stance of engaged scholarship, based on strong commitments to ethical principles and collective societal interest in the common good. Accordingly, engaged scholarship aims at reconciling and leveraging the authoritative normative and knowledge-based position and processes of science to facilitate necessary „social change by aligning research, teaching, and service activities with social and environmental justice and ecological wellbeing." (Ergene et al., 2021; p. 1328). These envisioned changes towards critical scholarly activism for the fulfillment of shared societal objectives and social responsibilities of academic institutions, strongly resonate with calls to strengthen the prosocial and emancipatory impact of humanization-oriented psychological research in organizations (Weber et al., 2020). Accordingly, this contribution aspires to address aspects captured in several of the described paradigm shifts. Moreover, it hopes to inspire more fundamentally and socially critical scholarship in applied psychology, advancing the suggested critical-theoretical and humanist perspective, which still lacks traction against the functionalist (performance-oriented) mainstream. After a substantial assessment, McDonald and Bubna Litic (2012) concluded that the field of social psychology applied to work and organizations is particularly uncritical and ideological compared to adjacent disciplines, lacking methodological and theoretical reflexivity, pluralism, and moral-ethical grounding. A decade later, this situation remains largely unchanged – and mostly even unacknowledged (e.g., Bal & Dóci, 2018). This „arrested development" pragmatically demonstrates serious need for more radical engagement and transformation of the field. Limitations notwithstanding, the present attempt at critical synthesis suggests that at least latent potentials for social critique can be found in applied psychological research.

8   Conclusion

Conclusions drawn from this problematizing summary of studies reinforce the demand that humanization-oriented work and organizational analysis and design needs to devise consciously targeted efforts to contain, compensate, and counteract the mutual reinforcement of identified socially and psychologically harmful or dysfunctional tendencies associated with the neoliberal transformation of contemporary workplaces (e.g., Bal & Dóci, 2018; Hornung & Höge, 2019, 2021; Weber et al., 2020). To this end, in both academic and practical outreach, occupational psychology and medicine must become more effective, established, and accepted as ethical institutions and advocates of social responsibility. Transcending conventional disciplinary, organizational, and administrative boundaries, this involves speaking inconvenient „truth to power" and actively standing in for the interests and well-being of workers as the main constituents. Paradoxically, employees need to be protected not only from „raw" economic pressures and diverging interests underlying employment, but also from their own proactive compliance and collusion in the form of internalizations that are psychologically reproducing these demands. In the terminology of occupational science, threats to health and well-being arise not only from the „exposition" to physiologically and psychologically adverse or suboptimal conditions at work, but also indirectly, through the psychological „imposition" of (introjected, incentivized) external expectations and interests. Associated processes of subjectification do not facilitate or support humanistic ideals of self-actualization and authenticity, but rather demand continuous economic self-objectification and discipline of the working subjects. For applied psychology, this shift mandates critical reflection on criteria for evaluating work, such as freedom from health impairment, but also regarding implications for normative concepts of genuinely psychologically healthy and socially desirable personality development through everyday work activity. These concepts can no longer be treated as more or less „empty signifiers", subject to particular interest-guided interpretations for instance, aimed at creating the appropriate individual to serve economic purposes through self-valorization, as evidenced in concepts of workplace learning, proactivity and employability, but need to be grounded in solid moral and ethical foundations that account for escalating social and environmental crises confronting the planet and the human species today.

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Appendix

Table A1:   Study documentation as interdisciplinary collaboration and outreach to occupational medicine.

Study 1: Work characteristics – as stressors and resources for action regulation
Hornung, S., Weigl, M. & Glaser, J. (2016). Das Stressoren-Ressourcen Modell der Arbeitsgestaltung und die Selbstbestimmungstheorie der Motivation: Eine konzeptuelle und empirische Integration (The job demands-resources model of work design and self-determination theory of motivation: a conceptual and empirical integration). Oral presentation: 11.03.2016; Dokumentationsband 56. DGAUM Jahrestagung (S. 442-445).

Study 2: Interaction work – and professional burnout in human-oriented services
Hornung, S., Lampert, B., Weigl, M. & Glaser, J. (2018). Emotionsarbeit und Burnout bei Altenpflegekräften: Ein arbeitspsychologisches Phasenmodell (Emotional labor and burnout in geriatric care: a phase model from work psychology). Poster presentation: 08.03.2018; Dokumentationsband 58. DGAUM Jahrestagung (S. 404-407).

Study 3: Management practices – and paradoxical tensions with employee health
Hornung, S., Weigl, M., Höge, T. & Glaser, J. (2015). Arbeitsfähigkeit im Öffentlichen Dienst: Paradoxien partizipativer Managementpraktiken (Work ability in the public service: paradoxes of participaory management practices). Oral presentation: 20.03.2015; Dokumentationsband 55. DGAUM Jahrestagung (S. 326-329).

Study 4: Work extensification – as social role conflicts and mental health impact
Hornung, S., Weigl, M., Glaser, J. & Angerer, P. (2016). Rollenkonflikte zwischen Arbeit und Familie und psychische Gesundheit in der beruflichen Sozialisation von Krankenhausärzten: Ergebnisse einer Kohortenstudie (Role conflicts between work and family and mental health in the occupational socialization of hospital physicians). Poster presentation: 09.03.2016; Dokumentationsband 56. DGAUM Jahrestagung (S. 551-554).

Study 5: Job crafting – as proactive coping and self-empowerment at work
Hornung, S. & Weigl, M. (2017). Selbstausgestaltung von Arbeit und psychisches Wohlbefinden: Voraussetzungen und Auswirkungen aufgabenbezogener und kognitiver Modifikationsstrategien (Self-redesign of work and psychological well-being: antecedents and consequences of task-directed and cognitive modification strategies). Oral presentation: 15.03.2017; Dokumentationsband 57. DGAUM Jahrestagung (S. 53-56).

Study 6: Work self-design – as exercise of control to improve quality of working life
Hornung, S. & Höge, T. (2018). Tätigkeitsspielraum, Selbstausgestaltung und individuelle Aushandlungen als Quellen von Kontrolle in der Arbeit: Zusammenhänge mit der Qualität des Arbeitslebens und Mitarbeitergesundheit (Task autonomy, self-redesign, and individual negotiation as sources of control at work: relationships with quality of working life and occupational health). Oral presentation: 08.03.2018; Dokumentationsband 58. DGAUM Jahrestagung (S. 260-263).

Study 7: Negotiated fairness – of personalized work arrangements as management practice
Hornung, S., Glaser, J. & Weigl, M. (2019). Gerechtigkeitsbezogene Einstellungen von Beschäftigten zur Individualisierung von Arbeitsbedingungen – eine Pilotstudie (Fairness-related attitudes of employees concerning the individualization of working conditions – a pilot study). Poster presentation: 22.03.2019; Dokumentationsband 59. DGAUM Jahrestagung (S. 394-397).

Meta-study: Work and health in transition – from the perspective of subjectification of work
Hornung, S., Weigl, M., Glaser J. & Herbig, B. (2021). Wandel der Arbeit zwischen Intensivierung, Individualisierung und Internalisierung: Eine Integration von Beiträgen zur Arbeitsmedizin aus der Angewandten Psychologie (Transitions of work between intensification, individualization, and internalization: an integration of contributions to occupational medicine from applied psychology). Virtual poster presentation: 04.09.2020; Dokumentationsband 60. DGAUM Jahrestagung (S. 302-305).

Notes: Presentation and documentation of studies at the Annual Meeting of the German Society for Occupational Medicine and Environmental Medicine (Deutsche Gesellschaft für Arbeitsmedizin und Umweltmedizin, DGAUM); proceedings available online for download: www.dgaum.de