

Research

Differences in Burnout Proneness depend on Time Perspective – Evidence from an Occupational Sample of Industrial Employees and MBA-Students

Julie Papastamatelou & Alexander Unger

University of Applied Sciences Ludwigshafen, Germany

Acknowledgments

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Abstract

We examined the effect of time perspectives on the burnout-tendencies of a German sample (N = 151). We used the German version of the Maslach-Burnout-Inventory (MBI-GS-D) to measure burnout on the three dimensions (Emotional Exhaustion, Cynicism and Personal Accomplishment) and the Zimbardo Time Perspective Inventory (ZTPI) to capture the individual time perspectives (Past Negative, Past Positive, Present Fatalistic, Present Hedonistic and Future). We tested the relationship in a sample consisting of employees of an international company located in Germany (n = 72) with a low level of working-autonomy and of MBA students (n = 79) with a high level of working-autonomy. The Past Negative and Present Fatalistic orientations were identified as significant factors which enhance *Emotional Exhaustion*, whereas the Present Hedonistic orientation reduced *Emotional Exhaustion*. Present Hedonism decreased burnout tendencies by enhancing *Personal Accomplishment*. Contrary to our initial hypothesis the Future dimension did not show a significant effect on *Emotional Exhaustion*, but had a nearby significant reducing effect on *Cynicism* and a significant enhancing (and thus burnout-reducing) effect on *Personal Accomplishment*. Therefore, the Future dimension seems to inhibit burnout. Moreover, it was shown that high deviations from a Balanced Time Perspective (DBTP) caused an increase of all three burnout-dimensions as predicted. We additionally tested a mediator-model using the Present Fatalistic perspective as a mediator. The results indicated that the influence of the factor *subsampling* is mediated by the Present Fatalistic dimension on *Emotional Exhaustion* and *Personal Accomplishment* (indirect effects). We observed direct and mediated indirect effects of the factor *subsampling* on *Cynicism*. The findings of the current study are comparable with results of previous studies from the health care sector on time perspectives and burnout and indicated that there is an influence of time perspectives across very different occupational sectors.

Keywords: burnout; emotional exhaustion; cynicism; personal accomplishment; time perspectives; Zimbardo Time Perspective Inventory (ZTPI)

1. Introduction

Burnout has been discussed as a serious and highly relevant problem in various societies and in different occupational settings [1, 2, 3]. Studies have shown that it poses a problem even outside the occupational context as e.g. for students [4] or parents [5]. A recent study by Unger, Papastamatelou, Vowinckel, Klamut and Heger (2017) [6], investigated the influence of time perspectives on burnout-proneness in the health care sector. The results showed that the Deviance from a Balanced Time Perspective (DBTP) is essential for burnout proneness and that this influence is mediated by perceived stress and self-efficacy. The purpose of the current study is twofold: First, to test if there is an influence of time perspectives outside the health care sector. Second, to examine if differences between the subsamples can be explained by differences in time perspectives. Although the single time perspectives are of relevance for burnout, in this study we focus on the possible relevance of the overall-configuration as operationalized by the Deviance from a Balanced Time Perspective. The DBTP is based on the assumption of optimal scoring on each time dimension. To calculate the individual DBTP-score the observed values are subtracted from the optimum values, squared and summed. The square root of the resulting sum is calculated into the DBTP-score (cf. Stolarski, Wiberg & Osin, 2015, pp. 59-61).

The Zimbardo Time Perspective Inventory (ZTPI) was established and cross validated by Zimbardo & Boyd (1999) [7] and it has explained a wide range of human thinking and behavior. The core concept consists of five time perspectives: Past Positive, Past Negative, Present Fatalistic, Present Hedonistic and Future. The Present Negative orientation is associated with aversive experiences in the past which are still relevant for the present. The Past Positive perspective is related to positive past memories and nostalgia. Present Hedonism refers to a strong need for immediate gratification, whereas Present Fatalism is relevant to feelings of helplessness and the belief that one cannot influence his own life. The Future perspective implies a wide time horizon and hard work in the presence, in order to reach high-standard goals in the future. For a more detailed description cf. Zimbardo and Boyd, 1999 and Zimbardo and Boyd, 2008. These function as a learned system of reference, which has a significant impact on: well-being [8], academic achievement [9] or dysfunctional behaviors such as a problematic consumption of alcohol, drugs and cigarettes [10].

It is possible that the concept of time-perspectives provides new explanations with respect to burnout. A change of time perspective by the affected individual could attenuate the level of severity of burnout, or perhaps support the prevention of burnout

development. Relevant is the concept of the Balanced Time Perspective which is assumed to be favorable for human functioning and well-being, as well as the deviations from this optimum [11].

A strong link between time perspectives and a vulnerability to burnout may arise from the observed relationship between time perspectives and well-being [12, 13].

Derivation of the Hypotheses

The Past Negative orientation can be assumed to reduce motivation and optimism, thus it will enhance the negative perception of the working-situation. Studies have linked the Past Negative dimension to neuroticism [14] and to an increased negative mood [15]. In contrast, it can be assumed that the Past Positive orientation will prevent from burnout, because of its influence on the stability of the individual [16].

Although Present Hedonism is linked to many problematic aspects as drug abuse [17], unprotected sex [18], risky driving [19] and low health awareness in general [20], it has on the other hand many advantages [21], such as its positive effect on social connectivity and on the ability to fade out future consequences which could be helpful in preventing burnout. In contrast, the Present Fatalistic perspective can be very critical for burnout proneness and has been described as a highly problematic time perspective [22]. It is associated with being at risk for mental illness and dysfunctional behavior [23]. Moreover, it could have a reducing effect on self-efficacy and active problem-coping strategies which are relevant for burnout. Finally, regarding the Future perspective Boniwell and Zimbardo (2004) [24] argue that beside its wide range of advantages, such as high achievement motivation or goal-striving, a pronounced Future perspective can be associated with being unable to enjoy the present. This could contribute to a higher burnout risk. The overall configuration of the time perspectives is of significant relevance for burnout tendencies. This overall configuration is developed as a Balanced Time Perspective (BTP) and deviations from it as the Deviation from Balanced Time Perspective (DBTP) [25].

In summary our hypotheses about the influence of time perspectives on burnout are the following: The Past Negative, the Present Fatalism and the Future orientations will enhance burnout tendencies, whereas the Past Positive and the Present Hedonistic orientations will reduce burnout tendencies. The DBTP will enhance burnout. We tested these hypotheses for all three burnout-dimensions (Emotional Exhaustion, Cynicism and Personal Accomplishment-reverse coded) as measured by the Maslach-Burnout-Inventory (MBI). Further we investigated differences between the two subsamples and examined, if these differences can be explained by time perspectives.

Methods

1.2.1. Participants

The sample consists of employees of a logistic and distribution center of an international company which is located, in Germany and of German MBA-students. The purpose of this sample composition was to test if the factor *responsibility* shows (a) differences in burnout tendencies and (b) if these differences can be explained by the different time perspectives of these subsamples. The MBA-students have a higher responsibility competence in their working place (72.9% hold a managerial position, the remaining 27.1% are accounting clerks with at least some working autonomy), whereas the employees have no substantial responsibility or very low levels of responsibility. In the overall sample 49.37% were females (50.63% males) with a mean age of $M_{age} = 31.17$ years; $SD = 8.21$ years.

1.2.2. Measures

The German ZTPI [26] and the German version of the MBI-GS-D [27] were used. The data-collection in the logistic center was conducted in small groups and the anonymity of the data was ensured through the use of ballot boxes. The data-collection in the MBA-courses of the University of Applied Sciences Ludwigshafen was conducted in the same way.

1.2.3. Statistical analysis

We tested the influence of the five ZTPI-dimensions in a linear regression analysis on each of the three burnout-dimensions. In a second linear regression analysis we included only DBTP as predictor of the three burnout-dimensions. In addition, we conducted t-tests, in order to examine the differences between the subsamples. Furthermore, we have calculated the DBTP for both subsamples, in order to investigate differences between them. Finally, we applied the Hayes-Process-Macro for SPSS to test if these differences were mediated by the Present Fatalism orientation, which was observed to be higher for the employees. We conducted the mediator-analysis for all three burnout factors.

1.2.4. Results

As shown in Table 1 the following ZTPI-dimensions reached significance in the predicted direction: The Past Negative and Present Fatalistic dimensions enhanced *Emotional Exhaustion* as predicted and the inhibiting effect of the Present Hedonistic perspective on *Emotional Exhaustion* was also

confirmed. Furthermore, the Present Hedonistic orientation reduced *Personal Accomplishment*. The Future dimension did not have any significant effect on *Emotional Exhaustion* and did instead have an effect in the opposite direction: Thus, the Future perspective showed a nearby significant reducing effect on *Cynicism* and enhanced *Personal Accomplishment* and had therefore a reducing effect on burnout tendencies.

It is worthwhile to mention that additional ZTPI-dimensions showed nearby significant effects in the predicted direction (p -values between .05 and .10), such as the Past Positive and the Past Negative orientations on *Cynicism* and the Past Positive and the Present Fatalistic orientations on *Personal Accomplishment*. The DBTP (cf. Table 2) enhanced the proneness of all three burnout-dimensions significantly.

Table 1: Linear Regression Analysis with the effect of the five ZTPI-dimensions on Emotional Exhaustion, Cynicism and Personal Accomplishment

	B	SE	β	t	p
Emotional Exhaustion:					
Past Positive	-0.04	0.18	-.02	-0.23	.410
Past Negative	0.36	0.14	.24	2.54	.007
Present Fatalistic	0.37	0.18	.22	2.07	.021
Present Hedonistic	-0.24	0.19	-.12	-1.24	.046
Future	-0.06	0.16	-.04	-0.37	.108
Cynicism:					
Past Positive	-0.29	0.19	-.14	-1.54	.063
Past Negative	0.22	0.15	.14	1.49	.069
Present Fatalistic	0.30	0.19	.17	1.57	.060
Present Hedonistic	0.11	0.21	.05	0.53	.301
Future	-0.28	0.17	-.16	-0.16	.056
Personal Accomplishment:					
Past Positive	0.12	0.10	.11	1.22	.112
Past Negative	-0.05	0.08	-.06	-0.62	.268
Present Fatalistic	-0.13	0.10	-.13	-1.23	.110
Present Hedonistic	0.20	0.11	.17	1.77	.039
Future	0.37	0.09	.38	4.01	< .001
<i>Note. All p-values are reported for one-tailed tests. Significant p-values are presented in bold; Emotional Exhaustion: R2 = .17; Cynicism R2 = .25; personal Accomplishment R2 = .23.</i>					

Table 2: Linear Regression Analysis with the effect of Deviation from Balanced Time Perspective on Emotional Exhaustion, Cynicism and Personal Accomplishment

	B	SE	β	t	p
Emotional Exhaustion	0.40	0.12	.27	3.21	.001
Cynicism	0.50	0.13	.32	3.88	< .001
Personal Accomplishment	-0.28	0.07	-.33	-4.00	< .001
<i>Note. All p-values are reported for one-tailed tests. Significant p-values are presented in bold; Emotional Exhaustion: R2 = .07; Cynicism R2 = .10; Personal Accomplishment R2 = .11.</i>					

In a next step, we examined if the differences between the sample of the employees and the one of the MBA-students could be explained by differences in the time perspectives. Therefore we used a time perspective as a mediator. We reported the observed differences, between the two subsamples, for burnout tendencies and time perspectives, and subsequently we tested a mediator-model.

1.2.4.1. Differences in burnout tendencies

The conducted *t*-tests revealed that the subsamples differ as hypothesized: The employees showed significantly more *Emotional Exhaustion* ($M_{empl.} = 3.19$ vs. $M_{MBA} = 2.88$; $p = .037$; one-tailed) and more *Cynicism* ($M_{empl.} = 2.96$ vs. $M_{MBA} = 2.38$; $p < .001$; one-tailed) compared to their MBA-counterparts. However, we observed no differences with respect to *Personal Accomplishment* ($M_{empl.} = 5.02$ vs. $M_{MBA} = 4.93$; $p = .192$; one-tailed).

1.2.4.2. Differences in Time Perspectives

We tested for differences in time perspectives between the employees and the MBA-students: The *t*-tests revealed that, three out of the five time dimensions showed differences: The employees were less Future oriented compared to the MBA-students ($M_{empl.} = 3.60$ vs. $M_{MBA} = 3.78$; $p = .044$; one-tailed) and showed a higher Present Hedonistic orientation ($M_{empl.} = 3.33$ vs. $M_{MBA} = 3.17$; $p = .011$; one-tailed). The employees scored higher on the Present Fatalistic dimension ($M_{empl.} = 2.72$ vs. $M_{MBA} = 2.42$; $p = .001$; one-tailed).

1.2.4.3. Test of the Mediator Model

The DBTP showed no differences between both subsamples. Instead one outstanding main difference in time perspectives was the higher Present Fatalistic orientation of the employees (cf. above). We can assume that the higher burnout proneness of the employees is due to their lower working-autonomy. We hypothesized that working-autonomy and fatalism are closely related to each other. Consequently, we examined if this difference will mediate the influence of the factor *subsample*. We conducted mediator analyses for all three burnout factors by using the Hayed-Process Macro for SPSS.

Table 3. Regression Coefficients, Standard errors, and Model Summary Information for the Subsample Influence Mediator Model with the Mediator Present Fatalistic on Emotional Exhaustion

		Consequent						
		M1 (Present Fatalistic)			Y (Emotional Exhaustion)			
Antecedent		Coeff.	SE	p		Coeff.	SE	p
X (Subsample)	a1	0.281	0.100	.006	c1	0.163	0.169	.336
M1 (Present Fatalistic)		-	-	-	b1	0.504	0.136	<.001
Constant	iM1	2.125	0.154	<.001	iy	1.507	0.385	<.001
		R ² = 0.052			R ² = 0.106			
		F(1,145) = 7.943, p = .006			F(2,144) = 8.554, p < .001			
p-values are for two-tailed tests.								

We observed a significant indirect effect of the subsample on *Emotional Exhaustion* via the Present Fatalistic orientation; $a_1b_1 = 0.142$ (BootLLCI = .0529; ULCI = .2764), whereas the subsample showed no significant direct effect; $c' = 0.163$; $p = .336$. (cf. Table 3 and Figure 1). The results indicated a significant indirect effect of the subsample on *Cynicism* via the Present Fatalistic dimension; $a_1b_1 = 0.149$ (BootLLCI = .0533; ULCI = .3053) and there was also a significant direct effect of the subsample on *Cynicism*; $c' = 0.417$; $p = .021$ (cf. Table 4 and Figure 2). Additionally, the subsample had an indirect effect on *Personal Accomplishment* via the Present Fatalistic dimension; $a_1b_1 = -0.077$ (BootLLCI = -.1611; ULCI = -.0236) and no significant direct effect; $c' = 0.001$; $p = .997$ (cf. Table 5 and Figure 3). In all mediator analyses we observed the same significant enhancing effect of the subsample on the Present Fatalistic perspective (the employees showed a higher Fatalistic orientation). The influence of the two subsamples on *Emotional Exhaustion* and *Personal Accomplishment* was mediated by Present Fatalism. In the case of *Cynicism*, we observed a direct and an indirect effect. Consequently, we can summarize that differences in Present Fatalism were shown to be a mediator of this influence.

Figure 1. Mediation model for the influence of the subsample on Emotional Exhaustion with the Present Fatalistic orientation as mediator

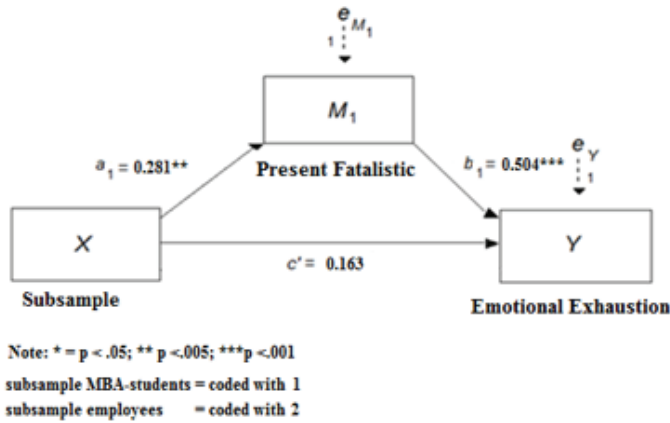


Figure 2. Mediation model for the influence of subsample on Cynicism with the Present Fatalistic orientation as mediator

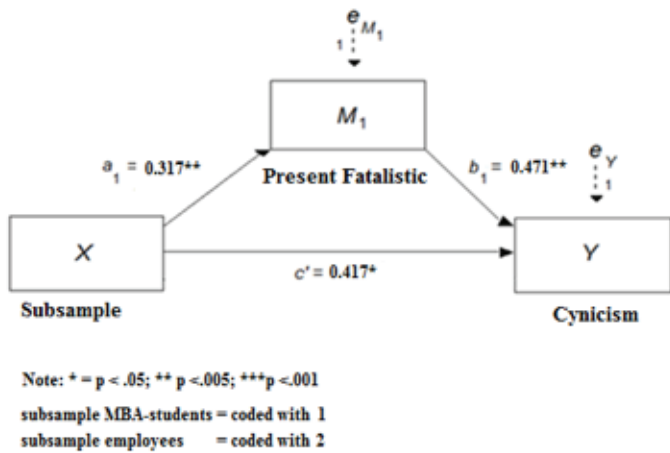
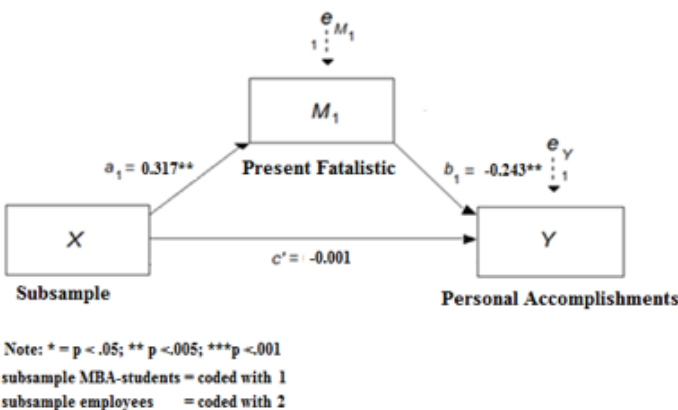


Figure 3. Mediation model for the influence of subsample on Personal Accomplishments with the Present Fatalistic orientation as mediator



Discussion

The assumption of an influence of time perspectives on burnout was confirmed. The effects were in the predicted direction (except for the Future orientation). In addition, we could show that the Present Fatalistic dimension, as a mediator, could explain the differences between the two subsamples in the cases of *Emotional Exhaustion* and *Cynicism*.

We can conclude that time perspectives influence all three burnout dimensions. In particular, the DBTP seems to be of outstanding importance. The relevance of time perspectives was shown for an occupational sample outside the health care sector. A study by Unger et al. (2017) [28] has recently shown this relevance for a professional health care sample and has identified perceived stress and self-efficacy as mediators of the time perspective influence on burnout. Thus, a general mechanism of influence seems to exist which is not restricted to specific working domains.

We did not conclude that the current findings imply that the importance of organizational factors as issued in the burnout-literature [29, 30] has to be re-evaluated. Instead, further research is needed to shed light on how time perspectives interact with organizational factors.

Our current study has several limitations. Our sample sizes were quite small and we refer to specific populations. Furthermore, the subsamples with high and low working-autonomy might also differ in other aspects, e.g. the MBA-students are presumably more motivated in general, since they are studying on their own initiative. These aspects limit the generalizability of our results.

Nonetheless our results are of importance for burnout-screening, burnout-prevention and the development of new therapeutic approaches. A pronounced DBTP can be evaluated as an indicator for being at risk for burnout tendencies. Interventions for altering individual time perspectives might be an effective additional approach to existing therapies. This requires that the understanding of the role of time perspectives and their interaction with organizational factors have to be further broadened. The findings of the current study suggest that a high Past Negative orientation and a high Present Fatalistic orientation are problematic and should be weakened in the context of therapeutic interventions, whereas the Past Positive and the Present Hedonistic dimensions as inhibiting factors should be strengthened. The role of the Future dimension needs further examination, but at the moment we can conclude that the maintenance of a high Future perspective seems to be at least in some respects helpful in inhibiting burnout tendencies. These results could

be attributed to the positive bias of the Future dimension of the ZTPI. In a similar way the findings of Papastamatelou et al. (2015) [31] indicated that the Future orientation correlated negatively with generalized anxiety disorder. Therefore, the positive bias could lead to the prevention of burnout tendencies in individuals with a pronounced Future perspective.

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