# Coping in Flexible Working Conditions – Engagement, Disengagement and Self-Endangering Strategies<sup>1</sup>

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#### Abstract

Flexible working conditions can lead to enhanced demands on employees. Workers in flexible jobs with few boundaries must manage themselves and take responsibility for work goal attainment. The health-related effects of flexible working terms are attributable to both the conditions and the manner in which demands and goal achievement are addressed, i.e., they are attributable to coping. Flexible working conditions can reinforce certain work behaviours, such as working despite illness. Based on the self-regulation of behavior theory, we compared such so-called self-endangering work behaviours to previously examined engagement and disengagement coping responses regarding employee health. To accomplish this, we used an online questionnaire through which 485 employees were asked about their working conditions, coping and well-being. The results showed that self-endangering strategies had a positive incremental effect on emotional exhaustion and psychosomatic complaints above and beyond engagement and disengagement coping strategies as well as work demands and work resources. In conclusion, self-endangering work behaviours should be considered when estimating the general health of workers under flexible working conditions.

# Keywords

Work stress - flexible work - coping - self-endangering work behaviours - engagement coping - disengagement coping

Modern types of working arrangements, such as flexible working conditions, herald the disappearance of traditional boundaries and require significant selfregulation (Allvin, Aronsson, Hagström, Johansson & Lundberg, 2011; Dewe, O'Driscoll & Cooper, 2010; Näswall, Hellgren & Sverke, 2008). Instead of high degrees of external regulation, employees are increasingly regulating themselves (e.g., Höge, 2011; Mellner, Aronsson & Kecklund, 2014; Peters, 2011; Pongratz & Voß, 2003), which means that employees must decide for themselves when, where and how they work. At the same time, workers must increasingly orient their behaviour towards market and customer demands and towards organizational performance goals (e.g., Allvin et al., 2011). While these developments may provide opportunities for personal development and fulfilment as well as extended autonomy, they can also lead to feelings of being overwhelmed, to intensified demands and to health impairment (e.g., Chevalier & Kaluza, 2015; Höge & Hornung, 2013; Korunka & Kubicek, 2013; Kubicek, Paškvan & Korunka, 2015; Peiró, 2008). The demands with which a flexible worker is typically confronted include uncertainty about what is expected, high self-responsibility for work, external pressure from the market and customers, rapid adaptation to equally rapid changes, and a substantial workload (Allvin et al., 2011; Melin, Astvik & Bernhard-Oettel, 2014). Previous research has shown the effects of these new flexible – but demanding – forms of work, such as increased irritation (Höge & Hornung, 2013) and burnout (e.g., Kubicek et al., 2015).

However, health impairments are not solely attributable to working conditions per se, they also depend on the usage of certain personal strategies with which workers attempt to accomplish work goals and cope with work demands (Allvin et al., 2011; Aronsson, Astvik & Gustafsson, 2014; Dettmers, Deci, Baeriswyl, Berset & Krause, 2016; Krause et al., 2015). One way to

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achieve work objectives autonomously and against the background of increased work demands is to increase personal efforts, which may result in the application of strategies that are potentially detrimental to one's health. Examples of such strategies include excessive working, refraining from recovery activities, working while ill and consuming performance-enhancing substances (Aronsson et al., 2014; Astvik & Melin, 2012; Dettmers et al., 2016; Krause et al., 2015). Krause et al. (2015) and Dettmers et al. (2016) refer to these strategies as "self-endangering work behaviours". For example, nearly one-third of highly skilled clerical workers in Europe work during their leisure time (Eurofound, 2012). Although these behaviours are likely to pose significant threats to employee health (e.g., Astvik & Melin, 2012; Baeriswyl, Krause & Kunz Heim, 2014; Chevalier & Kaluza, 2015; Melin et al., 2014), we have little empirical knowledge regarding the effects of selfendangering work behaviours. The primary aim of this study is to establish self-endangering behaviour as a specific form of coping that differs from well-known categories such as engagement and disengagement behaviours (Carver & Scheier, 1998). Thus, we will address the question of whether self-endangering behaviours predict the impairment of employee health above the effects of other frequently examined coping strategies, as well as the effects of the encountered working conditions.

#### Self-Regulation of Behavior

A theoretical approach for more systemically examining coping with demanding situations was presented by Carver and colleagues and is known as the self-regulation of behavior theory (Carver & Scheier, 1998; Carver & Vargas, 2011). Based on the principles underlying the self-regulation of action as well as on transactional stress theory (Lazarus & Folkman, 1984), their model creates links among stress, coping and goal achievement. Carver and Scheier (1998) defined stress as "the condition that exists when something is interfering with movement toward desired goals (or away from anti-goals)" (p. 214). Accordingly, coping is "what people do in response to that perception". Thus, behaviour is always aimed at a target (Carver & Scheier, 1998; Carver, Scheier & Pozo, 1992), reflecting the assumption that goals, such as certain project milestones, can trigger and guide behaviour. When an individual perceives a certain distance to a target, goal-oriented adaptation of the behaviour is initiated. In this framework, demands are factors that "threaten the attainment - or continued attainment - of important goals" (Carver et al., 1992). Coping is then used to address these disturbances. Employees can either exert further efforts to achieve a goal and handle a situation (engagement) or give up their efforts or their goal (disengagement). The choice between engagement and disengagement behaviour depends partly on individual expectations of success, appraisal processes, and personality, as well as on the characteristics of the situation; therefore, it is necessary to control for conditional and personal variables (Carver & Connor-Smith, 2010; Carver & Vargas, 2011; Lazarus & Folkman, 1984).

#### Disengagement Coping

Disengagement coping strategies (i.e., avoidance) include behavioural and mental disengagement or denial, among others (Carver & Connor-Smith, 2010; Carver & Scheier, 1998). These strategies are all "attempts to avoid actively confronting the problem (...) or to indirectly reduce emotional tension (...)" (Billings & Moos, 1981, p. 141). Thus, they are marked by disengagement from goals. Disengagement coping strategies are usually emotion-focused, wherein an individual tries to evade or to reduce feeling negative emotions (Carver & Connor-Smith, 2010; Lazarus & Folkman, 1984).

Behavioral disengagement, for example, means the reduction of "one's effort to deal with the stressor, even giving up the attempt to attain goals with which the stressor is interfering". If possibilities for behavioural changes are constrained, mental disengagement may serve as an alternative, which includes "a wide variety of activities that serve to distract the person from thinking about the behavioral dimension or goal with which the stressor is interfering" (Carver, Scheier & Weintraub, 1989, p. 269). Typical activities associated with this intention comprise sleeping or watching TV. Additionally, denial, a further disengagement coping strategy, involves "reports of refusal to believe that the stressor exists or of trying to act as though the stressor is not real" (Carver et al., 1989, p. 270).

According to Skinner, Edge, Altman, and Sherwood (2003) and Carver et al. (1989), the above-mentioned disengagement strategies can be classified as maladaptive coping. However, in some circumstances, it is appropriate to give up and therefore abandon set goals. This is particularly the case for uncontrollable, non-modifiable situations. In such cases, important resources can be protected through disengagement. Furthermore, rejecting a goal might be sensible, such as when such rejection leads to the setting of new targets (Carver & Vargas, 2011). Hence, disengagement coping can be quite adaptive under specific conditions. Nonetheless, in most situations, avoiding a problem that is interfering with a goal is not constructive. In circumstances where demands and goals can no longer be ignored, as is common in working life, disengagement coping leads to even larger and potentially more overwhelming problems while simultaneously preventing the application of more adaptive strategies (Carver et al., 1989, 1998, 2010). Moreover, the abandoning of a goal might negatively affect individual well-being and can elicit negative feelings such as frustration and anger (Carver & Vargas, 2011). Thus, disengagement strategies have often been linked to distress and poor health, as reduced emotional energy at work and at home, decreased work engagement (e.g., Cheng, Mauno & Lee, 2014) and burnout (Evans, Bryant, Owens & Koukos, 2004; Wallace, Lee & Lee, 2010).

#### Engagement Coping

In contrast, an individual can utilize engagement coping strategies. Typical examples of such include active coping, planning or searching for instrumental support. These strategies are "aimed at dealing with the stressor or related emotions" (Carver & Connor-Smith, 2010, p. 685). Furthermore, in accordance with the self-regulation of behavior theory, engagement coping can be understood as "continued engagement with goals that the stressor is threatening" (Carver & Scheier, 1998, p. 214), which implies active attempts at maintaining a set goal. Engagement coping comprises both problem-focused coping (problem-solving) and variants of emotion-focused coping (emotion regulation; see Lazarus & Folkman, 1984). The strategy of active coping is characterized by increased efforts and active and directed actions (Carver et al., 1989). Planning, however, involves reflecting upon ways in which a demand/problem can be solved. According to Carver and Scheier (1998), the strategy of searching for instrumental support is aimed at receiving information, advice or assistance.

All of these strategies are considered problem-focused coping, but they have the added benefit of being helpful in calming emotions (Skinner et al., 2003). Moreover, in conformity with Skinner et al. (2003), engagement coping strategies enable an individual worker to accumulate coping resources such as selfconfidence or trust in others. Thus, moving towards an intended goal is linked to positive affect (Carver & Vargas, 2011). Confirming these theoretical considerations, empirical studies have shown that engagement coping strategies are positively related to worker wellbeing, such as lower levels of burnout (Wallace et al., 2010), higher levels of work engagement (Rothmann, Jorgensen & Hill, 2011) and higher job satisfaction (Welbourne, Eggerth, Hartley, Andrew & Sanchez, 2007).

#### Self-Endangering Work Behaviours

The goal commitment behaviour that is characteris-

tic of engagement strategies can also be found in selfendangering work behaviours. The concept of selfendangerment was initially developed and published by Peters (2011) and Krause, Dorsemagen, Stadlinger, and Baeriswyl (2012). Self-endangering work behaviours are defined as "actions that aim to deal with work-related demands but simultaneously increase the likelihood of health problems and impede necessary recovery from work-related stress" (Dettmers et al., 2016, p. 28). Additionally, the concept implies the display of work behaviours that go beyond contractual arrangements (e.g., Peters, 2011). Krause et al. (2015) proposed eight different self-endangering coping behaviours: prolonging working hours, intensifying working hours, using substances for recuperation, using stimulating substances, working despite illness, faking, lowering the quality of work and bypassing safety standards.

All of these eight facets have the following in common: Self-endangering work behaviours, such as using stimulating substances, are *behavioural* attempts to overcome threatening work demands (*problem-focused*) and, consequently, to maintain set work goals (*engagement coping*). This purpose can be realized by different mechanisms, such as through engagement in substantial additional effort, producing reduced quality, providing untruthful information or omitting important planned operation steps (safety standards). With respect to using substances for recuperation, employees consume drugs or other substances in order to feel powerful again the next day (Dettmers et al., 2016; Krause et al., 2015).

However, all of these strategies increase the probabilities for adverse health effects and impairment of long-term ability to work (Dettmers et al., 2016). This results from either engaging in risky behaviour or by ignoring recovery needs. According to Hockey (1997), use of active, goal-oriented coping efforts under extreme stress conditions is connected with an increase in energetic costs and occurs at the expense of other individual and biological goals such as well-being and rest. In the case of self-endangering coping, employees widely ignore their own needs to recover (Krause et al., 2015). Off-work recovery, in turn, plays a critical role in the relationship between acute load reactions due to job stressors and chronic health impairments (Geurts & Sonnentag, 2006). Thus, self-endangering strategies cannot be sustained in the long term: "Negative longterm effects on health and well-being are inevitable" (Dettmers et al., 2016, p. 30).

Empirical findings have shown that self-endangering work behaviours are favoured in the presence of certain aspects of a work situation. For example, Chevalier and Kaluza (2015) found that constantly increasing and unrealistic work goals (i.e., goal spirals) that are oriented towards market growth rather than towards the performance capabilities of employees are directly connected with self-endangering strategies. Furthermore, they demonstrated that overall flexibility in setting working time (i.e., the absence of fixed workdays and fixed starting and ending times) and poor handling of overtime (i.e., a lack of payment/ compensation for overtime) also increased the likelihood of self-endangering work behaviours. Astvik and Melin (2012) showed that employees who utilize more of such strategies have more complex work demands and less control over demands and resources as well as less social support. Thus, the impact of situational context should be further examined, in addition to the influence of personality and appraisal (see Carver & Vargas, 2011).

Moreover, in accordance with Dettmers et al. (2016) the concept of self-endangering work-behaviour may resemble other constructs in the literature on organizational behaviour, such as workaholism (Krause et al., 2012; Schaufeli, Taris & van Rhenen, 2008). However, there are significant differences between the phenomena being discussed. The "essence of the construct" of workaholism "is an inner drive to work" (Dettmers et al., 2016, p. 32; Schaufeli et al., 2008). "This inner drive or addiction component is not considered to be part of the concept of self-endangering work behavior presented here" (Dettmers et al., 2016, p. 32). Rather, self-endangering work behaviour is a coping reaction to excessive work demands, specifically under the condition of a workplace that has high requirements of self-regulation (Baeriswyl et al., 2014; Krause et al., 2012, 2015). However, regardless of these dissimilarities in the "underlying causes, the behavioral consequences of workaholism may resemble selfendangering work behaviors in many ways" (Dettmers et al., 2016, p. 32). For a more detailed overview we refer to Dettmers et al. (2016).

Due to their broad applicability and their great relevance in various professional fields, our study focused on the following four issues: Intensification of working hours, working despite illness, using stimulating substances and prolonging working hours. Intensification of working hours means working on several tasks at the same time, and performing tasks more rapidly than is typical (Korunka & Kubicek, 2013; Kubicek et al., 2015). Working despite illness includes going to work when suffering from a perceived illness, i.e., neglecting the need to recover from ill health (e.g., Aronsson, Gustafsson & Dallner, 2000; Hägerbäumer, 2011). In agreement with Kowalski (2013), the third behaviour, use of stimulating substances, includes both the socially accepted consumption of caffeine and alcohol and the misuse of prescription medicines and illegal drugs. Employees who exhibit this type of behaviour may be attempting to maintain or optimize their mental performance (Franke et al., 2013; Kowal-

ski, 2013), improve their learning capabilities, and / or manipulate their memory function or their current waking state (Kowalski, 2013). Finally, prolonging working hours includes shortening of recovery periods, working overtime, reducing private and family activities and being constantly available to address workrelated issues (Dettmers, Vahle-Hinz, Bamberg, Friedrich & Keller, 2016; Dettmers et al., 2016; Krause et al., 2012, 2015). We assume that the concept of prolonging working hours actually includes two different aspects and should therefore be divided into two categories. The first category represents the extension of working hours, including working overtime and always being available to address work-related issues. The second category can be defined as refraining from recovery/ leisure activities. Refraining from recovery/leisure activities can include the active cancellation of leisure-, family-oriented and recreational activities in order to get work done.

First studies have proven the health-impairing effects of these self-endangering work behaviours. Baeriswyl et al. (2014) showed that the self-endangering strategy of "working despite illness" had a significantly positive effect on somatic complaints. The relationship is also partially mediated by burnout. Chevalier and Kaluza (2015) showed that self-endangering strategies play a primary role in the explication of psychological and physical strain and partially mediated relationships among target spirals and lower levels of job satisfaction, work-life balance and habitual well-being, in addition to higher levels of cognitive stress and burnout. Astvik and Melin (2012) and Melin et al. (2014) also demonstrated that employees using such strategies suffer more often from stress-related symptoms and sleeping problems and experience tiredness/lack of recuperation while showing lower levels of "satisfaction with service quality" (Astvik & Melin, 2012) or work-life balance (Melin et al., 2014). The findings of presenteeism research have also indicated an adverse effect on health (Aronsson et al., 2000; Bergström, Bodin, Hagberg, Aronsson & Josephson, 2009; Gustafsson & Marklund, 2014; Kivimäki et al., 2005).

Self-endangering work behaviours can be contrasted with the above-discussed coping strategies associated with the self-regulation of behavior theory (Carver & Scheier, 1998). While self-endangering work behaviour resembles an engagement coping strategy with its goal orientation and overall purpose, it is clearly maladaptive. For a summary of coping strategies, see Table 1.

#### Summary and Hypotheses

Taken together, disengagement coping strategies are characterized by the abandonment of goals (see Ta-

Type of Coping	Definition	Examples	Relevant Dimensions				
			Goal Orientation	Adaptiveness	Purpose of the Strategy		
Self-endangering work behaviours	"Actions that aim to deal with work-related demands but simultaneously increase the likelihood of health problems and impede necessary recovery from work-related stress"	Intensification of working hours, working despite illness, using stimulating substances, prolonging working hours	Goal-directed/ Direct action	Maladaptive	Problem- focused		
Engagement coping	Strategies "aimed at dealing with the stressor or related emotions"	Use of instrumental social support, active coping, planning	Goal-directed/ Direct action	Adaptive	"problem- focused coping and some forms of emotion- focused coping"*		
Disengagement	Strategies "aimed at escaping the threat or related emotions"	Mental disengagement, denial, behavioral disengagement	Disengagement	Maladaptive in most situations; however, adaptive in circumstances where additional effort would be useless	Often emotion- focused		

Table 1: Comparison of Self-endangering Work Behaviours and Engagement and Disengagement Coping Based on Self-Regulation of Behavior Theory.

\* (Carver & Connor-Smith. 2010, p. 685.) Note: Carver & Connor-Smith, 2010, p. 685; Dettmers et al., 2016, p. 28.

ble 1). They are often emotion-focused and in many cases are maladaptive. Engagement coping is goaldirected, problem-focused or emotion-focused and is typically adaptive. Self-endangering work behaviours share the goal orientation of engagement coping strategies. They are problem-focused and can simultaneously help calm negative emotions. Nonetheless, the above discussion clearly shows that self-endangering strategies 1) have cost-intensive qualities that differ from those of other, health-protecting engagement and problem-focused strategies (e.g., Wallace et al., 2010) and 2) constitute an approach that is not constructive for employee well-being or for the long-term ability to work. Instead, such strategies are maladaptive (see also Baeriswyl et al., 2014; Hägerbäumer, 2011; Krause et al., 2015). Furthermore, we assume that, similar to disengagement coping strategies (e.g., Cheng et al., 2014), self-endangering strategies can be linked to adverse health effects. However, the adverse health effects of disengagement coping strategies do not

result from the same mechanism. Rather, it is expected that disengagement strategies are detrimental because an analysis of a current (work) situation is absent and / or because a lack of concrete actions can result in additional or exacerbated future problems (Carver & Connor-Smith, 2010; Carver & Scheier, 1998). Selfendangering strategies are harmful because they ignore recovery needs and involve risky behaviours. Given that background, we hypothesize the following:

*Hypothesis 1:* Disengagement coping strategies (behavioral disengagement, mental disengagement, and denial) are positively associated with emotional exhaustion (H1a) and psychosomatic complaints (H1b).

*Hypothesis 2:* Engagement coping strategies (active coping, planning, and use of instrumental social support) are negatively associated with emotional exhaustion (H2a) and psychosomatic complaints (H2b). *Hypothesis 3:* Self-endangering work behaviours (intensification of working hours, working despite illness, use of stimulating substances, and prolonging working hours) are positively associated with emotional exhaustion (H3a) and psychosomatic complaints (H3b).

# Methods

# Participants and Procedure

To test our hypotheses, we used an online questionnaire. Due to the subject of this study, we were particularly interested in dependent full- or part-time employees with a certain degree of autonomy or, respectively, self-regulation. We assumed that these work characteristics can be applied to highly qualified professional groups such as engineers, architects, computer scientists, advertisers, researchers and lawyers. To acquire such employees, we made use of the following acquisition strategy. First, we encouraged multiplicators to announce our study. In doing so, we contacted the boards of four professional associations relevant to our target group: Association of German Engineers (VDI), Association of German Interior Designers (BDIA), German Informatics Society (GI), and German Association of Inspection Engineers (VPI). We also contacted the Chamber of Labour (Bremen). Second, to reach employees who could not be contacted using the above means (e.g., scientists, lawyers, and advertisers), we sent personal e-mails and posted flyers.

Using this acquisition strategy, 1075 individuals opened the online link to our questionnaire: 595 individuals completed the whole coping item section, and 569 individuals completed the whole questionnaire. Notably, using the above strategy, we were not able to prevent the participation of self-employed workers (n = 67). However, based on conceptual considerations, self-employed workers were not taken into account in our analysis. Additionally, 17 respondents were excluded because of a lack of an appropriate occupation (e.g., unemployed, hourly employed workers, or students), outlier responses (e.g., an unrealistic amount of working hours of more than 160 working hours/ week or an age older than 70 years) or low data quality (e.g., a response pattern that involved consistently ticking the same number on many Likert scales). Therefore, in the end, we analysed a sample size of 485 employees. The questionnaire required approximately 15-20 minutes to complete.

Of the analysed employees, 59.2 % were male. The mean age of the employees was 40.55 years (SD = 10.58), with a range from 19 to 63 years. Approximately 90 % of the employees had a university entrance qualification (74.4 %) or an advanced technical college entrance qualification (16.1 %). In addition,

more than 80 % had a university (50.3 %) or advanced technical college degree (30.7 %). Approximately 24.7 % had additionally or exclusively finished vocational training, and only 0.6 % had no formal vocational qualifications. Moreover, 86.8 % of the employees were categorized as full-time workers. On average, the employees worked 37.4 hours per week (SD = 5.47) and had worked at their company for 8.57 years (SD = 8.31). For 58.6 % of the employees, working hours were not externally controlled. Furthermore, 89.1 % were not contractually obliged to work on weekends; 81.9 % were partly or fully free to make their own decisions; 85.3 % could partly or fully plan their work; and 84.3 % could partly or fully decide what work methods to use. Finally, 65.6 % could often or always decide for themselves how long to work, and 56.7 % could decide when to work.

#### Measurements

# Self-Endangering Work Behaviours

We took questionnaire items from the scales proposed and tested by Krause et al. (2015) to study the following four facets of self-endangering work behaviour: *Intensification of working hours, working despite illness, use of stimulating substances* and *prolonging working hours.* For *prolonging working hours*, we developed nine additional items to obtain broader understanding of these behaviours. In accordance with Krause et al. (2015), we also used the interview study reported by Beyeler (2013) for additional item generation.

Intensification of working hours. Three items were used to assess the dimension *intensification of working hours*. A sample item is "I have worked at a pace and intensity that I felt to be a strain." The internal consistency of this subscale was  $\alpha = .92$ .

Working despite illness. In accordance with Krause et al. (2015), working despite illness was measured using six items from the original scale of Hägerbäumer (2011). An example item is "I have gone to work despite being ill." (Cronbach's  $\alpha = .91$ )

Use of stimulating substances. To evaluate the frequency of use of stimulating substances, three items were used ("I have consumed substances (e.g., alcohol, caffeine, nicotine, medications, other drugs) ... to be more productive or efficient at work." (Cronbach's  $\alpha = .91$ ).

Prolonging working hours. Prolonging working hours was investigated by means of 15 items. Extension of working hours was assessed through eight of the items. A sample item is "I have made myself available for my superiors, co-workers, and/or clients during my leisure time." Refraining from recovery/leisure activities was evaluated by means of seven items. A sample item is "I have cancelled leisure pursuits to work instead". The Cronbach's  $\alpha$  values for the present study were  $\alpha = .88$  for extension of working hours and  $\alpha =$ .89 for refraining from recovery/leisure activities.

All the self-endangering items were scored on a five-point Likert scale that ranged from 1 ("rarely/ never") to 5 ("very often"). In all cases, the workers were asked to report their frequencies of various behaviours, such as working overtime, over the previous three months.

# Measurements of Engagement and Disengagement Coping

Engagement coping. The engagement coping strategies active coping (Cronbach's  $\alpha = .70$ ), planning (Cronbach's  $\alpha = .87$ ) and use of instrumental social support (Cronbach's  $\alpha = .81$ ) were measured with a German version of the COPE Inventory from Carver et al. (1989) (Kälin, 1995). For the current study, all the items were reformulated from present tense to present perfect tense to identify non-dispositional coping (University of Miami, Department of Psychology, 2007). The respondents were asked to indicate their frequencies of different coping strategies during the previous three months. Each of the subscales consisted of four items. Carver et al. (1989) found that the items measuring active coping and planning loaded on the same factor. For that reason, we combined the eight items, resulting in a Cronbach's  $\alpha$  = .88. All the coping strategies were measured on a five-point Likert scale with response categories ranging from 1 ("rarely/never") to 5 ("very often"). An item example is "I have tried to get advice from someone about what to do" (use of instrumental social support).

Disengagement coping. The disengagement approaches behavioural and mental disengagement and denial were also evaluated using the COPE Inventory (Carver et al., 1989; German Kälin, 1995). An example item for denial is "I have said to myself 'this isn't real'." Again, each of the subscales consisted of four items. With the exception of mental disengagement (Cronbach's  $\alpha = .58$ ), the internal consistency of the subscales was good, ranging from  $\alpha = .76$  (for behavioral disengagement) to  $\alpha = .80$  (for denial). In the current study, mental disengagement was removed from further analyses due to its low Cronbach's  $\alpha$  value.

# Health Indicators

*Emotional exhaustion.* Nine items from the Maslach Burnout Inventory (MBI; German Enzmann & Kleiber, 1989; Maslach & Jackson, 1981) were applied to examine the degree of emotional exhaustion. An example item is "I feel used up at the end of the workday". A reliability analysis revealed a Cronbach's  $\alpha$  of .91. The

items were scored on a seven-point Likert scale (1 = "never"; 7 = "daily").

*Psychosomatic complaints.* Psychosomatic complaints were measured on the "Psychosomatic Complaints in a non-clinical context" scale developed by Mohr and Müller (2010), which consists of 20 items. On a five-point Likert scale (1 = "never" to 5 = "almost every day"), the extent to which the respondents suffered from various psychosomatic complaints, including headaches, nausea or backache, was evaluated. In the present study, the Cronbach's alpha of this scale was .92.

#### Work Demands and Work Resources

Working conditions. Work demands were operationalized by quantitative workload (COPSOQ; Nübling, Stößel, Hasselhorn, Michaelis & Hofmann, 2005) and role conflict (German Wohlbold, 2003; Rizzo, House & Lirtzman, 1970). Work resources were operationalized by social support from superiors (SALSA; Rimann & Udris, 1997), autonomy and feedback (both: WDQ; German Stegmann et al., 2010; Morgeson & Humphrey, 2006). Quantitative workload consisted of four items from the COPSOQ-Scale, e.g., "How often do you not have time to complete all your work tasks?" A five-point Likert scale was used, ranging from 1 ("never/almost never") to 5 ("always"). The role conflict subscale involved eight items, which were scored on a seven-point Likert scale (1= "strongly disagree" to 7 = "strongly agree"). A sample item is "I work on unnecessary things." Social support from superiors was measured with three items that were rated on a five-point Likert scale (1= "not at all", 5 = "completely"), e.g., "To what extent can you rely on supervisors when problems occur at work?" To measure autonomy, we used nine items. A sample item is "The job allows me to decide on the order in which things are done on the job." The scale feedback consisted of two subscales: "Feedback From Job" (three items) and "Feedback From Others" (three items). An example item is "The job itself provides feedback on my performance". Both the autonomy and the feedback items were rated on a five-point Likert scale that ranged from 1 = , I do not agree at all" to 5 = , I fully agree". To ensure a parsimonious solution, we decided to combine the quantitative workload and role conflict scales to one job demand factor, and we also combined the scales social support, autonomy and feedback to one job resources factor. The job demand scale showed a Cronbach's alpha of .89, while the job resources factor resulted in a Cronbach's alpha of .90.

*Control variables.* In addition to the predictor and criterion variables, some control variables were surveyed. For well-being, we assessed the effects of age, sex (male =  $_{,0}$ °; female =  $_{,1}$ °), tenure and educational qualification. In addition, we considered some varia-

bles that are relevant in the context of flexible work (see, e.g., Allvin et al., 2011). This includes the possibility to decide autonomously when and how long to work (i.e., working time flexibility), engagement in contractually regulated home-working and type of employment (part-time = "0"; full-time = "1"). Working time flexibility was assessed by means of two items developed by Janßen and Nachreiner (2004) ("Do you have control over the time frame of your work - when you could work?" and "Do you have control over the length of your work time - how long you work in a day?"; Response scale: 1 = "never" to 4 = "always"). To measure contractually regulated home-working, we made use of an item developed by the authors ["Does your contract of employment include that you work from home (tele-/home-working, home-working)?"; Response scale: 1 = ,no" to 3 = ,completely"].

#### Data Analysis

To examine the factor structure of self-endangering work behaviours and to investigate their empirical distinctness from engagement and disengagement coping, we conducted a series of confirmatory factor analyses. First, we made use of confirmatory factor analysis to assess the self-endangering items. The final aims were a clear factor structure and the removal of redundant items. As recommended by Hair, Black, Babin, and Anderson (2014), factor loading should be ideally .70 or higher and at least .50. As such, we used a value of .70 as an inclusion criterion. Items with lower values (<.70) were removed. Next, to confirm that self-endangering coping differs empirically from engagement and disengagement coping, we performed additional second-order confirmatory factor analyses. We used ML-based fit indices for estimation. As recommended by Hu and Bentler (1999), we made use of the SRMR and, in addition, the CFI as well as the RMSEA indices. In contrast to the  $\chi 2$  statistic – which rises with increasing sample size, leading to a significant  $\chi^2$  statistic and, as a consequence, to an incorrect rejection of a plausible model (Schermelleh-Engel, Moosbrugger & Müller, 2003) - SRMR, CFI, RMSEA indices are less affected by the sample size (Hu & Bentler, 1999). Regarding CFI, Hu and Bentler (1999) suggested a cutoff value near .95. In the case of SRMR, a cut-off value near .08 and in the case of RMSEA, .06 is advised.

The effect of self-endangering as well as engagement and disengagement coping strategies on emotional exhaustion and psychosomatic complaints was estimated by means of hierarchical regression analysis. The statistical strategy encompassed four steps. In the first step, the relevant control variables were entered. In the second step, work demands and resources were inserted. In the third step, engagement coping and disengagement coping strategies were added. Finally, in the fourth step, self-endangering coping strategies were integrated. This procedure made it possible to examine the incremental variance of self-endangering coping strategies in comparison with traditional engagement and disengagement coping as well as work demands and work resources.

# Results

#### **Confirmatory Factor Analyses**

Confirmatory factor analyses with self-endangering items confirmed five different first-order factors. After item reduction, the first factor (intensification of working hours) contained three items. The second factor (working despite illness,) included five items. The third factor (using stimulating substances) comprised three items. The fourth factor (extension of working hours) contained four items. Finally, the fifth factor (refraining from recovery/leisure activities) covered six items. The five first-order factor model showed a good fit ( $\chi 2 = 452.19$ , df = 179,  $\chi 2$ /df = 2.526; p < .001, SRMR = .05, RMSEA = .06, CFI = .95). Internal consistencies were good, ranging from .83 to .92. The final self-endangering item collection is presented in appendix (Table A1).

The second-order confirmatory factor analysis included self-endangering behaviours, engagement coping and disengagement coping as second-order factors. Again, items that strongly deviated from the cut-off (< 0.70) were removed (this concerns the COPE Inventory items). Additionally, the scale use of instrumental social support was omitted because the correct categorization of this COPE scale remained unclear (see also Carver & Scheier, 1998). The analysed second-order model yielded a just respectable model fit ( $\chi 2 = 1212.66$ , df = 485,  $\chi 2/df = 2.500$ ; p < .001, SRMR = .08, RMSEA = .06, CFI = .92). Furthermore, we examined a measurement model that included the eight separate coping scales. The fit of the eight first-order solution was significantly better than that of the three second-order solution ( $\chi 2 = 1056.63$ , df = 467,  $\chi 2/df =$ 2.262; p < .001, SRMR = .06; RMSEA = .05, CFI = .93). Consequently, we decided to use the eight separate coping scales for our regression analysis.

# Correlations Among Study Variables

Before the hypotheses were examined, the descriptive statistics and the correlations of all the study variables were analysed. Table 2 contains their means and standard deviations and correlations. Intensification of working hours, working despite illness, use of stimulating substances, excessive working hours and

8																		_	96**
1	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	**	). **
17	I	I	ı	I	I	I	I	I	I	I	ı.	I	I	I.	1	I	1	.46	.28
16	I	I	I	I	ı	1	ī	I	ı	1	I	I.	ī	I	1	1	.73**	.29**	*60.
15	I	I	I	I	ī	i.	ı	I	I	1	ı	1	1	I	1	.19**	.29**	.37**	.41**
14	I	I	I	I	I	I	ī	T	I	ī	I	T	I.	1	.35**	.38**	.42**	.44**	.43**
13	I	I	I	I	I	I	I	I	ī	ı	ı	I.	Ŧ	.45**	.25**	.40**	.56**	.60**	.44**
12	I	I	I	I	ı	1	I.	I	I	ī	I	1	.38**	.33**	.28**	.10*	.27**	.54**	.41**
11	I	I	I	I	I	ī	ī	I	I		1	.66**	.36**	.34**	.28**	.15**	.24**	.45**	.35**
10	I	I	I	I	ı	1	1	I		+	09	08	.12*	.09*	60.	.14**	.12**	00.	02
9	I	I	I	I	I		ī	I	1	.13**	33**	37**	31**	22**	17**	.03	17**	42**	55**
8	I	I	I	I	1		1	1	4.7**	.14**	.43**	.45**	.51**	.37**	.21**	.31**	.43**	.58**	.36**
7		1	I	1	1		<del></del>	.18**	.00	.07	.11*	.05	.05	.06	01	.14**	.16**	.12**	.03
9						Ŧ	.06	.06	$.10^{*}$	.08	.00	.07	.06	.05	.05	60.	.02	.08	.03
			I		1	*60	- 80.	.14** -	.33**	.13**	.14** -	.15** -	- ~	.27** -	.12**	.02	.11*	.22** -	.18** -
Ū,	I	I	I	+	$11^{*}$	.00	03	- 20.	11*	12*	.20** -	.13** -	- 90.	.12* -	- 05 -	- 20	- 20	.11* -	.13** -
4	I	I	- 1	57**	05 .	- - -	. 70			01 .	00		01 -	03 -	- *60			00	04
3	I	I	Ţ	*6	4	 -	. *0	·. 2	1	*			. 0	2 7		4	6	4	2
6	I	-	. **		0	0	**1	).	0.		0.	0.	0. *	) *	0'-	0.	0.	0	· · ·
1	1	04	15	00.	18	08	32	12	02	.11	02	.04	.12*	.16'	.06	09	01	.00	.26
SD		8.56			0.76			1.08	0.66	0.93	0.86	0.81	1.04	0.95	1.02	1.03	0.96	1.33	0.71
Μ		9.56			2.65			5.19	5.38	3.38	1.79	1.64	2.86	2.07	1.66	2.74	2.52	5.24	2.13
	l Sex	? Tenure	5 Technical college	University degree	Working time flexibility	3 Contractually regulated home-working	7 Full-/Part-time employment	3 Demands	) Resources	) Active coping/ planning	Denial	Behavioral disengagement	<ul> <li>Intensification of working hours</li> </ul>	Working despite illness	Use of stimulating substances	) Extension of working hours	<ul> <li>Refraining from re- covery/leisure activities</li> </ul>	8 Emotional exhaustion	) Psychosomatic complaints
	-	2	10	4	10	9	2	00	6	0	-	2	2	4	20	9	2	00	6

*Note:* n = 485; *Sex (male = ,,0<sup>a</sup>; female = ,,1<sup>a</sup>)*; *Part-time = ,,0<sup>a</sup>*, *Full-time = ,,1<sup>a</sup>*, \*p < .05 and \*\*p < .01.

refraining from recovery/leisure activities were correlated significantly and positively with the other coping strategies, but self-endangering work behaviours and disengagement coping had stronger associations. In the case of use of stimulating substances, there was a positive correlation with disengagement strategies, but not with active coping/planning. In addition, the five self-endangering work behaviour scales were correlated strongly with one another, more so than with the other coping scales. As suggested, we found the five self-endangering strategies - in addition to the disengagement coping strategies of behavioral disengagement and denial – to be significantly and positively correlated with emotional exhaustion and psychosomatic complaints. By contrast, active coping/planning were not correlated with the health outcomes.

#### Coping and Emotional Exhaustion

Regression analyses with emotional exhaustion as the dependent variable revealed the significant effects of intensification of working hours ( $\beta = .28^{**}$ ), use of stimulating substances ( $\beta = .14^{**}$ ), refraining from recovery/leisure activities ( $\beta = .16^{**}$ ) and behavioral disengagement ( $\beta = .19^{**}$ ) over and above the controls and working demands, as well as. This finding indicates that those workers who used these coping forms to achieve work goals and to address work demands were the same workers who reported higher levels of emotional exhaustion. However, extension of working hours was negatively linked to emotional exhaustion  $(\beta = -.12^*)$ . The engagement strategy active coping/ planning had a small but significant negative impact when controlling for the other study variables. When the five self-endangering coping strategies were inserted into the regression analyses (step four), a significant increase resulted in the R<sup>2</sup> (approximately 11 %; p < 0.01). These results support our hypothesis 3. Table 3 shows the outcomes.

#### Coping and Psychosomatic Complaints

The same regression analyses were executed with psychosomatic complaints as the dependent variable. Intensification of working hours ( $\beta = .19^{**}$ ), working despite illness ( $\beta = .17^{**}$ ), use of stimulating substances ( $\beta = .24^{**}$ ) were significant and positive predictors. The more workers used these self-endangering coping strategies, the more they suffered from psychosomatic complaints, such as backaches. Moreover, behavioral disengagement had a positive effect ( $\beta = .10^{*}$ ) and active coping/planning had a small but significant negative effect on psychosomatic complaints ( $\beta = -.08^{*}$ ) when controlling for the other study variables. Again, extension of working hours was negatively related to psychosomatic complaints ( $\beta = -.17^{**}$ ). As expected,

self-endangering coping strategies were associated with psychosomatic complaints over and above the contributions of the relevant controls, work demands and resources as well as the disengagement and engagement coping forms measured by the COPE Inventory ( $\Delta R^2 = 12$ , p < .001), thus explaining 12 % of the additional variance in psychosomatic complaints. Table 3 summarizes the regression results.

#### Discussion

Flexible work is an increasing issue in the world of work (Allvin et al., 2011; Dewe et al., 2010; Krause et al., 2015; Näswall et al., 2008). In a new working context in which employees must comply with a strong need for self-regulation and high subsequent requirements, attention should be paid to employees' work behaviours or to their reactions in coping with enhanced working demands (Astvik & Melin, 2012; Dettmers et al., 2016; Krause et al., 2015). It is assumed that specific aspects of flexible work heighten the likelihood of self-endangering work behaviours (Allvin et al., 2011; Dettmers et al., 2016; Krause et al., 2015). These selfendangering work behaviours received particular attention in our investigation.

Our findings offer strong support for the healthimpairing effects of self-endangering work strategies. Self-endangering coping has a positive relationship with emotional exhaustion and psychosomatic complaints. These findings are consistent with earlier results (Astvik & Melin, 2012; Baeriswyl et al., 2014; Chevalier & Kaluza, 2015; Hägerbäumer, 2011; Melin et al., 2014). The health-impairing effects of the considered self-endangering work behaviours can be explained by the overuse of resources and insufficient recovery, that is, high costs (e.g., Geurts & Sonnentag, 2006; Hockey, 1997; Krause et al., 2015). As Geurts and Sonnentag (2006) posited, working overtime and cognitive processes such as rumination may interfere with offwork recovery. The absence of external recovery (for instance, during weekends) might lead to a situation in which acute load reactions due to job stressors are transformed into more chronic health impairments.

As mentioned above and as shown in Table 3, negative, significant relationships between the strategy extension of working hours, emotional exhaustion and psychosomatic complaints have been found. These findings are not consistent with our hypothesis. The bivariate correlations between extension of working hours and the outcome variables are  $r = .29^{**}$  for emotional exhaustion and  $r = .09^*$  for psychosomatic complaints (see Table 2). When running hierarchical regression analysis or partial correlations with refraining from recovery/leisure activities as a second predictor, a negative and significant impact on the health outcomes

			Emotional	exhaustio	n	Ps	Psychosomatic complaints				
	Step and predictor	1	2	3	4	1	2	3	4		
1	Sex	.09*	.15**	.14**	.07*	.27**	.31**	.30**	.23**		
	Tenure	04	.00	02	04	.04	.07	.05	.06		
	Technical college	07	09*	03	01	11*	12*	08	04		
	University degree	14*	11*	04	03	18**	16**	10*	06		
	Working time flexibility	20**	07	07	02	12**	02	01	.04		
	Contractually regulated home- working	05	01	.00	01	.01	.04	.05	.04		
	Full-/Part-time employment	.17**	.09*	.08*	.07*	.14**	.10*	.09*	.09*		
2	Demands		.50**	.38**	.23**		.31**	.22**	.12*		
	Resources		15**	09*	06		17**	12*	08		
3	Active coping/planning			02	06*			04	08*		
	Denial			.06	.01			.07	.01		
	Behavioral disengagement			.27**	.19**			.18**	.10*		
4	Intensification of working hours				.28**				.19**		
	Working despite illness				.06				.17**		
	Use of stimulating substances				.14**				.24**		
	Extension of working hours				12*				17**		
	Refraining from recovery/ leisure activities				.16**				.07		
$\mathbb{R}^2$		.09	.40	.47	.58	.13	.28	.32	.44		
Adju	sted R <sup>2</sup>	.08	.39	.46	.56	.11	.26	.30	.42		
$\Delta R^2$		.09**	.31**	.07**	.11**	.13**	.15**	.04**	.12**		

Table 3: Summary of Hierarchical Regression Analysis for Coping Strategies Predicting Health Complaints.

Note: n = 485; Coefficients are the standardized beta weights at each step; Sex (male = "0"; female = "1"); Part-time = "0", Full-time = "1"; \*p < .05 and \*\*p < .01.

appears. However, keeping the explanations provided by Pandey and Elliott (2010) in mind, we suggest that the result of our regression analysis can be traced back to a suppressor effect.

In our study, engagement coping strategies had only a minimal health-protecting effect. However, the findings of Rothmann et al. (2011), Wallace et al. (2010) and Welbourne et al. (2007) also supported the health protection perspective. The small effect can probably be explained by the fact that even classical engagement strategies, such as problem solving, are linked to costs, which is why the protective effects are less pronounced (Hockey, 1997; Shimazu & Kosugi, 2003). However, the costs of classical active coping should be less than are those of self-endangering strategies. In accordance with our suppositions, disengagement coping was positively connected to health complaints. This result is supported by previous research (e.g., Evans et al., 2004; Wallace et al., 2010). In addition, our results are consistent with the self-regulation of behavior theory (Carver & Scheier, 1998), which indicates that merely abandoning a goal might negatively affect individual well-being. Of course, rejecting a goal might be sensible, such as when such rejection leads to the setting of new targets (Carver & Vargas, 2011). However, the used items only included disengagement and denial. In the working context, disengagement and denial indicate insufficiency or even the failure to

address the (threatening) situation, thus reinforcing further distress over the long run (Carver & Connor-Smith, 2010; Carver & Scheier, 1998). Additionally, we could confirm that self-endangering work behaviours explain incremental amounts of variance in emotional exhaustion (11 %) and psychosomatic complaints (12 %), supporting the assumption that self-endangering coping strategies have a somewhat different, cost-intensive quality. In summary, our results deliver recommendations for practice as well as for research.

## Implications for Research and Practice

Theoretically, we were able to demonstrate that selfendangering work behaviours can, first, be distinguished from other coping strategies; second, they explain an incremental amount of variance in employee health complaints. Therefore, we recommend the use not only of known coping questionnaires, such as the COPE (Carver et al., 1989), but also of newly developed scales, such as the established subscales of selfendangering work behaviour (Krause et al., 2015), in future stress and coping research or in employee surveys within companies. In this way, we can obtain a better overview of workers' thinking, behaviours and health, which we must have to develop specific stress-reducing interventions (see also Astvik & Melin, 2012; Dewe et al., 2010; Peiró, 2008). To obtain a better understanding of psychological stress processes, existing stress and coping theories should also be supplemented by coping strategies, which become more important under flexible working conditions. As demonstrated in the present study, self-endangering work behaviours might be closely linked to the transactional stress model (Lazarus & Folkman, 1984) and the self-regulation of behavior theory (Carver & Scheier, 1998; Carver et al., 1989). Future research might aim to extend the nomological network of self-endangering work behaviours. Additional studies are required to examine the internal and external demands that exacerbate and the resources that minimize the occurrence of self-endangering work behaviours. In the present study, we focused on the health-related effects; it would also be interesting to analyse the associations among self-endangering work behaviours, further coping strategies and other outcomes, such as performance or work-family conflicts.

Practically, on the basis of our findings, we recommend that companies in which flexible work is common practice monitor their employees for the adverse effects that can result from flexible working conditions, which include (apart from direct health effects) the consideration of potential changes in workers' thinking and behaviours, i.e., coping strategies. Because a reduction in self-endangering work behaviours can result in health complaints being generally minimized, organizations and work and organizational psychologists should always integrate coping, and particularly self-endangering behaviours, into their stress interventions (see also Krause et al., 2015).

Both person-related and work design-related stress interventions are necessary (see, e.g., Bamberg & Busch, 2006). Person-related stress interventions might include fostering the awareness and sensitization of leaders, management and employees. Employees should be trained in health-promoting self-regulation (Krause et al., 2015), including functional stress management (see, e.g., Astvik & Melin, 2012; Busch, Cao, Clasen & Deci, 2014). In workshops, the psychological mechanism (e.g., fear of personal failure) underlying self-endangering work behaviours should be discussed together, and work goals might be considered with regard to their relevance and feasibility (e.g., Busch et al., 2014).

However, such person-related stress interventions will be insufficient; organizations must ensure that conditions for workers' self-management are optimal (Krause et al., 2015). Specific leadership training should be implemented. Leaders should also gain a better feeling for the psychological mechanism underlying self-endangering work behaviours. Moreover, the work conditions and the framework for self-regulation must be considered and optimized when necessary, including, in particular, a reflection on perhaps unclear and unachievable targets (e.g., Chevalier & Kaluza, 2015). Krause et al. (2015) supposed that selfendangering work behaviours might be understood as "early warning signs", suggesting that employees are overstrained or that conditions for self-regulation are insufficiently designed. According to these authors, self-endangering behaviours should form a part of organizational threat analysis. Work conditions should be designed such that workers are able to choose functional coping strategies to address goal achievement and work demands. Such a design also implies the provision of appropriate resources (see also Astvik & Melin, 2012).

# Limitations and Suggestions for Further Research

Our study has a number of strengths, such as the context-specific sample and the substantial amount of evidence of incremental validity. Furthermore, we measured coping strategies that cannot be detected with traditional coping instruments. Dewe et al. (2010) complained that traditional coping checklists have been overused in coping research, resulting in failure to generate a broad and complex understanding of coping. Self-endangering work behaviours were initially determined by interview studies and case studies (e.g., Beyeler, 2013; Krause et al., 2012), and they can now be empirically analysed by means of the aforementi-

oned scales. Our study used these scales to obtain a detailed picture of the coping strategies used with flexible work. However, there were also certain limitations upon which further studies can improve. All our variables were measured with only one source, namely, one questionnaire, thereby creating the risk of common method biases (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Consequently, further studies should use different approaches to measure coping and health, such as participant observation (Dewe et al., 2010). In addition, the questionnaire was an online questionnaire, which means we had no control over which people completed the questionnaire, when they did so and under what conditions. Possible external factors might have distracted participants and thereby affected their response behaviours. We accounted for this limitation by excluding outliers and participants who showed noticeable response patterns. In our study, all the variables were only measured once at a single measurement time, which indicates a cross-sectional study that did not allow for causal conclusions. It can be reasonably assumed that there is also a reciprocal relationship between distress/mental health and coping strategies (Nielsen & Knardahl, 2014). Thus, longitudinal studies should be performed to investigate the long-term causal effects of coping strategies on health.

# Conclusion

This study extends previous research by showing that different coping strategies in the context of flexible working conditions lead to different health effects and that self-endangering work strategies have negative health effects beyond those of other engagement and disengagement strategies. Those workers who use disengagement strategies or even self-endangering strategies to address demands within flexible working conditions have higher levels of health impairment. This study is the first to demonstrate that risks to health from self-endangerment exceed the risks of other coping strategies, such as denial. This finding confirms that self-endangering work behaviours should always be considered when investigating the general health situations of employees under flexible working conditions.

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# Appendix

Table A1: Remained Self-endangering Coping Items.

Scale	Items	Cronbach's $\alpha$
Intensification of working hours	1. I have worked at a pace and intensity that I felt to be a strain.	.92
	2. I have worked at a pace and intensity that I cannot keep up in the long run.	
	3. I have worked at a pace and intensity that I know is not good for me.	
Working despite illness	1. I have gone to work despite being ill.	.91
	2. I have gone to work although my doctor advised against working.	
	3. I have gone to work despite having severe symp- toms of illness (e.g., aches, shivers, fever).	
	4. I have worked through the whole day or shift de- spite being ill.	
	5. I have forced myself to go to work despite being sick.	
Use of stimulating substances	I have consumed substances (e.g., alcohol, caffeine, nicotine, medications, other drugs)	.91
	1 to help me cope with my work.	
	2 to get through the working day better.	
	3 to be more productive or efficient at work.	
Prolonging working hours Extension of working hours	1. I have made myself available for my superiors, co- workers, and/or clients during my leisure time.	.83
	2. I have answered work calls during my leisure time.	
	3. I have done extra work during my leisure time (evenings, vacation, holidays, or weekends).	
	4. I have worked more than 10 hours a day, without any external instructions.	
Refraining from recovery/ leisure activities	1. I have given up offsetting leisure pursuits (e.g., hobbies, social and cultural activities) to work instead.	.90
	2. I have cut back on my hours of sleep in order to get my work done.	
	3. I have given up relaxation/regeneration time (weekends, vacation) to work instead.	
	4. I have, for the benefit of my work, cancelled pri- vate plans (dinner plans, sports, meeting with friends, etc.).	
	5. I have given up relaxing family activities (e.g., dinner, birthday parties) to work instead.	
	6. I have, for the benefit of my work, given up relax- ing activities (e.g., taking a walk, fitness, sports).	

Note: A German version of the self-endangering coping items is available from the authors.