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# Cognitive elaboration of Time Perspective, and confirmatory factorial analysis of the Zimbardo Time Perspective Inventory-Arabic (ZTPI-Ar)

## الإرصان المعرفي لمنظور الزمن والتحليل العاملي التوكيدي لقائمة زمباردو المنظور الزمن

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**Abstract** The present study examining the cognitive process elaboration of Time Perspective (TP) orientation. also, analysing the configuration of TP–five dimensions proposed by Zimbardo and Boyd (1999), that incorporates temporal dimensions of behavioral contingencies, as well as the prepotent behavior. A sample composed of 318 undergraduate students. A confirmatory factor analysis conducted to test three models (1-Factror, 3-Factors, and 5-Factors). Results showed that the adjustment indices in the third model (5-Factors) are better fitting than competing models. The findings of the study showed satisfactory psychometric characteristics that allow us a standardized multidimensional measurement of the TP in the Arabic environment. Which permeate to investigate its relationships with different socio-psychological variables.

**Key Words:** Cognitive, time perspective, confirmatory factorial analysis, Zimbardo Time Perspective Inventory, Arabic.

**الملخص:** تهدف هذه الدراسة إلى تحليل عملية الإرصان المعرفي للتوجه وفق منظور الزمن و كيفية بناء الأبعاد الخمسة التي اقترحها زيمباردو و بويد (1999). و يتضمن الأبعاد الزمنية من حيث أنها تدل على نوع السلوك وفق منظور زمن، الذي وضع لقياس التوجه إلى سلوكات دون أخرى وفق هذا المنظور. تطبيق قائمة زمباردو لمنظور الزمن على عينة مكونة من 318 فردا. تم إجراء تحليل عاملي توكيدي لاختبار ثلاثة نماذج (1-عامل و3- عوامل و 5- عوامل). أظهرت النتائج أن مؤشرات جيدة في النموذج الثالث (5 عوامل) مناسبة بشكل أفضل من النموذجين الآخرين. أظهرت النتائج التي توصلت إليها الدراسة الخصائص السيكومترية المقبولة التي تسمح لنا بتوفير مقياس موحد متعدد الأبعاد لمنظور الزمن باللغة العربية. مما يسمح بالكشف عن علاقاتها مع المتغيرات الاجتماعية والنفسية المختلفة.

**الكلمات المفتاحية:** المعرفية ، منظور الزمن، التحليل العاملي التوكيدي ، قائمة زيمباردو منظور الزمن، اللغة العربية

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# Introduction:

Different socio-psychological approaches studied the concept of time and concluded that all human activity is embodied in temporal aspects which has an appearance of rhythm, developmental cycles, time continuity and change. They have explained the aptitude to conceptualize and localize human experience temporally and considered it one of the most important phenomenon in time psychology. Lewin (1951, p. 75) named Time Perspective, and defined it as the totality of the individual's views of his psychological past existing at a given time. Also, TP conceptualized as cognitive–motivational processes by Nuttin (1985), and termed it time attitude to explain how positively or negatively an individual feel about the past, present, and future. Elaboration of mental representations of through time the cognitive process connect movement, change and repetition of the continuum happening of social and personal events. Piaget (1942) termed overall structure time qua duration. Whereas, Fraisse (1963, p. 290) argue for instance, and consider that human equilibrium is too precarious to do without fixed positions in space and regular cue in time. However, TP process give to position and instance a configuration that reconstructed the past experience and constructed the future goals within the present moment. Behaviors were categorised in time registers, and TP attitude determines that individuals are present-oriented, past-oriented or future-oriented. Likewise, Keough, Zimbardo, and Boyd (1999) consider that time perspective is an unconscious process. In contrary to many psychologist thoughts, Fortunato and Furey (2010) consider it as consciousness, they proposed that three distinct patterns of thinking evolved in concert with the ability to engage in mental time travel, individual refer to these as Past, Future, and Present thinking.

The social-cognitive theory (SCT), Bandura's (1997) advances a tripartite temporal influence on behavioural self-regulation as generated by efficacy beliefs grounded in past experiences, current appraisals, and

reflections on future options. Moreover, anthropological (Gell, 2000) and developmental (Nelson, 1996) approaches argument for the past and future distinction being a social construction. Zimbardo and Boyd (1999) proposal is one of the few conceptions of a psychological dimension of time to be considered as a profile of sustainable behaviour. They consider TP as attitudes; reflect mix of cognition and behaviour which is stable individual differences in thinking about the past, present, or future. As cognitive function they put forward that temporal frameworks (past, present and future) help in codifying, storing and evoking experienced situations, goals, contingencies, and imagined contexts (Zimbardo & Boyd, 1999). Almost psychological tendencies regard time perspective" as fundamental concept has offered for time psychological sense of the reality of past and future times in the present moment. Also, supports the debate about the existence of important individual differences

In this study, we attempted to explicate how cognitive process set the configuration of TP-five dimensions as Zimbaro and Boyd model proposal. We consider that TP act as cognitive process for the following reasons: (a) Systematization of the complexity of these constructs, and appearance of time perspective catégories. (b) Exploration of multiple cognitive frame zones indicating their attractive temporal aspect. (c) Reveled the dynamic influence of TP on judgment, decision, and action. A confirmatory Factor Analysis of the ZTPI conducted to explore the structure of TP in Arabic socio-cultural environment .

# Time perspective

Investigation on the psychology of time perspective, focuses on the ways in which individuals develop temporal orientations, and most researchers argues for partitioning the flow of personal experience into the mental categories, or time zones (Past, Present, and Future).

Psychologists interested especially in temporal biases in which these learned cognitive categories are used as their dissonances, made known individual attitudes, wherefrom one or another are utilized excessively or underutilized. All behaviors aspects enveloped by this notion which facilitated to psychologists to understanding which TP attitude reflected the predominance orientation to temporal registers. The Lewin's life space model integrated the influence of both the three registers, past, present, and future (Lewin, 1942). This explain clearly the interaction between time zones that supervised by TP, and have an impact on present behaviour assured by a cognitive operation for locating action in some temporal zone.

Several researchers' cognitivists and behaviorists, attached to the complex phenomenon an importance to the relation of TP orientation with various individuals and social variables. But the absolute necessity, what is the path of the time orientation used to designation individual's temporal selection of his or her views of time? Recently, different constructs were developed to assess the concept temporal perspective, to designation individual's temporal selection of his or her views of time. The complexity and ambiguity of the phenomenon time perspective notion enriched in parallel the terminology to design it. Therefore, time perspective termed "time attitude" to know how positively or negatively an individual feels about the past, present, and future (Nuttin, 1985), "temporal orientation», which is defined as cognitive involvement predominantly in the past, present, or future (Holman & Silver, 1998), unambiguous "time perspective" distincts individual differences in thinking about the past, present, or future (ZTPI; Zimbardo & Boyd,1999) , and "Mind Time" defines three thinking perspectives – Past thinking, Future thinking, and Present thinking exist as a part of human consciousness (Fortunato, & Furey, 2010). Furthermore, other construction was based on measurement to investigate the time notion, such as, "preferred polychronicity" preference for doing more than one thing at a time,

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(Bluedorn, Kalliath, Strube, & Martin, 1999), hurriedness general speed or hurriedness factor of time urgency (Jansen & Kristof-Brown, 2005).

Since TP conceptualized and theories developed, especially Zimbardo and Boyd theory, who gives details in the field of TP to assess the complexity of it; the attention has been devoted to the search for reliable and valid instruments of measuring the phenomenon. The ZTPI has been adapted in France (Apostolidis et Fieulaine, 2004), Russia (Sircova & Mitina, 2007), Brazil (Milfont, Andrade, Belo & Pessoa 2008), Germany (Brandler, Rammsayer, 2002), Lithuania (Liniauskaitė & Kairys, 2009) and in other languages. All the above mentioned adaptations confirmed the five-factor structures. Different methods have been employed for the adaptation of the questionnaires in different cultures. Usually, attempts were made to test both the reliability (Cronabach's alpha, test- retest reliability measures) and validity of the construct (exploratory factor analysis, confirmatory factor analysis) of the translated questionnaire.

In succession, various researches investigates time perspective relates to such phenomena as substance use (Apostolidis et al., 2006; Keough et al., 1999), motivation (Kauffman & Husman, 2004), ecological attitudes (Milfont & Gouveia, 2006), behaviour (Henson et al., 2006), health-promoting behavior (Hamilton et al., 2003), academic engagement (Horstmanshof and Zimitat, 2007), procrastination (Diaz–Moralez et al., 2008) and Wellbeing (Mooney et al, 2017). This development in many aspects and relations of the notion "Time", facilitates to psychologists understanding through TP, the concept that reflected the individual predominance orientation to temporal registers. As well, the extent to which people give over their attention to the past, present, and future appears fundamental in time psychology.

# The Multidimensional ZTPI measurement

Various measures have been developed to evaluate TP. Previously, most of the attempts to measure individual time perspective have focused in only one index, particularly the future dimension, it measured in multiple aspects (Nuttin, 1985; 1988; Stratham et al 1994; Petrocelli, 2003). Several criticisms were suggested by Zimbardo and Boyd (1999) explained the insufficient description of the inseparable links as structural function cogntivo-comportemental, also as mental representation or action taken, between past, present and future. In absence of adequate measure to assess the complexity of TP, the tradition concept of Lewin's named time perspective was developed by Zimbardo and Boyd (1999). They have elaborated a theory where they have put time in perspective and developing the ZTPI to assess five such time frames. Zimbardo and Boyd draw on thirty years of pioneering research to reveal, how individual time perspective shapes individual life. Several studies conducted, they showed the excellent psychometric characteristics of this TP measurement.

The present Zimbardo Time Perspective Inventory (ZTPI) composed of 56 items divided into 5 subscales.

**Present-Hedonistic:** This dimension reflects a hedonistic orientation attitude toward time and life. Person lives in the moment, in the here and now, is a pleasure seeker, enjoys high intensity activities, seeks thrills and new sensations, and is open to adventures. (e.g. *I take risks to put excitement in my life).*

**Present-Fatalistic:** This TP dimension reflects a fatalistic, helpless, and hopeless attitude toward the future and life. Person beliefs in outside forces control one's life, for e.g. spiritual or governmental forces. (e.g.*Fate determines much in my life).*

**Future:** This dimension reflects planning for, and achievement of future goals, characterizing a general future orientation. People with future TP are more likely to floss their teeth, eat healthy foods, and get medical checkups regularly. They tend to be more successful than others. (e.g. *When I want to achieve something, I set goals and consider specific means for reaching those goals).*

**Past-Positive:** This dimension embodies a warm, sentimental, nostalgic, and positive construction of the past. Contains items such as, *"Happy memories of good times spring readily to mind"*

**Past-Negative:** This TP dimension reflects a pessimistic, negative, or aversive attitude toward the past. Is associated with focusing on personal experiences that were aversive or unpleasant. characterized by items such as, *"Painful past experiences keep being replayed in my mind".*

The individual's TP orientation predictable through these five ZTPI dimensions, and may differ from one to another in the degree to which they assign more prominence in one particular dimension. However, human behaviors are more a mixture of all TP dimensions rather than a pure expression of any dimension in particular, which recognized as a mix of cognition, affect and behavior

# Cognitive process elaboration of TP

In the following presentation of the TP structure, we illustrate and attempt to explain the configuration of its five dimensions as Zimbaro and Boyd model proposal. Also, we describe the cognitive process elaboration of temporal dimensions attitude presenting the behavioural contingencies, as well as dispositional moderators of the prepotent behaviour relation.

## Figure 1: Configuration of the TP – five dimensions.
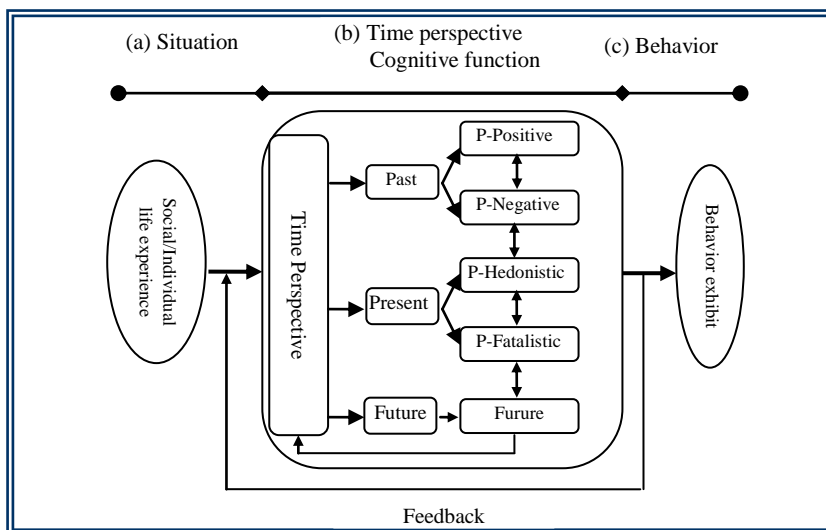


Note:
(a) Situation; social and Individual life experience.
(b) Time perspective as cognitive processes repartitioning individual experience.
(c) Behaviour reflected frames of time subcategories zones.

TP serves as the reference point for establishing temporal location that allows individuals, organized experience and regularized the interrelationship between the present, past, and future. Zimbardo and Boyd (1999) proposal includes cognitive processes classifying human experience in five compartments. They extended and integrated a sub-senses within the past TP (Past-Positive, Past-Negative), and present TP (Present-Hedonistic, Present-Fatalistic), but they conceptualised the future TP orientation as one dimension. The basic idea developed by Zimbardo and Boyd (1999) can be stated in the model diagrammed in figure 1.

Individuals life experience constituted the sources of knowledge and the cognitive substratum to recall things, reconstruct the general idea of other things, and infer other things never cultured. They interpreting, constructing and planning goals, while these cognitive abilities ordered and organised the frames acquired in time registers

memory. A cognitive supervisor as TP seems necessarily supposed to guide the comprehension of new experiences and information, it seeks them in order to create mental constructs structured in time categories and in their subcategories as proposed by Zimbardo & Boyd (1999) in their theory. The repertoires of subcategories of the frames are dependent on situation demands, novel categorization requirements, and environmental contingencies. As well, the interaction between subcategories frames and the feedback of behaviour exhibited permeate to TP maintaining or modifying those constructs, so that, it becomes more or less activated through individual and social experience. In figure 2, we presented basic cognitive model in five steps.

 - **First step,** social and individual life experience. The construction of psychological time determined by a combination of the biological state (age, gender and illness…etc), emotional situation (stability, stressor…etc) and motivational quality (agreeableness, excitement and goals…etc). These determinants associated with many learned factors, cultural, educational, religious, social class, and family modelling among the most prominent (Zimbardo &Boyd, 1999). The continual flows of personal and social experiences are providing time frames structured in temporal categories. So, TP it's omnipresent in people's lives and permeate them to seek information in order to create and prove mental constructs or to modify those constructs, it fit more personally with experience.

**- The second step**, TP as cognitive function supposed that was used in encoding, storing, and recalling experienced events, as well as in forming expectations, goals, contingencies, and imaginative scenarios (Zimbardo & Boyd, 1999). The process was self-assured by TP, that built systematization of human experience to past, present, and future temporal frames, such as configuration permeated to individuals thinking and use temporally registers content by TP attitude. Fortunato & Furey (2010) consider that one critical difference between the constructs of thinking perspective versus time perspective is that the former refers to the process by which individuals' access, imagine, or utilize temporally located content, whereas the latter refers to the psychological identification with, influence by, and/or orientation to the actual contents of one's historical past, anticipated future, and immediate present. Cognitive process such as categorization and object

recognition, whereas the procedure of building chunks for complex object and representations categories temporally assured by TP system. These categorization and object recognition require the creation of multiples TP subcategories as Zimbardo and Boyd proposal.

**- The third step**, illustrate time zones separately. Repartition of the frames filtered through basic cognitive processes; it contributes to a differentiated sense of the TP orientation in subcategories. The TP cognitive function records the relationships between associated and signification prominent temporal frames, e.g. which ones associate with which other ones, which ones are part of which other ones, and which ones have signification relate with which other ones. Temporal frames are a phrase or prototypes, such as each item in the ZTPI meaning. The similar frames assembled on subcategories in their own in the five TP-dimensions. Habitual TP orientation eliciting cue which is one prepotent response, it would predict that behavior should be a direct and dependent of the frames in one of the five dimensions. These frames inscribed individual and social cognitive variables and, moreover, that TP should moderate the relationship between event and behavior exhibited. Accordingly, Zimbardo & Boyd, (1999) explained that TP orientation permeate to engage in any behavior as cognitive function act in the five compartments to expected outcomes and values attached to them, the process completed as a "Top-down" action. This case considered as a dispositional style, or individual-differences variable, that is characteristic and predictive of how an individual will respond across a host of daily life choices. When the decision tend to be primarily, it mostly was influenced by the biological state, and with the learned factors associated with the salient elements of the present

# Figure 2: Basic cognitive process model of Time Perspective-five dimensions
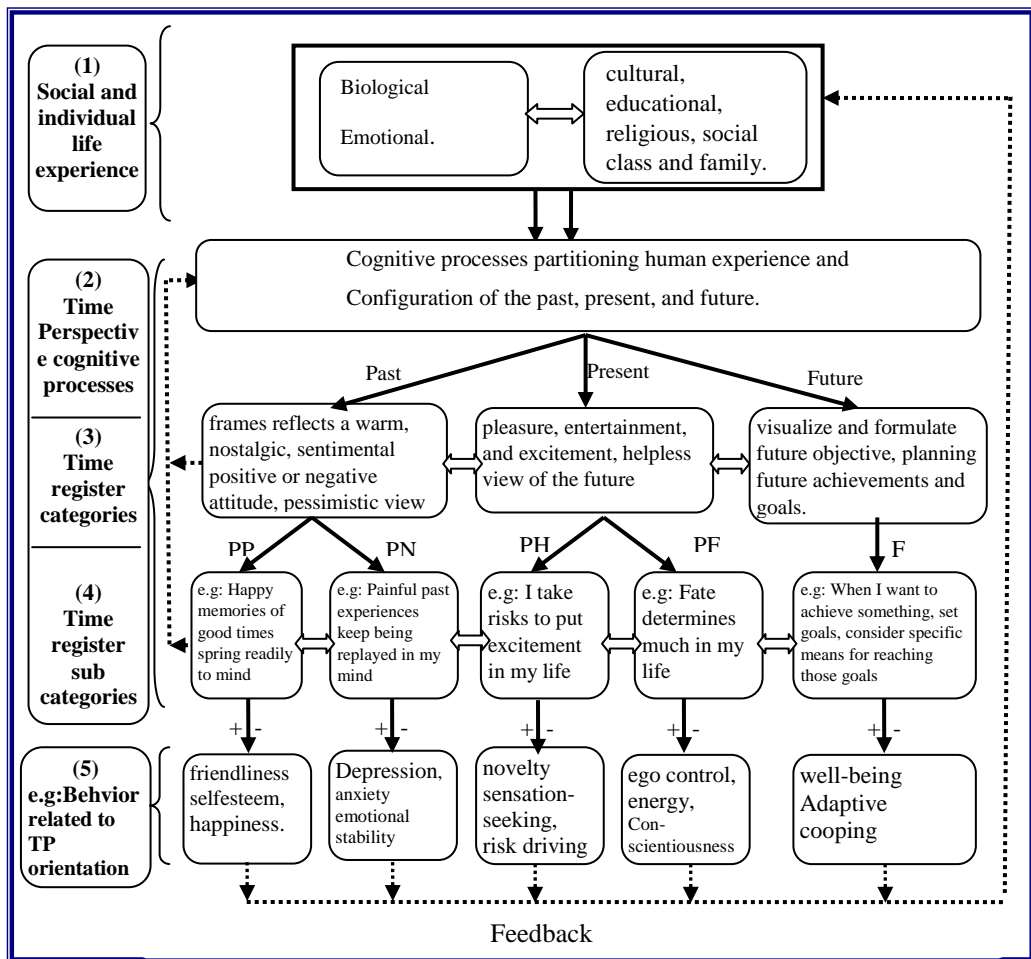


NB: Arrows indicate the following relationships:

→ leads to;

⟺ influences;

┄► feedback .

(+/-) indicate positive or negative relationship.

environment; this processes completed as a "bottom-up" action. The two ways also assured by the self-regulation of TP system, while the predominance of ones TP orientation determined by the feedback of the

forces of situational pression, the intensity or quality of the stimulus, the prevailing biological state, or social aspects of the situation.

 - **The fourth step**, TP guided and related patterns of the behavior which come forward has a very explicit role in making decision by using the five temporal frames of the time zone. The paths connecting TP orientation directly to behavior, and will reveal one of the Five dimensions, it represents the operationalization and discrimination of a prepotent response. Furthermore, an additional moderator as retro control of the path from TP orientation, which used frames of the prepotent behavior to the temporal register path. This feedback will amplify or reduce and/or maintain the orientation to own register contain these frames which have drawn in the outcome behaviour. This dynamic interaction varying degrees of use of these temporal orientations, whose include either habitual overuse or under use of one or more of these temporal frames, also are influenced by individual's psychological characteristic or circumstance exigencies.

- **The fifth step**, illustrate examples of behaviour related to TP orientation. The aspects of human behavior reflected the powerful influence of the time perspective revealed their relationship positively or negatively with the five dimensions of TP orientation. Many studies showed these forms of relationship. Past Positive orientation is related to high levels of self-esteem and happiness (Zimbardo & Boyd, 1999), agreeableness and energy (Goldberg & Maslach, 1996, Zimbardo &Boyd, 1999). Past Negative related with depression, anxiety and individuals have fewer close friends (Zimbardo and Boyd, 1999). Future orientation, individual perpetuate more positive functioning and can lead to higher levels of academic achievement (Zimbardo & Boyd, 1999) and more adaptive coping strategies for obtaining shelter when homeless (Epel et al., 1999); it associated with less psychopathy (Holman and Silver, 1998) and increased future orientation in chronic illness such as Diabetes (Martz & Livneh, 2007). Present Hedonistic orientation, can be related positively to novelty, sensation seeking, appraisal future consequences and negatively with conscientiousness and emotional stability (Zimbardo and Boyd, 1999). Present Fatalistic orientation is related positively to ego control, risky driving (Zimbardo et al., 1997), alcohol and drug misuse (Strathman et al., 1994; Keough et al., 1999) and negatively with energy, openness (Zimbardo and

Boyd, 1999). The Behavior exhibited, result from the elaboration process done by TP orientation to past positive or negative, present hedonistic or fatalistic, and future after new circumstance. These out comes applied a positive or negative feedback deeply connected an effect on input TP.

# Method

## Sample

The Arabic version of the ZTPI was conducted with 318 undergraduate students in literature and human science from three universities in Algeria (Batna, Setif, and Biskra). The sample composed of 318 (189 females and 129 males), ranging from 18 to 25 years old, mean = 21.8; standart deviation= 2.45). The statistic analysis was done with Statistica.V.7.

## Instrument

Zimbardo Time Perspective Inventory 'ZTPI' (Zimbardo& Boyd, 1999): The Arabic version of the Zimbardo Time Perspective Inventory ZTPI-56 items (Djarallah & chorfi, 2009) was used in this study, it measures the five TP dimensions (Present-Hedonistic, Past-Negative, Future, Past-Positive, and Present-Fatalistic). Each item assessed on a 5-point Likert scale according to how characteristic (ranging from 1 [*very uncharacteristic*] to 5 [*very characteristic*]).

the inventory construct by means of exploratory factor analysis show that the suggesting sampling adequacy for factor analysis, Kaiser-Meyer-Olkin (KMO=0.753). Principal factor analysis identified five factors with eigenvalues exceeding 2 (6,059, 4,706, 3,879, 2,757, and 2,481), explaining cumulatively 35.50 % of the total variance. The first factor (Present Hedonistic) for 10.82 %; the second factor (Past Negative) for 8.4 %; the third factor (Future) for 6.93 %, the fourth factor (Past Positive) for 4.92 %, and the fifth factor Present Fatalistic) for 4.43 %). On the basis of original model of the instrument (Zimbardo and Boyd, 1999), five factors were identified (Djarallah & chorfi, 2009).

# Results

## Confirmatory Factor Analysis

On the basis of the arabic version of the Zimbardo Time Perspective Inventory, which have used only the Exploratory Factor Analysis (Djarallah & chorfi, 2009). A confirmatory factor analysis (CFA) was conducted to confirm the outcome structure of the ZTPI. That, consiste to examining three hypothetics models, and compared their adjustment to the sample of the study (n=318, Ratio = 5,68 Item/individu), a minimal (ratio =4) recomonded (Pedhazur & Pedhazur-Schmelkin, 1991). The statistic analysis was done with "statistica v.7" software. The SEPATH method was applied and Maximum Likelihood, and set a correlation factors hypothesis. We tested three models (Table 2). The first model tested one dimension within all ZTPI items overloaded on single factor. The second, tested a model with three-factors: Past factor (as one the Past-Negative and Past-Positive items), Present factor (as one the Present-Fatalistic and Present-Hedonistic items), and Future factor (the same items in the original version). The third, tested a model with five-factors as identified using Exploratory Factor Analysis.

## Table1 : Fit indices of three models for the Zimbardo Time Perspective Inventory.

| Model | M1 (1Factor ) | M2 (3 Factors) | M3 (5Factors) |
|---|---|---|---|
| Fonct. Divergence | 16,325 | 11,858 | 9,575 |
| GFI | 0,538 | 0,667 | 0,741 |
| AIC | 17,032 | 12,565 | 10,282 |
| RMSEA | 0,114 (CI 90% : 0,112-0,117) | 0,079 (CI 90% :0,077-0,082) | 0,059 (CI 90% : 0,056-0,062) |
| $X^2$ | 4845,823 | 3136,412 | 2317,342 |
| df | 1270 | 1375 | 1474 |
| Sig. | 0,000 | 0,000 | 0,000 |
| Ratio $X^2$ /df | 3.815 | 2,281 | 1.572 |
| $\Delta X^2$ ($\Delta$df) | M1 vs M2: 1709,411(105).    M2 vs M3: 819,07 (99). | | |

The fundamental measure of fit (X²) showed the difference of the sample size in three models (1, 2,3) successively are (4845,823, 3136,412, 2317,342). The indices obtained revealed that the model 3 adjusted correctly to the data, the Ratio  X²/df_(1.572), and RMSEA (0,059) satisfied for the data of the model tested. A significant difference appeared between the model 1 vs model 2 ($\Delta X^2$ ($\Delta$df)= 1709.41 (105), p=0.000 ), and the model 2 vs model 3 ($\Delta X^2$ ($\Delta$df)= 819,07 (105), p=0.000 ). Although, the model 3 show the best adjustment (ratio X² /df =1.572; RMSEA =0,059 ) then which obtained in the  model 2 (ratio X² /df = 2.281; RMSEA = 0,079), and the model 1 (Ratio X² /df =3.815; RMSEA = 0.114). The goodness fit indices (GFI) showed that the model 3 (0.741) present good adequation then two others, model 1 (0.538) and model 2 (0.667). The test of relative model fit, Akaike Information Criterion (AIC) reveled that the model 3 (five subscales of the ZTPI) was the preferred one with the lowest AIC value (10.282), the second model (12.565), and the third model (17.032). Cronbach's Alpha varied from 0.69 to 0.84 (Table3).

The five subscales of the ZTPI were emerged in the exploratory factorial analysis, the CFA determined their consistency. This Arabic version of the ZTPI presents a good psychometric characteristic. Inter-correlations between factors reveled that each factor not correlated only with one others factor, which were moderately different to the English version.

## Table2: Intercorrelation between the Five subscales of the Time Perspective.

| | Cronbach's Alpha | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| **Present-Hedonistic** | 0,84 | - | 0,150**<br>(0.16***)<br>(0.008) | -0,115*<br>(-0.29***)<br>(-0.363***) | 0,070<br>(0.32***)<br>(0.316***) | -0,164**<br>(-0.18***)<br>(-0.132*) |
| **Future** | 0,79 | | - | -0,014<br>(-0.13)<br>(-0.099) | 0,102<br>(0.38***)<br>(0.369***) | 0,344***<br>(-0.24***)<br>(-0.553***) |
| **Past-Negative** | 0,81 | | | - | -0,09<br>(-0.26***)<br>(-0.327***) | 0,14*<br>(0.12**)<br>(0.190**) |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Past-Positive** | 0,69 | | | | - | - 0,020<br>(-009*)<br>(-0.221*) |
| **Present-Fatalistic** | 0,75 | | | | | - |

Note. In parentheses the intercorrelations between factors presented in the original version (Zimbardo et Boyd, 1999), and the French version (Apostolidis, Fieulaine,2004) in order.

\* p ≤ 0,05 ; \*\* p ≤ 0,01 ; \*\*\* p ≤ 0,001.

The intercorrelations between factors showed a significant positive correlation Present-Hedonistic with future and Past-Positive, and a significant negative correlation with Past-Negative and Present-Fatalistic. Also, future and Past-Positive they have a significant negative correlation with Past-Negative. Whereas, there are not a significant correlation between others dimensions particularly in this Arabic version comparatively with results found in American and French version of the ZTPI.

## Discussion

The cognitive model of time perspective seems explain clearly the dynamic of the individual time perspective attitude that related to the behaviors. The results of this present study, Arabic version of the ZTPI had a five factors structure as specified by Zimbardo and Boyd (1999). The 56 items of the Arabic version show a structure analogue to the original version (Zimbardo and Boyd,1999). A three structural models of ZTPI tested by confirmatory factor analysis verified that the 5-factor structure of the ZTPI-Arabic versions has a better fit of goodness indices than the 3-factor model and the single factor model.

The Chi-square was statistically significant in three models. That the model with five factors RMSEA= 0.059 viewed a good compliance of the model with the data. However, the AIC that focus on how little the fitted values deviate from a saturated of this model was(10.28). The original ZTPI version the AIC value was(10.86), The french versions (7.91) (Apostolidis et Fieulaine, 2004). The goodness of fit index (GFI) of this data (0.71) the brazilian (GFI =0.74) (Milfont et al.,2008). These psychometric characteristics are also likely to the original and to the versions adapted in other countries. Zimbardo and

Boyd have analysed deeply the individual time equation "Only by understanding this new psychological science of time zones will you be able to overcome the mental biases that keep you too attached to the past, too focused on immediate gratification, or unhealthily obsessed with future goals" (Zimbardo and Boyd, 2008).

## Conclusion

These findings should be regarded as introductory. However, other study should realise with large sample and general population to more capture the component of ZTPI structure that reflect the Arabic socio-cultural reality. This instrument allows Arabic psychologists a multidimensional measure of TP, which present a good psychometric characteristic, and can be used in various researches to study the relation between social as individuals time orientation in prediction of health risky.

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