Relationship Between Time Perspective and Time Management Behaviours

Boštjan Bajec

Department of Psychology, Faculty of Arts, University of Ljubljana

This study explores the relationship between various time perspectives (Past-positive, Present-hedonistic, Future, Past-negative, and Present-fatalistic) and time management behaviours (Setting goals and priorities, Scheduling and planning, Preference for organisation, and Perceived control of time) in order to determine whether time perspective is an indicator of time management behaviours and whether it predicts time management behaviours beyond the Big Five personality traits. Multiple hierarchical regression analyses of data from 645 employed persons were performed. It showed that Future, Present-hedonistic, and Past-negative perspectives predict Setting of goals and priorities and Scheduling and planning; Present-fatalistic, Future, and Present-hedonistic perspectives predict Preference for organisation, and Present-fatalistic perspective predicts Perceived control of time beyond the Big Five personality factors.

Key words: time perspective, time management behaviours, Big Five, regression models

Highlights:

- Time perspectives predict time management behaviours beyond personality traits.
- The score of the Future subscale is the strongest predictor of behavioural aspects of time management.
- The score of the Present-fatalism predicts other aspects of time management.
- Time perspective should be taken into account in time management interventions.

Time Management

Based on a review of the existing literature, Claessens, van Erde, Rutte, and Roe (2007) proposed that time management should be defined as behaviours intended to result in effective use of time during the performance of goal-directed activities. They categorised such behaviour as time assessment behaviours (help

Corresponding author: bostjan.bajec@ff.uni-lj.si
one choose tasks and responsibilities that are within one’s capabilities), planning behaviours (intended to result in effective use of time), monitoring behaviours (generate a feedback loop that enables the individual to limit the influence of interruptions).

Claessens et al. (2007) summarised research demonstrating that time management is correlated with estimated time duration and ability to readjust plans. Time management also influences attitudes and job- or study-related stress (Chang & Thi Nguyen, 2011; Grissom, Loeb, & Mitani, 2015; Häfner & Stock, 2010; Häfner, Stock, & Oberst, 2015; Kearns & Gardiner, 2007; Macan, 1996). Studies dealing with academic performance showed that time management predicted grade goals (Ganguly, Kulkarni, & Gupta, 2017) and students’ academic performance (Adubale & Alude, 2014; Ganguly et al., 2017; Talib & Sansgiry, 2012; Tsai & Liu, 2015; West & Sadoski, 2011). Time management has also been shown to predict performance in the work setting, for example customer service and helping behaviour (Rapp, Bachrach, & Rapp, 2013), sales performance (Barling, Kelloway, & Cheung, 1996), and creativity (Darini, Pazhouhes, & Moshiri, 2011; Zampetakis, Bouranta, & Moustakis, 2010) although not all studies have found an association between time management and work performance (see for example, Macan, 1996).

The questionnaire most commonly used to assess time management (Claessens et al., 2007) is the Time Management Behaviour Scale (Macan, Shahani, Dipboye, & Phillips, 1990) which was designed to assess behaviours critical to the construct of time management, as defined in the popular literature. Macan et al. (1990) found that people’s time management skills differ in terms of four relatively independent factors: 1) Setting of goals and priorities (setting appropriate goals and prioritising one’s activities in order to achieve them); 2) Mechanics: scheduling and planning (specific behaviours associated with managing time); 3) Preference for organisation (general preference for organisation in one’s workspace); and 4) Perceived control of time (degree to which individuals believe they can choose how they spend their time).

Claessens et al. (2007) noted that there had been little research into antecedents of time management behaviour. Bond and Feather (1988) found that the extent to which university students perceived their use of time as structured and purposeful was correlated with multiple variables. It was positively correlated with purpose in life, self-esteem, reported health, optimism about the present, optimism about the future, delay avoidance, and work methods. On the other hand it was negatively correlated with depression, psychological distress, state and trait anxiety, neuroticism, hopelessness, and anomie. Francis-Smythe and Robertson (1999) reported that people who perceived themselves to be good time managers were better at estimating future task duration than those who did not. Lay and Schouwenburg (1993) found that trait procrastination was
negatively correlated with planning and scheduling, setting goals and priorities, and perceived control of time.

**Personality and Time Management.** Some of the studies dealt with personality variables and time management. Munt and Merydith (2012) explored the relationship between Cattell’s 16 personality factors and time management in college students and found that time management was positively correlated with emotional stability, rule consciousness, perfectionism, and self-control and negatively correlated with abstractedness and anxiety. Liu, Rijmen, MacCann, and Roberts (2009) researched relationships between Big Five dimensions and time management (assessed using their own instrument) in middle-school students and found that Conscientiousness, Agreeableness, and Openness were positively correlated with time management and negatively correlated with Neuroticism. Feig (1995) observed relationships between time management behaviour and personality variables in a sample of psychology students and found only a positive correlation with Conscientiousness and a negative correlation with Neuroticism, whereas in their sample of psychology students Douglas, Bore, and Munro (2016) found that time management behaviours were positively correlated with indices of Conscientiousness measures negatively correlated with Neuroticism. Mohall and Najafzadeh (2015) explored relationships between Big Five dimensions and time management (they do not report how time management was assessed) in a sample of physical education teachers and found that time management was negatively correlated with Neuroticism and positively correlated with the other four dimensions.

Table 1
**Correlations between Time Management Behaviours and Big Five Dimensions**

<table>
<thead>
<tr>
<th>Big Five dimension</th>
<th>Time management behaviours – middle school students (Liu et al., 2009)</th>
<th>Time management behaviours – psychology students (Douglas et al., 2016; Feig, 1995)</th>
<th>Time management behaviours – adults (Mohall &amp; Najafzadeh, 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>-.04</td>
<td>.06 -.17*</td>
<td>.20*</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.22*</td>
<td>-.01 -.23*</td>
<td>-.20*</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.36*</td>
<td>.11 -.20*</td>
<td>.17*</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.65*</td>
<td>.34*-.59*</td>
<td>.29*</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>.35*</td>
<td>-.03 -.12</td>
<td>.19*</td>
</tr>
</tbody>
</table>

*Note. *p < .05.

As can be seen from Table 1, Conscientiousness was the strongest predictor of time management behaviours across various samples. However, its predictive power was much smaller in the adult sample (composed exclusively of physical education teachers) than in the student samples. In the adult sample (Mohall & Najafzadeh, 2015) other four dimensions had similar predictive power to the middle school (Liu et al., 2009) and psychology students samples (Douglas et
al., 2016; Feig, 1995). In the middle-school sample, Agreeableness and Openness had similar predictive powers, followed by Neuroticism, whereas Extraversion did not predict time management behaviours. In samples of psychology students, Neuroticism, Extraversion, and Agreeableness had similar predictive power, whilst openness does not predict time management behaviour.

**Time Perspective**

Time perspective is fundamental to the construction of psychological time, which emerges from automatic cognitive processes responsible for partitioning human experience into past, present, and future temporal frames (Shmotkin & Eyal, 2003). It is a temporal point of reference that guides attitudes and behaviours of an individual (McDade et al., 2011) and provides a structure which helps people select and pursue short-term and long-term goals (Hamilton, Kives, Micevski, & Grace, 2003). It is therefore seen as fundamental to understanding human behaviour (Kauffman & Husman, 2004).

Zimbardo and Boyd (1999) developed the Zimbardo Time Perspective Inventory, which measures five different time perspectives that are defined in terms of past, present, and future time and positive and negative valence. The Past-negative perspective involves a generally negative, aversive view of the past, the Present-hedonistic perspective involves a hedonistic, risk-taking, and pleasure-oriented attitude towards life, the Future perspective involves a general future orientation and behaviour that is dominated by striving for goals and future rewards, the Past-positive perspective involves a warm, sentimental attitude towards the past, and the Present-fatalistic perspective involves a fatalistic attitude towards present and future life. These various perspectives were found to correlate with variables relating to several life domains, including health-related behaviour (Adams & Nettle, 2009; Carvalho, Pocinho, & Silva, 2010; Crockett, Weinman, Hankins, & Marteau, 2009; Daugherty & Brase, 2010; Hall, Fong, & Cheng, 2012; Hamilton et al., 2003; Thompson & Fitzpatrick, 2008), life satisfaction (Boniwell, Osin, Linley, & Ivanchenko, 2010; Boniwell & Zimbardo, 2004; Drake, Duncan, Sutherland, Abernethy, & Henry, 2008; Podlogar & Bajec, 2011; Zhang & Howell, 2011; Zimbardo & Boyd, 1999), academic achievement (Barber, Munz, Bagsby, & Grawitch, 2009), risk perception (Apostolidis, Fieulaine, Simonin, & Rolland, 2006), and risk behaviours (Robbins & Bryan, 2004).

Seijts (1998) proposed that a future time perspective enables individuals to plan and prioritise and plays an important role in goal-setting behaviours. Some of the previous studies of time perspective have dealt with issues that may be connected with time management. For example, academic engagement (Horstmanshof & Zimitat, 2007), organisation of tasks and persistence at them (Harber, Zimbardo, & Boyd, 2003), planned persistence and planned effort (Eren, 2012; Eren & Tezel, 2010), delay discounting (Daugherty & Brase, 2010; Stolarski, Bitner, & Zimbardo, 2011; Teuscher & Mitchell, 2011), structuring
of free time (Shores & Scott, 2007), procrastination (Díaz-Morales, Ferrari, & Cohen, 2008) and use of time (Boniwell, 2005; Boniwell, Osin, & Sircova, 2014) were found to correlate with time perspective. However, none of those studies dealt with relationships between time perspective and time management behaviours. To the best of our knowledge the only previous study to look at the relationship between time management and time perspective was by De Bilde, Vansteenkiste and Lens (2011). These authors measured only three (Present-fatalism, Present-hedonism, and Future) of the five time perspectives; they found that in their sample of students time management was positively correlated with Future time perspective and negatively with Present fatalism and Present hedonism.

Aims of the Study

So far, Big Five personality antecedents of the time management behaviour were to some extent studied on students’ samples and on quite specific adult sample of physical education teachers. Hence the first aim of this study was to investigate how well the Big Five personality factors predict time management behaviour dimensions in a broader sample. Previous theoretical and empirical research (Douglas et al., 2016; Feig, 1995; Liu et al., 2009; Munt & Merydith, 2012; Mohall & Najafzadeh, 2015) suggested that, of the Big Five, conscientiousness would be the best predictor of time management and would be positively correlated with all aspects of time management behaviour. People higher in Conscientiousness should be better at setting goals and priorities, better at scheduling and planning, have a stronger preference for organisation, and hence perceive themselves to have greater control over their time. If we assume that people with low emotional stability will lack persistence and the ability to motivate themselves, then Neuroticism should be negatively correlated with setting goals and priorities and with scheduling and planning, and that people high on Neuroticism should be less satisfied with their control of time than their less neurotic peers. Openness to experience should be positively related with setting goals and priorities and scheduling and planning, as one would expect people high in Openness to experience to be more likely to use multiple techniques, try new things and know more about time management behaviours because of their curiosity. Conversely, one would expect Openness to experience to be negatively correlated with preference for organisation, as people with higher Openness to experience should be able to tolerate many new things and enjoy new things (McRae & John, 1992) and might therefore find it easier to accept a lack of organisation. Extraversion should be positively correlated with setting goals and priorities and with scheduling and planning, as people that are more active and make more use of a variety of time management techniques may be more likely to communicate about them with others. Agreeableness should correlate with time management behaviours, as those correlations were found in previous studies (Douglas et al., 2016; Feig, 1995; Liu et al., 2009; Mohall & Najafzadeh, 2015).

PSIHOOLOGIJA, 2019, Vol. 52(2), 197–215
Time perspective is supposedly one of the references that guide our behaviour and provides a structure that helps us to set our goals. It correlates with many of the variables that have been associated with time management, so it is reasonable to hypothesise that it is closely related to time management behaviours. Hence the second aim of the study was to determine whether time perspective predicts time management behaviours. The Past-negative perspective is connected with past bad experiences and people with a strong Past-negative perspective are more likely to recall feeling helpless to control time, so one would expect it to be negatively correlated with perceived control of time. As the Present-hedonistic perspective is connected with a pleasure-oriented attitude, one would expect it to be negatively correlated with setting goals and priorities and with scheduling and planning on the grounds that people who particularly enjoy the present are less likely to plan for the future. A Future perspective is thought to represent an outlook dominated by striving for goals and future rewards, so it is reasonable to hypothesise that it is positively correlated with setting goals and priorities as well as with scheduling and planning. The Past-positive dimension is correlated with positive past experiences and might therefore be positively correlated with perceived control of time. As the Present-fatalistic perspective implies a fatalistic attitude towards present and future one would expect it to affect time management behaviours and therefore to be negatively correlated with setting goals and priorities, scheduling and planning, and perceived control of time.

As personality factors – especially Conscientiousness, which is highly correlated with time management behaviours, are correlated with time perspective (Podlogar & Bajec, 2011; Zimbardo & Boyd, 1999), we wanted to confirm that any associations between time management behaviours and time perspective are not just due to variance in personality factors. Time perspectives can be viewed as frames of reference that influence individuals’ attitudes and behaviours and they have been shown to predict mood states (Stolarski & Matthews, 2016), satisfaction with life (Stolarski & Matthews, 2016; Zhang & Howell, 2011) and job satisfaction (Bajec, 2018) independently of personality. As time perspective drives the construction of psychological time and shapes our non-conscious cognitive processes, one would expect time perspectives to be strong predictors of time management behaviour once variance due to variability in personality traits is taken into account.

As time perspective dimensions (Díaz-Morales, 2006; Liniauskaitė & Kairys, 2009; Przepiorka, Sobol-Kwapinska, & Jankowski, 2016) correlate with age, gender (D’Alessio, Guarino, De Pascalis, & Zimbardo, 2003; Košťál, Klicperová-Baker, Lukavská, & Lukavský, 2016), and academic engagement (Horstmanshof & Zimitat, 2007) and time management behaviours correlate with gender, age, and education (Macan, 1994), we included gender, age, and education in our models.
Method

Sample and Procedure

The research was conducted on a sample of 645 employed persons. They were recruited by psychology students who were paid €8 for each participant they recruited and administered the questionnaire to. Participants were given written feedback on their results by the researcher if they so desired. There were 384 female and 255 male participants; six did not report their gender. The average age of participants was 40.6 years (SD = 10.17, range: 18–66). The distribution of educational level was as follows, primary school or lower: 22 (3.4%); secondary school: 257 (39.8%), bachelor’s degree: 328 (50.9 %), master’s degree: 25 (3.9%), PhD: 8 (1.2%), not reported: 5 (0.8%).

After providing informed consent to participation the participants completed a set of paper-and-pencil questionnaires anonymously. These questionnaires assessed their personality traits, time perspectives, time management behaviours and also captured demographic data.

Measures

Time Management Behaviour Scale. The Time Management Behaviour Scale (Macan et al., 1990; Slovenian adaptation by Bajec, 2012) is a 34-item instrument (1 = seldom true, 5 = very often true) measuring four aspects of time management: Setting goals and priorities, Mechanics i.e., Scheduling and planning, Preference for organisation, and Perceived control of time. Author compared different models and the most adequate fit was found for the theoretically proposed four factor model ($\chi^2 = 2061.8$, df = 521, $p < .001$; CFI = .751; SRMR = .078; RMSEA = .070).

Big Five Inventory. The Big Five Inventory (John, Donahue, & Kentle, 1991; Slovenian adaptation by Avsec & Sočan, 2007) is a 44-item questionnaire measuring Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. Respondents use a five-point scale ranging from 1 = totally disagree to 5 = totally agree to indicate the extent to which an item describes them. The fit of the five-factor model to our data was mediocre ($\chi^2 = 3446.9$, df = 892, $p < .001$; CFI = .642; SRMR = .096; RMSEA = .073).

Zimbardo Time Perspective Inventory. The Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999; Slovenian adaptation by Podlogar & Bajec, 2011) is a 56-item instrument (1 = very uncharacteristic; 5 = very characteristic) measuring five time perspectives: Past-negative, Present-hedonistic, Future, Past-positive, and Present-fatalistic. The fit of the five-factor model was the best among tested ($\chi^2 = 6957.0$, df = 1474, $p < .001$; CFI = .839; SRMR = .103; RMSEA = .076) and the results are comparable to those of other languages versions (Carelli, Wiberg, & Wiberg, 2011; Davis & Cernas Ortiz, 2017; Keyser, 2017; Lukavská, Klicperová-Baker, Lukavský, & Zimbardo, 2009; Milfont et al., 2008; Worrel & Mello, 2007; Zimbardo & Boyd, 1999).

Results

To analyse the data available case analysis (pairwise deletion) was used. Descriptive statistics and internal consistencies for the variables can be found in Table 2.
RELATIONSHIP BETWEEN TIME PERSPECTIVE AND TIME MANAGEMENT BEHAVIOURS

Table 2
Descriptive Statistics

<table>
<thead>
<tr>
<th>Measure</th>
<th>Dimension</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Management Behaviour Scale</td>
<td>Setting goals and priorities</td>
<td>3.12</td>
<td>0.61</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>Mechanics: scheduling and planning</td>
<td>2.85</td>
<td>0.77</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Preference for organisation</td>
<td>3.65</td>
<td>0.64</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Perceived control of time</td>
<td>3.31</td>
<td>0.64</td>
<td>.60</td>
</tr>
<tr>
<td>Big Five Inventory</td>
<td>Extraversion</td>
<td>28.14</td>
<td>5.45</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>Agreeableness</td>
<td>34.72</td>
<td>5.17</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>Conscientiousness</td>
<td>35.27</td>
<td>5.17</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>Neuroticism</td>
<td>20.89</td>
<td>5.35</td>
<td>.77</td>
</tr>
<tr>
<td></td>
<td>Openness</td>
<td>35.08</td>
<td>6.12</td>
<td>.77</td>
</tr>
<tr>
<td>Zimbardo Time Perspective Inventory</td>
<td>Past-negative</td>
<td>2.50</td>
<td>0.68</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Present-hedonistic</td>
<td>2.91</td>
<td>0.55</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>Future</td>
<td>3.47</td>
<td>0.49</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>Past-positive</td>
<td>3.64</td>
<td>0.57</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>Present-fatalistic</td>
<td>2.44</td>
<td>0.64</td>
<td>.78</td>
</tr>
</tbody>
</table>

Note. $M =$ mean grade on a scale from 1 to 5; $SD =$ standard deviation; $\alpha =$ Cronbach’s alpha coefficient.

All of the constructs had satisfactory internal consistency, except Perceived control of time.

Table 3
Correlations between variables in the study

<table>
<thead>
<tr>
<th></th>
<th>G</th>
<th>Age</th>
<th>ED</th>
<th>E</th>
<th>A</th>
<th>C</th>
<th>N</th>
<th>O</th>
<th>PP</th>
<th>PN</th>
<th>PH</th>
<th>PF</th>
<th>F</th>
<th>SG</th>
<th>MSP</th>
<th>PO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ED</td>
<td>-.01</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>-.01</td>
<td>-.13*</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>.14*</td>
<td>.02</td>
<td>-.00</td>
<td>.21*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>.13*</td>
<td>.03</td>
<td>.03</td>
<td>.30*</td>
<td>.35*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>.04</td>
<td>.08</td>
<td>-.06</td>
<td>-.41*</td>
<td>-.38*</td>
<td>-.36*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>.04</td>
<td>-.08</td>
<td>.16*</td>
<td>.48*</td>
<td>.15*</td>
<td>.24*</td>
<td>-.26*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PP</td>
<td>.06</td>
<td>-.06</td>
<td>.02</td>
<td>.26*</td>
<td>.24*</td>
<td>.26*</td>
<td>-.20*</td>
<td>.24*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PN</td>
<td>.01</td>
<td>.05</td>
<td>-.24*</td>
<td>-.32*</td>
<td>-.28*</td>
<td>-.23*</td>
<td>.51*</td>
<td>-.20*</td>
<td>-.24*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH</td>
<td>-.07</td>
<td>-.24*</td>
<td>-.18*</td>
<td>-.35*</td>
<td>-.04</td>
<td>-.15*</td>
<td>-.08</td>
<td>.32*</td>
<td>.16*</td>
<td>.12*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PF</td>
<td>.04</td>
<td>.00</td>
<td>-.33*</td>
<td>-.12*</td>
<td>-.07</td>
<td>-.22*</td>
<td>.22*</td>
<td>-.20*</td>
<td>-.06</td>
<td>.54*</td>
<td>.39*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>.14*</td>
<td>.12*</td>
<td>.23*</td>
<td>.03</td>
<td>.09*</td>
<td>.39*</td>
<td>.03</td>
<td>.24*</td>
<td>.17*</td>
<td>.01</td>
<td>-.25*</td>
<td>-.31*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG</td>
<td>.08</td>
<td>.09*</td>
<td>.14*</td>
<td>.10*</td>
<td>.03</td>
<td>.28*</td>
<td>-.07</td>
<td>.32*</td>
<td>.20*</td>
<td>.03</td>
<td>-.04</td>
<td>.17*</td>
<td>.62*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSP</td>
<td>.26*</td>
<td>.04</td>
<td>.21*</td>
<td>.08*</td>
<td>.08</td>
<td>.20*</td>
<td>-.03</td>
<td>.26*</td>
<td>.13*</td>
<td>.03</td>
<td>.01</td>
<td>-.12*</td>
<td>.57*</td>
<td>.71*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO</td>
<td>.17*</td>
<td>.02</td>
<td>.00</td>
<td>.05</td>
<td>.09*</td>
<td>.45*</td>
<td>-.07</td>
<td>-.04</td>
<td>.10*</td>
<td>-.17*</td>
<td>-.33*</td>
<td>-.30*</td>
<td>.35*</td>
<td>.20*</td>
<td>.14*</td>
<td></td>
</tr>
<tr>
<td>PCT</td>
<td>.06</td>
<td>-.03</td>
<td>-.01</td>
<td>.21*</td>
<td>.14*</td>
<td>.44*</td>
<td>-.31*</td>
<td>.16*</td>
<td>-.31*</td>
<td>-.11*</td>
<td>-.28*</td>
<td>.23*</td>
<td>.19*</td>
<td>.08*</td>
<td>.57*</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05; G = gender; ED = education; E = Extraversion; A = Agreeableness; C = Conscientiousness; N = Neuroticism; O = Openness; PP = Past-positive; PN = Past-negative; PH = Present-hedonistic; PF = Present-fatalistic; F = Future; SG = Setting goals and priorities; MSP = Mechanics: scheduling and planning; PO = Preference for organization; PCT = Perceived control of time.

Table 3 shows that Perceived control of time was correlated with all of the Big Five personality dimensions. Conscientiousness was the best predictor of Preference for organisation and Perceived control of time, whilst Openness to experience was the best predictor of Setting goals and priorities and of Scheduling and planning. Conscientiousness was the only statistically significant
predictor for all of the time management behaviours. Pearson’s correlation coefficients for the associations between the various time perspectives and time management behaviours show that the majority of associations were statistically significant. The most important predictor of all the time management behaviours was the Future time perspective, which was positively related to all of the time management behaviours, followed by Present-fatalism, which was negatively related to all of the time management behaviours and the Past-positive dimension, which was positively related to all of the time management behaviours. Past-negative and Present-hedonism were negatively correlated with preference for organization and perceived control of time.

Table 4
Prediction of Time Management Behaviours by Big Five Personality Traits and Time Perspective Variables

<table>
<thead>
<tr>
<th>Setting goals and priorities</th>
<th>Mechanics: scheduling and planning</th>
<th>Preference for organisation</th>
<th>Perceived control of time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.09</td>
<td>.05</td>
<td>-.01</td>
</tr>
<tr>
<td>Age</td>
<td>.15*</td>
<td>.14*</td>
<td>.12*</td>
</tr>
<tr>
<td>Education</td>
<td>.07</td>
<td>-.02</td>
<td>-.03</td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.08</td>
<td>-.05</td>
<td>-.05</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.10*</td>
<td>-.08</td>
<td>-.05</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>.27*</td>
<td>.08</td>
<td>.16*</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.08</td>
<td>-.04</td>
<td>.06</td>
</tr>
<tr>
<td>Openness to experience</td>
<td>.30*</td>
<td>.10*</td>
<td>.25*</td>
</tr>
<tr>
<td>Past-positive</td>
<td>.06</td>
<td>.00</td>
<td>.01</td>
</tr>
<tr>
<td>Past-negative</td>
<td>.11*</td>
<td>.11*</td>
<td>.05</td>
</tr>
<tr>
<td>Present-hedonistic</td>
<td>.18*</td>
<td>.15*</td>
<td>.13*</td>
</tr>
<tr>
<td>Present-fatalistic</td>
<td>-.09</td>
<td>-.05</td>
<td>-.21*</td>
</tr>
<tr>
<td>Future</td>
<td>.56*</td>
<td>.52*</td>
<td>.14*</td>
</tr>
<tr>
<td>Model R</td>
<td>.19*</td>
<td>.42*</td>
<td>.66*</td>
</tr>
<tr>
<td>Model ΔR²</td>
<td>.04*</td>
<td>.14*</td>
<td>.26*</td>
</tr>
</tbody>
</table>

Note. * p < .05.

Since gender, age, and education correlated with some of the variables and therefore might influence some of the observed relationships we included them in the first step of the regression. The personality variables were entered at the second step of the regression analyses and the time perspective variables at the third.

Table 4 shows that the time perspective variables predicted all time management behaviours independently of variance in demographic characteristics and personality factors. They explained an additional 26.0% of the variance in Setting goals and priorities, 21.9% of the variance in Scheduling and planning, 10.1% of the variance in preference for organisation and 5.1% of the variance in Perceived control of time. Future perspective was the strongest predictor of Setting goals and priorities and of Scheduling and planning, followed by Present-hedonistic and Past-negative perspectives; Past-negative and Present-fatalistic perspectives did not account independently for variance.
in these time management behaviours. The Present-fatalistic perspective was the strongest predictor of Preference for organisation, followed by Future and Present-hedonistic perspectives; past perspectives did not account independently for variance in Preference for organisation. The Present-fatalistic perspective was the only time perspective to predict perceived control of time independently of personality traits and demographic variables.

In the Table 4 we can also see that gender is an important predictor of Mechanics: scheduling and planning and Preference for organisation, while age was an important predictor of Setting goals and priorities. Education becomes an important predictor of Preference for organisation and Perceived control of time and loses predictive power in Mechanics: scheduling and planning after time perspective dimensions are included. In the case of Setting goals and priorities and Mechanics: scheduling and planning Conscientiousness loses predictive power when time perspective dimensions are taken into account. The same happens with Agreeableness and setting goals and priorities and Openness to experience and Mechanics: scheduling and planning.

Discussion and Conclusion

Big Five and Time Management Behaviours

Conscientiousness was positively correlated with all of the time management behaviours in our sample, but it had strongest correlations with Preference for organisation and Perceived control of time. Openness to experience had strongest correlations with Setting goals and priorities and with Scheduling and planning. It seems that people high on Openness to experience are more likely to try new techniques and to educate themselves about time management techniques and therefore Openness to experience plays a major role in determining behaviours related to setting goals and priorities and to scheduling and planning. Openness to experience was not correlated with Preference for organisation, but it was positively correlated with Perceived control of time. If we accept Macan’s (1994) proposal that perceived control of time is an outcome of the other aspects of time management it is plausible that people high on Openness to experience are good at setting goals and prioritising and at using a variety of techniques to structure their activities and hence have (and perceive themselves to have) greater control of their time. Neuroticism proved to predict only Perceived control of time – people high on Neuroticism perceive that they have less control over their time than their less neurotic colleagues although they are just as able to set goals and priorities and use a variety of techniques to structure their activities and show a similar preference for organisation. Extraversion was positively correlated with the perception of control over time, setting goals, prioritising and using different techniques to structure activities. It might be that people high on Extraversion manage their time more actively and are better informed about time management techniques than their peers because they tend to have a greater interest in entrepreneurial topics (Barrick, Mount, &
Predicting Time Management Behaviours on the Basis of Time Perspective Dimensions and Big Five Dimensions

As we predicted, Past-negative perspective was negatively correlated with both Perceived control of time and Preference for organisation (Table 3). We can assume that people who have had bad experiences in the past do not feel as if they have control over time; their perceived inability to control their time may be considered the legacy of their negative memories (Zimbardo & Boyd, 1999). There was a small but significant correlation between the Past-negative perspective and Preference for organisation. In other words, people with a stronger Past-negative perspective have a lower preference for organisation. This could be a result of previous negative experiences; people with a strong Past-negative perspective may see less sense in organising their workplace and projects. When variance in other time perspectives, the Big Five personality dimensions and demographic variables was taken into account, Past-negative perspective was no longer a predictor of preference for organisation or perceived control of time, but it was positively related to setting goals and priorities and to scheduling and planning. It is possible that all other things being equal, a tendency to perceive past experiences in negative terms motivates people to set goals and use a variety of time management techniques to avoid possible harm. As we can see in the Table 3, a lot of correlations between different variables are significantly correlated – time management behaviours correlate with the majority of Big Five personality variables and time perspective dimensions, which could be due to the response set of participants. However in that case all of the variables should correlate to some extent. As some of the variables correlated with gender (Table 3), the partial correlations controlling for gender were observed. The patterns did not change much, so gender is not contributing a lot to those correlations. Another possibility is that some of the scales have similar items (for example setting goals and priorities with future) which may add some additional common variance, but that cannot be the explanation for all of the correlations.
Present-hedonistic perspective (Table 3) was negatively correlated with Preference for organisation and Perceived control of time. These correlations were not expected. They suggest that people who tend to enjoy life are less likely to organise their work and projects and hence (since perceived control of time is a result of other time management behaviours) do not perceive themselves as having much control of their time. It is interesting to observe that when variance in the Big Five and the other time perspectives was taken into account (Table 4), Present-hedonism was no longer correlated to Perceived control of time, but positive associations with Setting goals and priorities and with Scheduling and planning emerged. The loss of the correlation with Perceived control of time is probably due to correlations between Present-hedonistic perspective and Past-negative and Future perspectives, both of which were stronger predictors of Perceived control of time. On the other hand, for a given level of future orientation, people with a stronger Present-hedonistic orientation will be more likely to set goals and priorities and to make plans. It seems that although the majority of variance in these time management behaviours can be explained by Future orientation, people with a strong Present-hedonistic orientation tend to organise their time more, possibly because they perceive that this enables them to enjoy it more.

Future perspective was highly correlated (Table 3) with all of time behaviour variables, implying that people with a strong Future orientation plan their activities carefully, which is in accordance with the original theory of time perspective (Zimbardro & Boyd, 1999). They also appear to be more organised in their work, which was not predicted, and hence perceive themselves to have relatively good control of their time. Future dimension (Table 3) was the most important predictor of Setting goals and priorities and of Scheduling and planning. It seems that how people organise their activities is related more to their Future orientation than to their Conscientiousness. Future perspective remains a predictor of Preference for organization even when other variables are taken into account, so it seems that people oriented towards the future prefer things to be organised.

Past-positive perspective (Table 3) was correlated with all of time management behaviours. When combined with the Big Five and other time perspective dimensions, no correlation with Past-positive remains significant (Table 4). This is probably because Past-positive perspective was correlated with other time perspectives, as in the other studies (for example, Apostolidis & Fieulaine, 2004; Díaz-Morales, 2006; Liniauskaitė & Kairys, 2009; Milfont, Andrade, Belo, & Pessoa, 2008; Ortuño & Gamboa, 2009; Worrel & Mello, 2007).

Present-fatalistic perspective was also negatively correlated with all of time management behaviours (Table 3) when none of the other time perspectives were included in the analysis, but when variance in other time perspectives was taken into account (Table 4) only correlations with Preference for organisation and Perceived control of time remained significant. The Present-fatalistic
perspective was the second strongest predictor of Preference for organisation and Perceived control of time (after Conscientiousness) so it seems that people who feel they have little control over their destiny accept chaos more easily and also feel they lack control over time. Nevertheless, when other time perspectives are taken into account a fatalistic attitude does not seem to affect use of techniques for organising one’s time and setting goals.

Further Research

After replications of these results in different samples are done, a possible next step in this line of research would be to investigate how time perspective affects response to time management training. Previous studies (Claessens et al., 2007; van Eerde, 2003; Green & Skinner, 2005; Hâfner & Stock, 2010; Macan, 1996) of time management training have produced mixed results: it is generally successful in enhancing perceived control of time and reducing perceived stress, but its effect on performance is not clear. It is possible that people with certain time perspectives (a high Future orientation and high Present hedonistic orientation) already make good use of time management behaviours and do not need time management training. Therefore, time management trainings are not efficient for them in the domain of time management behaviours. Those who probably have the most to gain from time management training – people with the lowest future orientation would probably not engage in time management training or would fail to follow the advice and so one would expect it to prove ineffective. This hypothesis should be investigated.

Future perspective is the time perspective that contributes the most to explaining time management behaviours, followed by Present-hedonistic, Past-negative, and Present-fatalistic perspectives. People who are strongly future orientated tend to invest more time in planning and organisation and to perceive that they have good control of time. Hedonistic orientation promotes organisation and goal setting, whilst lowering Preference for organised work. A Past-negative orientation results in low Perceived control of time and low Preference for organisation. These results indicate that time management training should focus on these perspectives, taking them into account when planning training and trying to influence these perspectives in order for time management training to be more efficient. There are several interventions that target time perspective (Bajec et al., 2014; Boniwell, 2005; Boniwell et al., 2014; Korff, Biemann, & Voelpel, 2016) and as it has been shown that they can alter time perspective and influence job satisfaction (Korff et al., 2016), it may be possible to change time management behaviours by targeting time perspectives. Our results indicate that design of future trainings in time management to train people to set goals and priorities should target Future perspective. When various time management techniques would be trained, future dimension should be targeted. To enhance preference for the organization, the lowering of Present-fatalistic perspective followed by rising Future and lowering Present-hedonistic perspective should be targeted. An intervention designed to influence Perceived control of time should probably focus on the reduction of Present-fatalistic perspective.
References


RELATIONSHIP BETWEEN TIME PERSPECTIVE AND TIME MANAGEMENT


Košťál, J., Klicperová-Baker, M., Lukavská, K., & Lukavský, J. (2016). Short version of the Zimbardo time perspective inventory (ZTPI-short) with and without the future-negative


Odnos vremenske perspektive i ponašanja upravljanja vremenom

Boštjan Bajec

Department of Psychology, Faculty of Arts, University of Ljubljana

U ovoj studiji se ispituje odnos između različitih vremenskih perspektiva (Pozitivna prošlost, Hedonistička sadašnjost, Budućnost, Negativna prošlost i Fatalistička sadašnjost) i ponašanja upravljanja vremenom (Postavljanje ciljeva i prioriteta, Pravljenje rasporeda i planiranje, Preferiranje organizovanosti i Opažena kontrola nad vremenom) u cilju utvrđivanja da li je vremenska perspektiva indikator ponašanja upravljanja vremenom, te da li se na osnovu nje mogu predvideti ova ponašanja dodatno u odnosu na stepen predviđanja koji je moguć na osnovu osobina ličnosti Velikih pet. Sprovedeno je više postupaka hijerarhijske regresione analize na podacima dobijenim od 645 zaposlenih osoba. Pokazalo se da su Budućnost, Hedonistička sadašnjost i Negativna prošlost prediktori Postavljanja ciljeva i prioriteta, kao i Pravljenja rasporeda i planiranja; na osnovu Fatalističke sadašnjosti, Budućnosti i Hedonističke sadašnjosti se može predvideti Preferiranje organizovanosti, dok Fatalistička sadašnjost predviđa Opaženu kontrolu nad vremenom dodatno u odnosu na stepen predviđanja koji je moguć na osnovu osobina ličnosti Velikih pet.

Ključne reči: vremenska perspektiva, ponašanja upravljanja vremenom, Velikih pet, regresioni modeli

RECEIVED 31.08.2017.
REVISION RECEIVED 10.11.2018.

© 2019 by authors

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution ShareAlike 4.0 International license