

An Exploratory Study Regarding the Relations between Time Perspective, Achievement Motivation and Self-Regulation

Dan Florin STĂNESCU

College of Communication and Public Relations

National University of Political Studies and Public Administration

30 A Expoziției Blvd., Sector 1, Bucharest, Romania, 012104

dan.stanescu@comunicare.ro

Mădălina Elena IORGA

College of Communication and Public Relations

National University of Political Studies and Public Administration

30 A Expoziției Blvd., Sector 1, Bucharest, Romania, 012104

iorgaem@yahoo.com

Abstract. Research conducted so far has emphasized the link between specific time orientations (mainly future) and a series of behaviors associated with health, risk-taking or academic achievement. Although time perspective was investigated as a cognitive-motivational concept with important implications on learning outcomes and behavior, there is little or no evidence concerning the effects of time perspective on work related achievement motivation. Similarly, albeit time perspective was studied in relation with other individual variables that might provide insights for a better understanding of its volitional nature (such as, locus of control, optimism/pessimism or self-determination), self-regulation is one such variable, which has not yet been considered. The present study sought to investigate the possible associations between different time perspectives, self-regulation and achievement motivation. The study was conducted using a survey method on a convenience sample of 67 MA students. Results show positive associations between future time perspective and self-regulation, and negative associations between present fatalistic perspective and self-regulation, respectively past negative perspective and self-regulation. Likewise, achievement motivation seems to be positively related to future time perspective, and negatively related to past negative and present fatalistic. The present findings suggest taking into account the way in which individuals assign the personal and social experiences to time frames, which help them confer order, coherence and meaning to their experiences in work settings. Concurrently, since time perspective is associated with problematic behaviors, it could be included in the study of work-related behaviors (counterproductive or organizational citizenship behaviors) along with self-regulation.

Keywords: time perspective, achievement motivation, self-regulation, goals, behavior.

Introduction

The concepts of time perspective, time attitude, time orientation or time perception, all aim at capturing the fact that individuals are aware of the passing of time, and therefore try to make sense of it, either by exerting different affective responses towards the past, the present or the future (time attitude) (Nuttin, 1985), or by establishing which of these frames one tends to favor (temporal orientation) (De Volder, 1979). In the attempt to determine the sense of time, which lately "has become the most precious commodity and the ultimate scarcity" (Robinson & Godbey, 1997, p.25), the term 'time perspective' was coined as the most representative concept in investigating the association between time frames and personal experiences.

Time perspective was initially defined as "the totality of the individual's views of his psychological future and psychological past existing at a given time" (Lewin, 1951, p.75 cited in Boniwell, Osin, Linley & Ivanchenko, 2010). Subsequently, definitions focused on the cognitive, affective and volitional aspects of this construct. For instance, it has been characterized as "a cognitive operation that implies both an emotional reaction to imagined time zones (such as future, present or past) and a preference for locating action in some temporal zone" (Lennings, 1996, p.72).

Whilst the notion of time perspective was measured and operationally defined in a variety of ways, currently, its most widespread conceptualization is that proposed by Zimbardo and Boyd (1999, p.1271). They defined it as "a nonconscious process whereby the continual flow of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence and meaning to those events". Furthermore, as stressed by Hall (1983), these temporal categories are cognitive frames that vary in terms of cyclicity, since they can reflect either repetitive temporal patterns or unique events in one's life.

Moving forward to the antecedents of time frames, the formation of specific time perspectives is determined by both contextual and dispositional factors. Specifically, processes such as socializing, modeling and education - as well as cultural and environmental factors - influence whether one focuses on the past, present or future when making decisions and taking actions (Seginer, 2003). Similarly, even situational factors (e.g. going on vacation, status change, or being exposed to stressful events) can favor a certain time perspective (Zimbardo & Boyd, 1999).

Despite all these environmental and contextual aspects, “when a tendency develops to overemphasize one of these three temporal frames when making decisions, it serves as a cognitive temporal bias toward being past, present or future oriented” (Zimbardo & Boyd, 1999, p.1272). That is, when a particular temporal bias influences to the largest extent one’s views and behavior, the respective time perspective becomes characteristic and predictive of preferred reactions in daily life choices. Still, in order to avoid the overuse, respectively the underuse of different time perspectives, a balanced time perspective (BTP) has been proposed (Bonwell & Zimbardo, 2004; Boyd & Zimbardo, 2005). This approach provides a more positive alternative to making sense of time, since “in an optimally balanced time perspective, the past, present and future components blend and flexibly engage, depending on a situation’s demands and our needs and values” (Zimbardo, 2002, p.62).

Another important contribution of Zimbardo and his colleagues in the study of time perspective was to elaborate a reliable measure of multiple time frames/temporal profiles, assessing broader dimensions of time perspective. Therefore, in developing the measure the authors took into account motivational, emotional, cognitive and social processes that are interrelated to time perspective (the *Zimbardo Time Perspective Inventory*). By identifying such factors as Past Negative and Past Positive, along with Present Hedonistic, Present Fatalistic and Future, the scale addresses the lack of empirical evidence regarding the influence of past on one’s decisional behavior.

Existing research has already shown that one’s perception of time plays an integral role in the selection and pursuit of social goals, with important implications for emotion, cognition and motivation (Carstensen, Isaacowitz & Charles, 1999). In this respect, the past, present, and future temporal frames affect the encoding, storing and recalling of experienced events, as well as the forming of expectations, goals, and possible scenarios. For instance, the Past Negative orientation implies an aversive view of the past. This generally negative approach toward the past may be related to actual unpleasant or even traumatic experiences in the past, as well as adopting a negative stance in recalling those events. People who score high on this scale generally exert low self-esteem, and high levels of anxiety and depression (Zimbardo & Boyd, 2008). To the same extent, the aversive view of the past was associated with problems in interpersonal relationships, lack of physical exercise, and an affinity towards gambling, even with a general dissatisfaction of present life circumstances (Zimbardo & Boyd, 1999).

Those who live in the 'here and now' (present oriented) report higher scores on risky driving, frequent smoking, and consumption of alcohol and drug use (Keogh, Zimbardo & Boyd, 1999). Concerning the specific present time orientations, namely Present Fatalistic and Present Hedonistic, differences were reported at behavioral level. For instance, Present Fatalistic was associated with aggression, anxiety, depression (Zimbardo & Boyd, 1999), and with avoidant procrastination, while Present Hedonistic was associated with arousal procrastination (Ferrari & Diaz-Morales, 2007). Similarly, while individuals who adopt a hedonistic view of the present are highly impulsive and show no concern for the future consequences of their actions, those who adopt a fatalistic view of the present consider future as being predestined and believe in fate (Zimbardo & Boyd, 2008). Moreover, prevalence in both Present Fatalistic and Past Negative frames was shown to discriminate between severe suicidal ideators and nonideators among high school students (Laghi, Baiocco, D'Alessio & Gurrieri, 2009). The same time frames were also indicated as predictors of problematic internet use (Chittaro & Vianello, 2013).

As for the future-oriented individuals, negative associations with behaviors that might jeopardize future goals, such as aggression, ego under control, impulsivity, and risk-taking were identified. Furthermore, the future time perspective factor also correlated significantly with conscientiousness, consideration of future consequences, and preference to consistency, whereas negative correlations were reported in the case of sensation seeking, anxiety and depression (Zimbardo & Boyd, 1999). In another study (Epel, Bandura & Zimbardo, 1999), findings suggest that time perspectives can even predict the behavior of unemployed people, who either use their time constructively to seek jobs (future-oriented), or waste time watching TV and engaging in other avoidant coping strategies (present-oriented).

Recent developments (Bonwell, Osin, Linley & Ivanchenko, 2010, Drake, Duncan, Sutherland, Abernethy & Henry, 2008) emphasize the importance of creating a Balanced Time Perspective, defined as the "ideal optimal temporal perspective, in which the attitudes to the past, present and future blend and flexibly engage, depending on a situation's demands and our needs and values" (Bonwell & Zimbardo, 2004, p.171).

The temporal perspective was also examined in relation to aspects of self-concept. Markus and Nurius (1986 cited in Bonwell, 2005) found that a general locus of control is related to time perspective. Specifically, if past or present life events were associated with a sense of helplessness and frustration, one would be more prone to feel out of control over future events, hence the focus on the past or the present. These results can be

interpreted with the lens of the “uncertainty orientation” (Sorrentino & Short, 1986 cited in Trommsdorff, 1994). Thus, in order to satisfy the need for security, individuals want to “know” what the future will be like. Expectations, evaluations, and beliefs about the future and about ways of controlling outcomes include beliefs about the self and about the relation between the self and the environment in the future. And these beliefs are at the basis of the future time perspective and the control orientation.

Furthermore, expectations influence behavior when they are connected to certain control beliefs. For instance, in achievement situations, people who expect success and exert an internal rather than external locus of control, attribute their success to themselves; in turn, this leads to a positive self-concept regarding achievement, in terms of goal setting, and behavior (Weiner, 1992). Apart from the relation between expectations and control beliefs (which are affected by the preferred temporal orientation), individual differences in achievement were as well explained by differences in self-regulation (Magar, Phillips & Hosie, 2008).

Defined as the ability to develop, implement, and flexibly maintain planned behavior in order to achieve one's goals (Brown, Miller & Lawendowski, 1999), self-regulation has been shown to be related to general adjustment (Kuhl, 2001), emotional states (Fröhlich & Kuhl, 2003; Schneider, Bös & Rieder, 1993), health-related habits (Mezo & Heiby, 2004), and sport performance (Barkhoff, 2000; Beckmann, 2001; Beckmann & Kazén, 1994; Kane, Baltes & Moss, 2001; Singer, 2002).

Another conceptualization of the term self-regulation is that of Vohs and Schmeichel (2003, p.217), who describe it as consisting in the operations performed by the self in order “to alter its own habitual or unwanted responses to achieve a conscious or non-conscious goal”. Specifically, the processes involved when self-regulating are: modifying the undesired response, replacing the undesired response with a desired one and finally inhibiting or repressing occurring responses.

Being essential to planned behavior, low generalized self-regulatory capacity was proved to lead to poor capacity to develop adaptive goals and monitor current status toward those goals, while individuals with lower self-regulatory capacities were more prone to engaging in activities that provide immediate gratification (Neal & Carey, 2005). Therefore, self-regulation is related to a variety of tasks, from daily routines (getting up early in the morning), to more volitionally demanding tasks, such as avoiding tempting distractions or maintaining the desired conduct in reaching business goals (Vohs & Schmeichel, 2003).

Miller and Brown (1991) designed a seven-step model of behavioral self-regulation. Initially aimed at studying only addictive behaviors, it comprises general principles of behavioral self-control which can be applied irrespective of context, namely: receiving relevant information, evaluating the information and comparing it to norms, triggering change, searching for options, formulating a plan, assessing the plan's effectiveness.

When considering goals, the temporal distance towards them is a key factor and previous research took into account the role of time perspective on self-regulated learning, while considering the self-determination theory (de Bilde, Vansteenkiste & Lens, 2011). Results show that being future oriented seems to contribute to a stronger personal endorsement of one's present study activities, being consistent with other findings (Simons, Vansteenkiste, Lens & Lacante, 2004) pointing out that future time perspective increases the individual amount of motivation and effort-expenditure, but might also be associated with a qualitatively different type of engagement in the activity at hand.

In fact, research so far has already emphasized that goals, described as one's desired future state or desired outcome, are relevant in motivating and guiding behavior (Austin & Vancouver, 1996; Elliot, Shell, Bouas Henry & Maier, 2005; Gollwitzer & Moskowitz, 1996; Locke & Latham, 1990). Mental imagery is another means of representing the future and studies exploring possible selves (Markus & Nurius, 1986; Oyserman, Bybee & Terry, 2006; Ruvolo & Markus, 1992) have linked a positive image of oneself in the future with undertaking action. Furthermore, developing positive expectations regarding the attainability of the imagined future is a form of thinking that enhances motivation and task performance.

Other investigations focused on the time perceptions associated with regulatory activities (Vohs & Schmeichel, 2003). The findings suggest that time influences the extent to which self-regulatory endeavors will continue to be pursued, since perceptions that a regulatory task lasted overly long seem to reduce subsequent self-regulatory capacity. Furthermore, these results may have implications for achievement and performance, since temporal perceptions on managing the planned behavior can determine avoidance or approach behaviors.

Achievement motivation was already identified as the second best predictor (along with cognitive abilities) of high levels of performance (Eckardt & Schuler, 1992). Atkinson (1964 cited in Singh, 2011) states: "the theory of achievement motivation attempts to account for the determinants of the direction, magnitude and persistence of behavior, unlimited but very

important domains of human activities." Being a composite construct, achievement motivation reunites a series of aspects that drive individuals to meet both personal and professional goals, such as: persistence, confidence in success, internality, engagement, competitiveness, eagerness to learn, self-control, goal setting, etc.

Despite the fact that research so far has explored mostly the associations between future time perspective and academic achievement (Harber, Zimbardo & Boyd, 2003), the interest in how people imagine upcoming events (Johnson & Sherman, 1990; Ross & Buehler, 2001) is not new. In fact, there is considerable evidence that generating mental images of future success can sometimes increase achievement motivation, effort, and performance (Johnson & Sherman, 1990; Karniol & Ross, 1996; Taylor, Pham, Rivkin & Armor, 1998). Moving forward, research examining possible selves (Markus & Nurius, 1986; Oyserman, Bybee & Terry, 2006; Ruvolo & Markus, 1992) has already been associated with future time perspective (Greene & Wheatley, 1992).

Methodology

Objective

The present study aims at determining the relations between time perspective, self-regulation and achievement motivation.

Research questions

Given the complexity of the time perspective construct and the previous empirical findings which stated that time perspective has an important influence on behavior, the following research questions emerged:

RQ1: Is self-regulation associated with different time perspectives?

RQ2: Is there a relation between time perspective and achievement motivation?

Instruments

The *Zimbardo Time Perspective Inventory* (ZTPI, Zimbardo & Boyd, 1999) was used for this study. The ZTPI assesses individual differences in terms of attitudes believed to identify persons of past, present or future orientation. According to Zimbardo, this inventory identifies tendencies towards a Hedonistic Present (living present life in enjoyment), a Fatalistic Present (perceiving own life under the control of external events), a Positive Past (an

orientation towards pleasant past memories), a Negative Past (living a past of unpleasant and painful events), and Future Orientation (the tendency to planning and anticipating events). Items of this inventory are assessed on a 5-point Likert scale, according to how characteristic each statement is to the respondent. Reported reliabilities for the validation of the measure ranged from .70 to .80 (Zimbardo & Boyd, 1999).

The *Achievement Motivation Inventory* (AMI, Schuler, Thornton III, Frinstrup & Mueller-Hanson, 2002) was used to measure a broad construct of work related achievement motivation. It enables us to measure 17 different facets of achievement motivation - Compensatory Effort, Competitiveness, Confidence in Success, Dominance, Eagerness to Learn: Engagement, Fearlessness, Flexibility, Flow, Goal Setting, Independence, Internality, Persistence, Preference for Difficult Tasks, Pride in Productivity, Self-Control and Status Orientation. The AMI consists of 170 items to be responded on a 7-point-Likert format. Reliability reported for the total score is $\alpha = .96$ and ranges from $\alpha = .66$ to $\alpha = .83$ for single scales.

The *Self-Regulation Questionnaire* (SRQ, Brown, Miller & Lawendowski, 1999) was developed as a first attempt to assess the self-regulatory processes through self-report. Items were designed to mark each of the seven sub-processes of the Miller and Brown (1991) model, forming seven rationally-derived subscales of the SRQ. Reliability of the SRQ appears to be excellent .91 (Aubrey, Brown & Miller, 1994). The SRQ also has shown strong convergent validity with concomitant measures. In a sample of 300 college students (Brown, Baumann, Smith & Etheridge, 1997), lower SRQ scores were associated with binge drinking, more alcohol-related consequences, and more frequent marijuana use. All 63 items are answered on a 5-point Likert scale, starting from strongly disagree to strongly agree.

Participants

Sixty seven individuals (8 males and 59 females) participated in this study. All participants were students enrolled in a Human Resources master program. The age ranges from 21 to 43 years ($M=25,32$, $AS=4,52$).

Results

In order to answer our previously stated research questions, correlations between all of the time perspective variables and the composite score of self-regulation were used. As shown in Table 1, no significant correlations were

obtained between self-regulation and present hedonistic and past positive time orientations. This suggests that being present hedonistic or past positive oriented, although reflects a hedonistic, risk-taking attitude toward time and life and an orientation toward present pleasure with little concern for future consequences, is not necessarily related with a low level of self-regulation.

Additionally, similar to previous research (Zimbardo & Boyd, 1999), past negative orientation is negatively associated with self-regulation ($r=-.359$, $p<0,01$) and with present fatalistic orientation ($r=-.520$, $p<0,01$). Future orientation correlated positively with self-regulation ($r=.546$, $p<0,01$), mirroring the results obtained by de Bilde, Vansteenkiste and Lens (2011).

Table 1. Correlations between Time perspective and Self-regulation

		Past negative	Present hedonistic	Future	Past positive	Present fatalistic
Self-Regulation	Pearson Correlation	-.359**	-,065	,546**	-,068	-,520**
	Sig. (2-tailed)	,003	,602	,000	,582	,000

By conceptualizing future time perspective as having a dynamic and a cognitive aspect, we are more able to understand its relation with both self-regulation and achievement motivation. The dynamic aspect of future time perspective is formed by the disposition to ascribe high valence to goals in the distant future. On the other hand, the cognitive aspect of it is formed by the disposition to grasp the long-term consequences of actual behavior, as reflected in the concept of instrumental value of a behavioral act (De Volder & Lens, 1982).

Starting from the second research question, firstly the Pearson correlations between all of the time perspective scales and the composite score of achievement motivation were calculated. The results presented in Table 2 show negative associations between achievement motivation and past negative ($r=-.440$, $p<0,01$), respectively present fatalistic time orientation ($r=-.517$, $p<0,01$). It seems that those two time orientation perspectives might influence the level of the achievement motivation. By having a generally negative, aversive view of the past, one can bring this attitude in present situations due to the reconstructive nature of the past. As for the present fatalistic orientation, which reveals a helpless and a hopeless attitude towards present and future in life, projecting future goals through these lenses might be further associated with avoidant procrastination (Ferrari & Diaz-Morales, 2007) or anxiety and depression (Zimbardo & Boyd, 1999).

Similarly with the previous analysis, achievement motivation positively correlated with future time orientation ($r=.487$, $p<0,01$), meaning that, while being future oriented one's behavior is dominated by a strive for future goals and rewards (Zimbardo & Boyd, 1999) and therefore having an implicit motivation to achieve those goals.

Table 2. Correlations between Time perspective and Achievement motivation

		Past negative	Present hedonistic	Future	Past positive	Present fatalistic
Achievement motivation	Pearson Correlation	-,440**	-,016	,487**	-,073	-,517**
	Sig. (2-tailed)	,000	,899	,000	,559	,000

Following the same pattern identified for self-regulation, no significant correlations were obtained between achievement motivation and present hedonistic and past positive time orientations.

Moving forward in the analysis, an exploratory analysis was undergone at subscale level (Table 3), in order to better understand the higher order correlations already identified. As expected, a series of AMI subscales correlated negatively with past negative and with present fatalistic time perspective and positive with future orientation, namely: persistence, confidence in success, internality, preference for difficult tasks, self-control and objective setting.

Persistence is described as the willingness to exert large amounts of effort over long periods in order to reach a goal. Individuals who score high on this dimension are able to concentrate fully on the task at hand without being distracted. These individuals could be described as tenacious or energetic in striving to complete a task. Of course goals are placed in near or extended future and therefore, a positive correlation ($r=.321$, $p<.01$) with future orientation makes sense.

Confidence in achieving success even when there are obstacles to overcome is positively related with future orientation ($r=.378$, $p<.01$). People who score high on this dimension anticipate that their efforts will lead to success. These individuals are confident in achieving their goals even when facing new and difficult tasks. Their confidence stems from a faith in their knowledge, skills, and abilities as opposed to a belief in luck or fate which explain the negative correlation ($r=-.367$, $p<.01$) with present fatalistic time perspective.

Regarding *Internality*, which is defined as the belief that one's successes are due to internal causes rather than to situational variables, the negative correlation ($r=-.627$, $p<.01$) with present fatalistic is clear, having in mind the fact that present fatalistic time perspective is an external locus of control type of perspective (e.g. item: *My life path is controlled by forces I cannot influence*).

Another AMI scale that correlated with future orientation was *Preference for difficult tasks*. The tendency to seek out challenging rather than easy tasks, and the desire to seek greater challenges once one has already completed a difficult task is positively related with future orientation ($r=.278$, $p<.05$). People who score high on this dimension prefer to take on difficult tasks with a high risk of failure to easy tasks with a low risk of failure. This tendency is negatively correlated ($r=-.341$, $p<.01$) with past negative time perspective which is based on a negative reconstruction of past and reactualization of failures or traumatic events.

In the present research context, *Self-control* is operationalized as the ability to delay gratification and to organize oneself and one's work. People who score high on this dimension are able to make long term-plans. They do not procrastinate and concentrate on their work with a great deal of self-discipline. Therefore, a strong positive correlation with future time perspective ($r=.501$, $p<.01$) is explained by the fact that future time perspective necessitates the belief that a behavior performed in the present increases the probability that a desired future goal will be attained, and thus leads to a higher valuation of goals having future attainment possibilities (Jones, 1988).

Table 3. Correlations between Time perspective and Achievement motivation domains

		Past negative	Future	Present fatalistic
Persistence	Pearson Correlation	-,510**	,321**	-,536**
	Sig. (2-tailed)	,000	,008	,000
Confidence in Success	Pearson Correlation	-,460**	,378**	-,367**
	Sig. (2-tailed)	,000	,002	,002
Internality	Pearson Correlation	-,453**	,365**	-,627**
	Sig. (2-tailed)	,000	,002	,000
Preference for Difficult Tasks	Pearson Correlation	-,341**	,278*	-,391**
	Sig. (2-tailed)	,005	,023	,001
Self-control	Pearson Correlation	-,433**	,501**	-,480**

	Sig. (2-tailed)	,000	,000	,000
Dominance	Pearson Correlation	-,241*	,391**	-,392**
	Sig. (2-tailed)	,050	,001	,001
Pride in Productivity	Pearson Correlation	-,302*	,435**	-,347**
	Sig. (2-tailed)	,013	,000	,004
Independence	Pearson Correlation	-,438**	,333*	-,420**
	Sig. (2-tailed)	,000	,006	,000
Goal Setting	Pearson Correlation	-,241*	,430**	-,399**
	Sig. (2-tailed)	,050	,000	,001

Defined as the tendency to exercise power and influence over others, *Dominance* refers to people who are likely to take initiative and seek control over activities (if they score high). The positive correlation with future time perspective ($r=,.501$, $p<.01$) is observed. The negative correlation with present fatalistic time perspective ($r=-.392$, $p<.01$) is also explained by the fact that those people are likely to play a dominant role in influencing the results of a team and in taking a leadership role.

Another AMI scale which correlates with future orientation time perspective ($r=,.435$, $p<.01$) was *Pride in productivity*. This specific type of pride is triggered by a sense of enjoyment and accomplishment derived from doing one's best at work. People who score high on this dimension are most satisfied when they feel they have improved their performance. Their self-esteem is dependent upon achievement and they gain positive emotions arising from good performance. Therefore, a strong correlation with future orientation, taking into consideration future consequences was expected.

Independence, defined as the tendency to take responsibility for one's own actions is one of the AMI scale also correlated with future orientation time perspective ($r=.430$, $p<.01$). People who score high on this dimension would rather make their own decisions and work at their own pace than take direction from others, in opposition with those having a present fatalistic time perspective ($r=-.420$, $p<.01$), considering future as being predestined and believing in fate.

The last AMI scale analyzed is *Goal Setting*, respectively the tendency to set goals and make long term plans for achieving these goals. People who score high on this dimension are future-oriented ($r=.430$, $p<.01$) and have high standards for what they want to achieve.

Conclusions

Although the importance of how people make sense of time has already been investigated in relation to one's thoughts, emotions and behavior (Zimbardo & Boyd, 1999; Keough, Zimbardo & Boyd, 1999), there are still a lot of underexplored areas regarding the attempt to put time into perspective.

For instance, albeit time perspective was associated with health, risk taking or academic achievement, research is scarce with regard to the possible implications of different time biases in work settings. This direction is advisable even more, since career, as well as learning is by definition future oriented and such behaviors as goal setting and planning are key factors to success.

Therefore, the current research addressed the need to place time perspective in occupational context, by examining the possible associations between temporal orientations and achievement motivation. Additionally, self-regulation was included, since it refers to the ability to develop, implement, and flexibly maintain planned behavior in order to achieve one's goals.

Results are consistent with previous studies, showing positive associations between future time perspective and self-regulation (de Bilde, Vansteenkiste & Lens, 2011) and negative associations between present fatalistic and self-regulation, respectively past negative and self-regulation (Zimbardo & Boyd, 1999). The findings thus suggest that individuals who are concerned with future goals and rewards also prove to be better at managing their behavior towards achieving those goals. Concurrently, those who often feel out of control in the situations that they find themselves in and those who ruminate over past unpleasant experiences seem more likely not to be able to manage planned behavior.

Likewise, achievement motivation seems to be positively related to future time perspective and negatively related to past negative and present fatalistic. Temporal perceptions on managing the planned behavior can determine avoidance or approach behaviors, meaning that the direction, magnitude and persistence of behavior in meeting goals are either enhanced or, on the contrary, suppressed depending on the dominant time perspective. Moreover, these correlations are supported at subscale level, namely: persistence, confidence in success, internality, preference for difficult tasks, self-control and objective setting.

Of course, the present results must be discussed in terms of the strengths and limitations of the study. The first limitation is that the study employed a convenience sample, making it impossible to generalize the results. Further research should focus on domain-specific filters, since achievement motivation in the workplace can be influenced by domain features. Similarly, the sample size was reduced - future research should consider a larger sample. Finally, the measures employed are self-report, participants being thus more prone to engage in self-deception by offering socially desirable responses. However, giving the subjective nature of the variables investigated, the use of self-reports is advisable. This limitation can further be addressed either by replicating the study in a longitudinal design, or by using mixed methods.

Since some research has indicated cultural variation with regard to time and time perspective (Spangler & Petrovich, 1978; Brislan & Kim, 2003) we may have to accept that results here may be influenced by the participants' cultural and educational background. We therefore suggest that future studies consider case study analyses or interpretative phenomenological analysis (IPA) would allow extension of the theory and present findings and operationalization of it within a practical setting.

Also, practitioners interested in effective developing balanced time perspective (Zimbardo & Boyd, 2008) in their clients may apply present results in their training programs, adding 'self-regulation' exercises to develop optimal time perspective.

The present investigation confirms that a greater attention must be given to the way in which individuals assign the personal and social experiences to time frames, that help them give order, coherence and meaning in work settings. In this respect, future endeavors could consider the impact of time perspective on career choices (both in the case of young people, and in the case of those who are experiencing transitions as well). Similarly, since time perspective has already been associated with a wide array of behaviors (health, risk taking), taking it into account in the study of specific organizational behaviors might bring valuable insights.

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