



Time to be smart: Uncovering a complex interplay between intelligence and time perspectives

Marcin Zajenkowski*, Maciej Stolarski, Oliwia Maciantowicz, Marta Malesza, Joanna Witowska

Faculty of Psychology, University of Warsaw, Poland

ARTICLE INFO

Article history:

Received 22 July 2015

Received in revised form 9 June 2016

Accepted 13 June 2016

Available online xxxx

Keywords:

Intelligence

Time perspective

Stress

Subjectively assessed intelligence

Balanced time perspective

ABSTRACT

In the present studies we examine complex relationships between time perspective (the characteristic way in which an individual partitions the flow of personal experiences into time-bound categories; TP) and cognitive ability. Additionally, we consider cognitive, emotional and motivational mediators of these associations. In study 1 ($n = 238$) we measured TP, fluid and verbal intelligences as well as subjectively assessed intelligence. Past Negative and Present Fatalistic TPs correlated negatively with fluid and verbal intelligences. Present Hedonism was negatively, and Future TP positively, associated with verbal intelligence. Subjectively assessed intelligence mediated the relationship between Present Fatalism and intelligence. Finally, Balanced TP positively correlated with fluid intelligence. Study 2 ($n = 306$) revealed that Present Fatalism and Past Negative were associated with higher stress related to intelligence-test performance, while Balanced TP reduced this stress. The obtained results suggest that TP may play a significant role in acquiring abilities (crystallized intelligence), but also that it probably influences test performance.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

Studies on intelligence have usually considered time in terms of task performance speed (Jensen, 2006). Recently, an increasing interest in the construct of time perspective (TP) as a robust predictor of many real-life outcomes has been observed (see Stolarski, Fieulaine & van Beek, 2015). TP is a relatively stable characteristic describing the way in which an individual partitions the flow of personal experiences into time-bound categories, or time zones, that becomes part of the personality (Zimbardo & Boyd, 1999). Interestingly, both intelligence and time perspective have been shown to correlate with a variety of psychological variables, such as health (Deary & Gottfredson, 2004; Guthrie, Butler & Ward, 2009), gratification delay (Shamosh & Gray, 2008; Stolarski, Bitner & Zimbardo, 2011), aggression (Zimbardo & Boyd, 1999; Zajenkowski & Zajenkowska, 2015), educational outcomes (Alansari, Worrell, Rubie-Davies, & Webber, 2013; Deary, Strand, Smith, & Fernandes, 2007), and job performance (Gottfredson, 1997a; Seijts, 1998), among many others. These similarities prompt the question of whether and how these seemingly distinct constructs are related. Zimbardo and Boyd (1999) explicitly stated that the process of temporal framing is predominantly cognitive; moreover, TP has been described as

a regulatory mechanism that may allow for adaptive regulation of one's psychological states (Stolarski et al., 2014; Matthews & Stolarski, 2015). In other words, TP can be analyzed both as a process emerging from intellectual abilities, as well as a disposition (or a set of dispositions) that allow individuals to effectively regulate their own psychological states (e.g., levels of stress, motivation, etc.; see Matthews & Stolarski, 2015) in order to optimize their cognitive performance. Thus, the aim of the present study was to empirically analyze associations between TP and intelligence, as well as to provide some insight into mechanism of these relationships. Such analyses could allow to better understand the nature of intelligence by broadening its nomological network and to identify some novel mechanisms influencing the effectiveness of cognitive processing. Besides some preliminary investigations (Zajenkowski, Carelli & Ledzińska, 2015), to date no systematic research has analyzed the cognitive mechanism underlying or resulting from TP. In the present study we examine the complex relationships between TP and cognitive ability in order to gain a deeper understanding of their nature. Additionally, we consider other variables, from cognitive, emotional and motivational levels, that might mediate these relationships.

1.1. Time perspective

Defined as “the often non-conscious process whereby the continual flows of personal and social experiences are assigned to temporal

* Corresponding author.

E-mail address: Zajenkowski@psych.uw.edu.pl (M. Zajenkowski).

categories, or time frames, that help to give order, coherence, and meaning to those events" (Zimbardo & Boyd, 1999, p. 1271), TP can be considered as a process; an online way of cognitive framing of experience, and as a trait; a stable, habitual focus on a particular temporal frame, i.e. the past, the present or the future. How individuals approach this sense of psychological time has far-reaching cognitive, affective and motivational consequences (Stolarski, Wiberg & Osin, 2015). Therefore, it becomes important to consider temporal perspectives when studying human nature, both in terms of general understanding and practical interventions to modify biased time perspectives (Zimbardo & Boyd, 2008). Zimbardo and Boyd (1999) empirically distinguished five dimensions which can be used to describe an individual time perspective profile: Past Positive, Past Negative, Present Fatalism, Present Hedonism and Future which are measured via Zimbardo Time Perspective Inventory (ZTPI). As the authors of the scale notice "refinement of the ZTPI was empirically driven, based on repeated factor analyses of the pool of statements thought to characterize different TPs. These items, collected from many different sources, reliably produced five distinct factors when factor analyzed. There was no a priori theoretical prediction of the number of characteristics of the factors that we would obtain" (Zimbardo & Boyd, 1999, p. 1273).

The Past Negative TP is based on a concentration on unpleasant events from the past, as well as on negative interpretation of all past events (Zimbardo & Boyd, 1999). People with high Past Negative often experience negative emotions and anxiety, and tend to fall into a depressed state. This perspective is positively associated with both neuroticism (average correlation 0.48; Kairys & Liniauskaitė, 2015) and aggression (0.49) and negatively with self-esteem (-0.48 ; Zimbardo & Boyd, 1999). It also correlates negatively with conscientiousness (average correlation -0.19), extraversion (average correlation -0.24 ; Kairys & Liniauskaitė, 2015) and satisfaction with life (0.40; Shipp, Edwards & Lambert, 2009; Zhang & Howell, 2011). A focus on Past Negative is associated with lower levels of emotional intelligence (-0.18 ; Stolarski et al., 2011) and lower educational achievements (Fieulaine, Apostolidis & Olivetto, 2006).

Past Positive refers to a positive perception of past events, sentimentality and acceptance of the past, as well as attachment to traditions and rituals. It correlates positively with self-esteem (0.28; Zimbardo & Boyd, 1999), life satisfaction (0.41; Zhang & Howell, 2011) extraversion (average correlation 0.18; Kairys & Liniauskaitė, 2015) and emotional intelligence (0.26; Stolarski et al., 2011). Past Positive also shows an inverse association with anxiety (-0.25) and aggression (-0.16 ; Zimbardo & Boyd, 1999).

Present Hedonistic TP refers to a concentration on pleasure, obtaining instantaneous gratification of activities and little concern about the future consequences of one's actions. Hedonically oriented people tend to take risks, have low ego control (Zimbardo & Boyd, 1999) and have high impulsivity (MacKillop, Anderson, Castelda, Mattson & Donovan, 2006). However, hedonistic perception of time positively correlates with trait emotional intelligence (0.20; Stolarski et al., 2011), satisfaction with life (0.15; Zhang & Howell, 2011), optimism (Boniwell, Osin, Linley & Ivanchenko, 2010), positive mood (0.23; Stolarski, Matthews, Postek, Zimbardo & Bitner, 2014) and positive relationships with others (Sircova & Mitina, 2008).

Present Fatalistic orientation is based on resignation, hopelessness and a belief that life cannot be influenced—but that luck and fate make decisions (Zimbardo & Boyd, 1999). An elevated level of this perspective is reflected in a strong conviction that life is unpredictable and unstable; thus this attitude is combined with reluctance to planning (Baumann & Odum, 2012), which may result in lower academic achievements (Mello & Worell, 2006) and a lower level of education (Fieulaine et al., 2006). Fatalism correlates positively with neuroticism (average correlation 0.26; Kairys & Liniauskaitė, 2015), depression (0.37), anxiety (0.38) and aggression (0.39; Zimbardo & Boyd, 1999), and is characterized by lack of internal control (MacKillop et al., 2006).

Future TP focuses on long-term goals, which are associated with planning as well as achievements and success in life. People whose life is dominated by this perspective are able to perform multiple tasks under time pressure, and they have developed advanced strategies for coping with stress (Zimbardo & Boyd, 1999). Moreover, Future is positively associated with conscientiousness (average correlation 0.60 Kairys & Liniauskaitė, 2015), ability to delay gratification, internal control (Shipp et al., 2009), patience (Schnitker & Emmons, 2007) and trait emotional intelligence (0.20; Stolarski et al., 2011). Focusing on the future is connected to low risk, low impulsivity (MacKillop et al., 2006) and low aggression (-0.31 ; Zimbardo & Boyd, 1999).

Zimbardo and Boyd (2008) claimed that a specific combination of time dimensions might be more adaptive than others. This combination creates Balanced Time Perspective (BTP), defined as "the mental ability to switch effectively among TPs depending on task features, situational considerations and personal resources, rather than be biased toward a specific TP that is not adaptive to situations" (Zimbardo & Boyd, 1999, p. 1285). The difference between individual time perspective and the BTP profile has been recently operationalized by Stolarski et al. (2011) as Deviation from Balanced Time Perspective (DBTP). The closer to zero the DBTP value is, the more adaptive and more optimal the time perspective is (Stolarski et al., 2011). It has been shown that DBTP is beneficial for satisfaction with life (Zhang et al., 2013) or emotional intelligence (Stolarski et al., 2011).

1.2. Intelligence and non-cognitive traits

There has been a long tradition of linking intelligence with non-cognitive traits, especially with personality dimensions. Most of the studies in this area referred to Cattell's (1971) distinction between fluid intelligence (gf), representing information-processing and reasoning ability—both dependent on the efficient functioning of the central nervous system—and crystallized intelligence (gc), representing abilities to acquire, retain, organize and conceptualize information that is acquired through experience and education. In the case of personality, the Five Factor Model distinguishing neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (Costa & McCrae, 1992) dominates in the empirical investigations (DeYoung, 2011). However, recent important investigations were based on the Big Five scales measured via the International Personality Item Pool (IPIP; Goldberg et al., 2006) and the most interesting findings referred to the factor labeled openness/intellect (see DeYoung, 2011).

General conclusions drawn from the meta-analyses and studies on large samples (Ackerman & Heggestad, 1997; Austin et al., 2002) are that intelligence correlates positively with personality traits that might be categorized as adaptive and negatively with maladaptive traits (Austin et al., 2002). However, a deeper analysis of the possible intelligence-personality associations distinguishes various theoretical perspectives (von Stumm, Chamorro-Premuzic & Ackerman, 2011). According to one, personality may influence intelligence at the measurement level. For instance, it has been shown that neuroticism is negatively correlated with intelligence (Ackerman & Heggestad, 1997), and IQ test anxiety may be an explanation for this result. Moreover, Zeidner and Matthews (2000) noted that the relationship between extraversion and intelligence may be mediated by the nature of an intelligence test. Because of the differences in cortical arousal between extraverts and introverts (Eysenck, 1994), the dimension of extraversion may be associated with certain cognitive styles and intelligence profiles but not necessarily with actual ability (Zeidner & Matthews, 2000). Another perspective on the intelligence-personality link assumes a developmental dependence between the two constructs, such that personality traits influence the degree to which people apply or invest their intellectual abilities. This approach may explain the relatively moderate (0.30 to 0.40) correlation between openness/intellect to experience and cognitive ability (DeYoung, 2011). It has been suggested that openness/intellect correlates more specifically with gc

Download English Version:

<https://daneshyari.com/en/article/7293101>

Download Persian Version:

<https://daneshyari.com/article/7293101>

[Daneshyari.com](https://daneshyari.com)